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Pesticide Guide Toward Integrated Insect Management for Connecticut Arborists 2019

Rose T. Hiskes, MS Valley Laboratory

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# Pesticide Guide Toward Integrated Insect Management for Connecticut Arborists

# 2019

Prepared by Rose Hiskes

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### **INSTRUCTIONS**

#### Use of this Guide

The purpose of this guide is to help Connecticut arborists, landscapers, Christmas tree growers & nurseries. This publication was produced by The Connecticut Agricultural Experiment Station. The following Pesticide Guide Toward Integrated Insect Management for Connecticut Arborists provides growing degree days, plant phenology and approximate dates for planning your yearly control program. Pesticides included in this summary are registered for use on the pests listed and in landscapes. In some instances, pesticides listed for a single pest are not all registered for each of the plants named. **Please be sure to check the pesticide label first**. Cultural, biological and non-chemical control methods are also listed when they are known to be effective and registered.

### **Federal Worker Protection Standard**

The Federal Worker Protection Standard (WPS) defines an **agricultural plant** as any plant grown or maintained for *commercial* or *research purposes* and includes, but is not limited to: food, feed and fiber plants; trees; turfgrass; flowers; shrubs; ornamentals, and seedlings. It further defines an *agricultural establishment* as any farm, forest, nursery or greenhouse.

If you own or operate a nursery or Christmas tree farm, you are subject to the WPS agricultural use requirements when you use pesticides. You must comply with the provisions that apply to the workers and pesticide handlers that you employ. These provisions include, but are not limited to: notifying employees about pesticide applications; providing and maintaining personal protective equipment; providing pesticide safety training; following label-specific restricted entry intervals (REI's); posting pesticide safety information; monitoring handlers who apply products bearing the skull and crossbones symbol on the label; providing a decontamination site and emergency assistance.

For further information on the WPS, visit the national <u>Pesticide Educational Resources Collaborative</u> (PERC) website. For pesticide certification and private applicator information, contact the Department of Energy and Environmental Protection (DEEP), Pesticide Management Division, at <u>DEEP.PesticideProgram@ct.gov</u> or (860) 424-3369.

## **User Input**

We are open to any suggestions on how this manual might be improved. A number of the changes in this current edition are a result of input from several arborists, nurseryman and Christmas tree growers. Rose Hiskes may be reached by phone at (860) 683-4977 (Monday through Friday, 8:30 am to 4:30 pm) or email <u>rose.hiskes@ct.gov</u>.

## **DISCLAIMER**

Suggestions on the use of chemicals listed in this manual have been deemed legal in the State of Connecticut. Users of this guide must be aware that state and federal pesticide laws and pesticide labels are susceptible to change. This guide is meant to be of assistance to Connecticut licensed pesticide applicators in choosing the correct insecticide or miticide. It is not a substitute for the **pesticide label. The applicator assumes all responsibility for the proper use of any pesticide and must always thoroughly read, understand and follow all label directions**. Also, it is important for the applicator to stay current with all changes in the laws that govern the use of pesticides. The Connecticut Agricultural Experiment Station makes no claims of potential efficacy for the listed pesticides. The products listed in this manual are some of the ones we are aware of that are currently registered for use.

**Caution**: Pesticides may be injurious to humans, domestic animals, desirable plants, fish and other wildlife if they are not handled or applied properly. Use all pesticides selectively and carefully. Follow label instructions for storage and disposal. For information on disposal of excess or unwanted pesticides, contact your town Household Hazardous Waste Recycling Coordinator or the DEEP Hazardous Waste Compliance Assistance hotline at 888-424-4193 or DEEP.RCRAhelp@ct.gov.

The use of trade, firm or corporation names in this publication is for the benefit of the reader. It does not constitute an endorsement or approval of any service or product by The Connecticut Agricultural Experiment Station to the exclusion of others that may be suitable.

**PESTICIDE SAFETY** Although specific pesticides are listed in this manual, please note that there are often alternative options for prevention or management of some of these pests. Certain pesticides may be more effective than some of the others listed for the same use. Some pesticides may be less of a potential danger to the applicator, environment, beneficial organisms, etc. than others. The user of this manual should know the relative toxicity, effectiveness and potential hazards associated with each compound used.

Careful adherence to label instructions, combined with proper equipment calibration, provide the best method of preventing injury to non-target organisms, protecting the environment and achieving the best levels of insect control.

**POLLINATOR PROTECTION** New to this edition is information about Connecticut's 2016 pollinator health law. In order to better protect our pollinators, the systemic neonicotinoid insecticides containing imidacloprid, dinotefuran, thiamethoxam, clothianidin and labeled for use on plants, are now restricted use in Connecticut, but their status in other states varies. Only certified applicators or persons under their direct supervision can use these products.

The EPA requires that labels for these four neonicotinoids in products for outdoor foliar use include a Pollinator Protection Box and have additional label instructions prohibiting use while bees are foraging. In the guide they will be given a BEE CAUTION notation.

For all pesticides highly toxic to bees, which have a warning under "Environmental Hazards": Where applicable, apply insecticides after plants bloom. Be aware that bees may be foraging on blooming plants around your application site. If you need to make an insecticide application while nontarget plants (such as flowering ground cover) in or around your application site are in bloom, mow the blooming plants first. Control drift during insecticide applications. If you rent honeybees, or if there are honey bee colonies nearby, notify the beekeepers before pesticide applications so that they can close or move their hives. Get to know which plants are attractive to bees. For example, hemlocks can be treated with the above neonicotinoid insecticides as bees rarely visit them. Research at The Connecticut Agricultural Experiment Station (CAES) by Dr. Richard Cowles, is looking at which plants transport how much of the neonicotinoids into their nectar and pollen and how quickly and at what application rates. In the future, rates may be lowered for these insecticides, as they are still effective at the lowerdoses.

<u>ARBORIST LAW</u>. Since there is now a landscaper version of the guide it is necessary to distinguish between pesticide applicators with arborist, 3D and those with ornamental and turf 3A, certification categories. Spraying pesticides commercially, to control insects or diseases on fruit, shade or ornamental trees in Connecticut falls under the arborist license. Commercial spraying of turf, ornamental plants or shrubs to control insects, diseases or weeds, falls under the ornamental and turf category. The pesticides listed in the guide are the same for both groups. For more information about pesticide applicators and the arborist law, the booklet <u>Pertinent Pesticide Statutes and Regulations for Certified Commercial</u> <u>Supervisors and Arborists</u> can be found at the DEEP Pesticide Management Program website.

#### **ACKNOWLEDGEMENTS**

Thanks to Dr. James LaMondia, Dr. Richard Cowles, Mr. Thomas Rathier and Mr. Jeff Fengler, CAES, for their valuable help and support. Also, Mss. Christina Berger, Diane Jorsey and Linda Schmidt of DEEP for their assistance. Mr. Charlie Barnett, DAS-BEST, was very helpful.

#### Horticulture/Pest Management Related Web Sites

#### The Connecticut Agricultural Experiment Station University of Connecticut Integrated Pest Management

portal.ct.us/caes www.ipm.uconn.edu

### **Biological Control (Attracting Beneficials):**

pss.uvm.edu/ppp/articles/goodbugs.html www.finegardening.com/how-to/articles/attracting-beneficial-insects.aspx njaes.rutgers.edu/pubs/publication.asp?pid=fs930 canr.msu.edu/nativeplants/uploads/files/E2973.pdf

#### **Protecting Pollinators:**

<u>https://portal.ct.gov/CAES/Publications/Publications/Pollinator-Information</u> <u>http://nenativeplants.uconn.edu/pollinators.php</u> <u>https://pesticidestewardship.org/pollinator-protection/pesticide-applicator-bmps/</u>

#### **Entomology:**

The Connecticut Agricultural Experiment Station Cornell Cooperative Extension Entomological Society of America Entomology Index of Internet Resources Florida Pest Alerts North Carolina Coop. Ext. Ohio State Plant Facts

#### **Horticulture Information:**

American Hort Connecticut Invasive Plant Working Group Connecticut Tree Protective Association Cornell Horticulture E. C. Geiger Hortnet Store Horticulture Magazine Online National Arborists Association Perennial Plant Association Tree Care Industry Association University of Connecticut Coop. Ext. Forestry University of Connecticut Plant Database University of Maryland Coop. Ext. UMass Landscape, Nursery, and Urban Forestry Program University of Vermont Perennial Page Virginia Cooperative Extension

#### **Integrated Pest Management:**

Biocontrol Network Consortium for International Crop Protection Northeast IPM Center US Forest Service IPM

Gempler's IPM Almanac

portal.ct.gov/caes www.cce.cornell.edu www.entsoc.org/ www.ent.iastate.edu/list/ entnemdept.ufl.edu/pestalert/ www.ces.ncsu.edu/resources/pests/ plantfacts.osu.edu/

www.americanhort.org/ www.cipwg.uconn.edu/ www.CTPA.org/ hort.cals.cornell.edu/ www.hortnet.com/ www.hortmag.com/ www.natlarb.com/ www.perennialplant.org/ www.tcia.org/ www.tcforestry.uconn.edu/ www.hort.uconn.edu/plants extension.umd.edu/ extension.umass.edu/landscape/ www.uvm.edu/~pass/perry/ www.ext.vt.edu/

www.biconet.com/index.html www.IPMnet.org/ www.northeastipm.org/ fs.fed.us/foresthealth/protecting-forest/ integrated-pest-manatment www.gemplers.com/tech/ipm-intro.htm **Koppert Biological Systems** www.koppertus.com/ Insect Parasitic Nematodes entopsu.edu/extension/factsheets/parasitic-nematodes/ Integrated Pest Management in the US www.nifa.usda.gov/program/integrated-pest-management-program-ipm **IPM** Institute www.ipminstitute.org National Park Service IPM Manual nps.gov/orgs/1027/ipm.htm Radcliffe's IPM World Textbook ipmworld.umn.edu/ extension.umd.edu/ipm University of Maryland IPM University of Massachusetts AgroEcology extension.umass.edu/agriculture/ **Organic Related:** Extremely Green - Organic gardening supplies extremelygreen.com/ Green Earth Ag & Turf greenearthagandturf.com Orcon Inc. - sells beneficial organisms www.organiccontrol.com NOFA Organic Land Care Committee CT/MA www.organiclandcare.net/ **Organic Materials Review Institute** www.omri.org/ Suppliers of Beneficial Organisms in North America www.cdpr.ca.gov/docs/pestmgt/ipminov/bensuppl.htm National Organic Program ams.usda.gov/about-ams/programs-offices/national-organic-program

#### **Ornamental Plant Diseases:**

CAES Disease Management Guide	portal.ct.gov/CAES/PDIO/publications/Disease-Management-Guide
Ohio State University	ohioline.osu.edu/topic/horticulture
Penn State University	extension.psu.edu/pests-and-diseases/pes-disease-and-weed-
	identification/plant-disease-identification-and-control
Virginia Tech University	pubs.ext.vt.edu/tags.resource.html?tag=pubs_ext_vt_edu:plant-diseases#

#### **Pesticide Labels:**

Ag Chemical Database Bayer Turf & Ornamental e Greenbook Connecticut DEEP Pesticide Registration

#### **State and National Agencies:**

Animal & Plant Health Inspection Service Crop Life America National Agricultural Statistics Service Plant and Life Sciences Publishing NOAA Weather Information USDA Release of Beneficial Organisms

**US** Forest Service

#### **Turfgrass Information:**

General Turf Pest Links Lawn and Landscape Magazine National Turfgrass Evaluation Program Turfgrass Institute Turfgrass Information Center

#### Weeds:

New Jersey Weed Gallery Weed Science Society of America UMass Weed Herbarium cdms.net/Label-Database environmentalscience.bayer.us/turf-and-ornamentals-management www.greenbook.net/ n www.kellysolutions.com/CT/

> www.aphis.usda.gov/ www.croplifeamerica.org/ www.nass.usda.gov cornellstore.com/pals-publishing www.weather.gov/ ars.usda.gov/northeast-area/Newark-de/beneficialinsects-introduction-research-unit www.fs.fed.us/

extension.illinois.edu/turf/index.cfm www.lawnandlandscape.com/ www.ntep.org/ntep/contents2.shtml www.guelphturfgrass.ca/ tic.msu.edu/

njaes.rutgers.edu/weeds/ www.wssa.net/ extension.umass.edu/landscape/weed-herbarium

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PLANT HEALTH APPS- Turf MD -American Phytophathological Society LeafSnap -plant identification based on submitted photographs

#### SOURCES OF BIOLOGICAL CONTROL ORGANISMS AND IPM MATERIAL

Gempler's PO Box 5175 Janesville, WI 53547-5175 Ph: 1-800-382-8473 Email: customerserivce@gemplers.com

Beneficial Insectary, Inc. 9664 Tanqueray Ct. Redding, CA 96003 Ph: 1-530.226.6300 toll-free: 800.477.3715 Greenmethods.com

Tree-Savers P.O Box 68 Greentown, PA 18426 Ph: 1-570-871-0088 jayme@tree-savers.com Evergreen Growers Supply 15875 SE 114<sup>1h</sup> Ave, Suite G Clackamas, OR 97015 Ph: 1-503-908-1946 info@evergreengrowers.com

Great Lakes IPM, Inc. 7563 N Crystal Rd Vestaburg, MI 48891 Ph: 1-989-268-5693, 800-235-0285 Email: glipm@greatlakesipm.com

IPM Laboratories PO Box 300, 980 Main Street Locke, NY 13092 Ph: 315-497-2063 ipmlabs.com

Book Suppliers: Bookshelf by Ball Publishing 1-312-337-0747, 800-888-4741

#### Information: The Connecticut Agricultural Experiment Station

Insect Inquiries (New Haven):	203.974.8600
Plant Disease Inquiries (New Ha	aven): 203.974.8601
Soil Testing Lab (New Haven):	203.974.8512
Valley Lab, Information Office:	860.683.4977
Valley Lab, Soil Testing:	860.683.4978
UConn Home and Garden Center	877.486.6271
UConn Soil Testing Lab:	860.486.4274

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# SCIENTIFIC NAME to COMMON NAME INDEX

Scientific Name	Common Name
Abelia	Abelia
Abies spp.	fir
Acer spp.	maple
Acer negundo	boxelder
Acer saccharum	sugar
Aesculus glabra	buckeye, Ohio
Aesculus hippocastanum	horsechestnut
Alnus spp.	alder
Amelanchier spp.	serviceberry or shadbush
Aronia spp.	chokeberry
Berberis spp.	barberry
Betula spp.	birch
Buddleia	butterfly bush
Buxus spp.	boxwood
Calluna	heather
Calocedrus	incense cedar
Carpinus caroliniana	hornbeam
Carya spp.	hickory
Cedrus spp.	cedar
Cedrus spp.	Atlas
Celtis occidentalis	hackberry
Cercis canadensis	redbud
Chaenomeles	flowering quince
Chamaecyparis spp.	falsecypress
Clethra alnifolia	summersweet
Cornus spp.	dogwood, flowering
Corylus	filbert or hazelnut
Cotinus	smoketree
Cotoneaster spp.	cotoneaster
Crataegus spp.	hawthorn
Cryptomeria spp.	Cryptomeria
Daphne	Daphne
Erica	heath
	Euonymus
Euonymus spp.	burning bush or winged euonymus
Euonymus alatus	
Fagus spp.	beech Formathin
Forsythia	Forsythia
Ginkgo biloba	Ginkgo or maidenhair tree
Gleditsia triacanthos	honeylocust
Gymnocladus dioica	Kentucky coffee tree
Hamamelis spp.	Witchhazel
Hibiscus syriacus	rose-of-sharon
Hydrangea spp.	Hydrangea
Hypericum calycinum	St. Johnswort
Ilex spp.	holly
Ilex glabra	inkberry
Ilex verticillata	winterberry, common
Juglans spp.	walnut
Juniperus spp.	juniper
Juniperus virginiana	Eastern redcedar
Kalmia latifolia	mountain laurel
Koelreuteria paniculata	golden raintree
Larix	larch
Leucothoe spp.	Leucothoe
Ligustrum spp.	privet
Liquidambar	sweetgum
Liriodendron tulipifera	tuliptree or yellow poplar

Scientific Name	Common Name
Lonicera spp.	honeysuckle
Magnolia spp.	Magnolia
Malus spp.	crabapple
Morus spp.	mulberry
Myrica pensylvanica	bayberry
Nyssa sylvatica	blackgum or tupelo
Oxydendrum arboreum	sourwood
Philadelphus coronarius	mockorange
Picea spp.	spruce
Pieris japonica	andromeda, Japanese
Pinus spp.	pine
Pinus strobus	eastern white
Platanus occidentalis	sycamore
Populus spp.	poplar or aspen
Potentilla fruiticosa	cinquefoil
Prunus cistena	cherry, purpleleaf sand
Prunus spp.	cherry, flowering
Prunus serotina	cherry, black
Prunus virginiana	cherry, choke
Prunus cerasifera	plum, purpleleaf
Prunus glandulosa	almond,dwarf flowering
Prunus persica	peach, ornamental
Pseudotsuga menziesii	douglas fir
Pyracantha	firethorn
Pyrus calleryana	pear, flowering
Quercus spp.	oak
Rhododendron spp.	azalea
Rhododendron spp.	rhododendron
Rosa spp.	rose
Salix spp.	willow
Sambucus	elderberry
Sanoucus Sassafras	Sassafras
Sciadopitys verticillata	umbrella pine
Sorbus spp.	mountain ash
	spirea
Spiraea spp. Styrax japonicus	snowbell
	lilac
Syringa spp. Taxodium distichum	
	baldcypress
Taxus spp.	yew arborvitae
Thuja spp.	
Tilia cordata	linden, little leaf
Tsuga spp.	hemlock
Ulmus spp.	elm bluchowy
Vaccinium Vikumum and	blueberry
Viburnum spp.	viburnum
Weigela florida	Weigela
Wisteria spp.	Wisteria

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		cottony camellia (taxus) scale	D	80
		cottony camellia (taxus) scale	G	81
		fourlined plant bug	G	145
		fruittree leafroller	G	148
		Japanese beetle	G	195
		leafrollers	G	210
		pitted ambrosia beetle	G	282
		rhododendron borer	G	302
		rhododendron lace bug	G	304
		rhododendron leafminer	G	306
		rhododendron stem borer	G	307
		southern red mite	D	320
		southern red mite	G	321
		twobanded Japanese weevil	G	362
baldcypress	Taxodium distichum	Fletcher scale	D	140
		Fletcher scale	G	141
barberry	Berberis	Indian wax scale	D	193
		Indian wax scale	G	194
		twobanded Japanese weevil	G	362
basswood	Tilia americana	basswood aphid	G	37
		basswood lace bug	G	39
		winter moth	D	388
		winter moth	DD	389
		winter moth	G	390

Common	Plant Genus	Pest	Season	Page
bayberry	Myrica pensylvanica	apple mealybug	D	9
		apple mealybug	G	10
		calico scale	D	64
		calico scale	G	65
		dogwood borer	G	94
		foxglove aphid	G	147
		redhumped caterpillar	G	300
beautyberry	Callicarpa	cottony camellia (taxus) scale	D	80
		cottony camellia (taxus) scale	G	81
beech	Fagus	Asiatic oak weevil	G	20
		beech scale	G	41
		birch and beech girdler	G	43
		birch lace bug	G	44
		cankerworms	G	66
		cottony maple scale	D	86
		cottony maple scale	G	88
		dogwood borer	G	94
		giant bark aphid	G	150
		gypsy moth	G	169
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		leopard moth	G	211
		locust borer	G	219
		locust leafminer	G	220
		oystershell scale	D	253
		oystershell scale	G	254
		redheaded ash borer	G	297
		woolly beech aphids	G	398
birch	Betula	alder lace bug	G	1
		apple and thorn skeletonizer	G	6
		Asian Longhorned Beetle	G	18
		birch and beech girdler	G	43
		birch lace bug	G	44
		birch leafminer	G	46
		birch skeletonizer	G	48
		bronze birch borer	G	62
		carpenterworm	G	68
		dogwood borer	G	94
		dusky birch sawfly	G	100
		eastern tent caterpillar	G	106
		fall webworm	G	136
		giant bark aphid	G	150
		large hickory lecanium	D	205

Common	<b>Plant Genus</b>	Pest	Season	Page
birch	Betula	large hickory lecanium	G	206
		locust leafminer	G	220
		oak lecanium scale	D	244
		oak lecanium scale	G	245
		orangestriped oakworm	G	252
		oystershell scale	D	253
		oystershell scale	G	254
		poplar and willow borer	G	283
		potato leafhopper	G	287
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		redheaded ash borer	G	297
		terrapin scale	D	350
		terrapin scale	DD	351
		terrapin scale	G	352
		walnut scale	D	375
		walnut scale	G	376
		witchhazel leaf gall aphid (summer)	G	392
blackgum or tupelo	Nyssa sylvatica	cottony maple leaf scale	D	83
		cottony maple leaf scale	G	84
		eastern tent caterpillar	G	106
		fall webworm	G	136
		forest tent caterpillar	G	143
		gypsy moth	G	169
blueberry	Vaccinium	apple mealybug	D	9
		apple mealybug	G	10
		azalea bark scale	D	21
		azalea bark scale	DD	22
		azalea bark scale	G	23
		dogwood borer	G	94
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		rhododendron stem borer	G	307
boxelder	Acer negundo	boxelder bug	G	55
		greenstriped mapleworm	G	167
boxwood	Buxus spp.	boxwood leafminer	G	57
		boxwood mite	D	59
		boxwood mite	G	60
		boxwood psyllid	G	61
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		Indian wax scale	D	193
		Indian wax scale	G	194

bagworm DD 32 bagworm G 33 calico scale D 64	<ol> <li>31</li> <li>32</li> <li>33</li> <li>64</li> <li>65</li> <li>19</li> </ol>
bagworm G 33 calico scale D 64	33 64 65
calico scale D 64	64 65
	65
calico scale G 65	
	19
burning bush, winged <i>Euonymus alatus</i> Asiatic garden beetle G 19	-/
Comstock mealybug D 75	75
Comstock mealybug G 76	76
cottony camellia (taxus) scale D 80	80
cottony camellia (taxus) scale G 83	81
fruittree leafroller G 144	48
Japanese beetle G 195	95
leafrollers G 210	10
potato aphid D 284	84
potato aphid G 285	
butterfly bush Buddleia Japanese beetle G 195	95
oleander scale G 250	
twospotted spider mite G 364	
cedar, atlas <i>Cedrus atlanticus</i> cryptomeria scale D 90	90
	91
eastern pine weevil DD 10	01
eastern pine weevil G 102	02
cedar, incense Calocedrus juniper scale D 199	99
juniper scale G 200	00
cedar <i>Cedrus</i> arborvitae weevil G 14	14
bagworm D 3	31
bagworm DD 32	32
bagworm G 3	33
false Meyer scale D 138	38
false Meyer scale G 139	39
spruce spider mite D 334	34
spruce spider mite G 33:	35
cherry, black <i>Prunus serotina</i> apple aphid G	7
apple mealybug D g	9
	10
brown marmorated stinkbug G 65	63
calico scale D 64	64
calico scale G 65	65
cankerworms G 66	66
dogwood borer G 94	94

Common	Plant Genus	Pest	Season	Page
cherry, black	Prunus serotina	eastern tent caterpillar	G	106
		European red mite	D	133
		European red mite	G	134
		forest tent caterpillar	G	143
		green peach aphid (spring)	G	161
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		lesser peachtree borer	G	213
		locust borer	G	219
		peachtree borer	G	256
		roundheaded appletree borer	G	312
		terrapin scale	D	350
		terrapin scale	DD	351
		terrapin scale	G	352
		twospotted spider mite	G	364
		white prunicola scale	D	382
		white prunicola scale	G	383
cherry, flowering	Prunus spp.	American plum borer	G	3
		apple and thorn skeletonizer	G	6
		apple mealybug	D	9
		apple mealybug	G	10
		calico scale	D	64
		calico scale	G	65
		cottony maple scale	D	86
		cottony maple scale	G	88
		forest tent caterpillar	G	143
		granulate ambrosia beetle	G	155
		green peach aphid (dormant)	D	160
		green peach aphid (spring)	G	161
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		leopard moth	G	211
		locust leafminer	G	220
		peachtree borer	G	256
		spotted lanternfly	G	325
		white prunicola scale	D	382
		white prunicola scale	G	383
		winter moth	D	388
		winter moth	DD	389
		winter moth	G	390
cherry, purple leaf sand	Prunus cistena	granulate ambrosia beetle	G	155
		peachtree borer	G	256
		spotted lanternfly	G	325

Common	Plant Genus	Pest	Season	Page
chestnut, hybrids	Castanea	apple mealybug	D	9
		apple mealybug	G	10
		dogwood borer	G	94
		leopard moth	G	211
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361
		twolined chestnut borer	G	363
chokeberry	Aronia	roundheaded appletree borer	G	312
Clematis	Clematis	green peach aphid (summer)	G	163
Cotoneaster	Cotoneaster	apple mealybug	D	9
		apple mealybug	G	10
		hawthorn lace bug	G	172
		oystershell scale	D	253
		oystershell scale	G	254
		pearleaf blister mite	D	259
		pearleaf blister mite	G	260
		potato aphid	D	284
		potato aphid	G	285
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		San Jose scale	G	313
		sinuate peartree borer	G	317
		sycamore lace bug	G	340
		woolly apple aphid (summer)	G	396
crabapple	Malus spp.	alder lace bug	G	1
		American plum borer	G	3
		apple and thorn skeletonizer	G	6
		apple aphid	G	7
		apple mealybug	D	9
		apple mealybug	G	10
		bagworm	D	31
		bagworm	DD	32
		bagworm	G	33
		boxelder bug	G	55
		brown marmorated stinkbug	G	63
		calico scale	D	64
		calico scale	G	65
		cankerworms	G	66
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		dogwood borer	G	94
		eastern tent caterpillar	G	106

Common	Plant Genus	Pest	Season	Page
crabapple	Malus spp.	fall webworm	G	136
		fruittree leafroller	G	148
		Japanese beetle	G	195
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		leafhoppers	G	208
		leafrollers	G	210
		leopard moth	G	211
		oystershell scale	D	253
		oystershell scale	G	254
		potato aphid	D	284
		potato aphid	G	285
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		redbanded leafroller	G	295
		redheaded ash borer	G	297
		roundheaded appletree borer	G	312
		spotted lanternfly	G	325
		tentiform leafminer	G	349
		winter moth	D	388
		winter moth	DD	389
		winter moth	G	390
cryptomeria	Cryptomeria	cryptomeria scale	D	90
		cryptomeria scale	G	91
		Maskell Scale	G	230
Daphne	Daphne	euonymus scale	D	124
		euonymus scale	G	125
		oleander scale	G	250
Deutzia	Deutzia	lilac leafminer	G	215
		twobanded Japanese weevil	G	362
dogwood	Cornus	apple mealybug	D	9
		apple mealybug	G	10
		Asiatic oak weevil	G	20
		calico scale	D	64
		calico scale	G	65
		cottony maple leaf scale	D	83
		cottony maple leaf scale	G	84
			D	86
		cottony maple scale	D G	86 88
		cottony maple scale cottony maple scale		
		cottony maple scale cottony maple scale dogwood borer	G	88 94
		cottony maple scale cottony maple scale	G G	88

Common	Plant Genus	Pest	Season	Page
dogwood	Cornus	fourlined plant bug	G	145
		granulate ambrosia beetle	G	155
		Japanese beetle	G	195
		oystershell scale	D	253
		oystershell scale	G	254
		pitted ambrosia beetle	G	282
		potato aphid	D	284
		potato aphid	G	285
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		redheaded ash borer	G	297
		taxus mealybug	D	346
		taxus mealybug	G	347
		walnut scale	D	375
		walnut scale	G	376
douglas fir	Pseudotsuga menziesii	cooley spruce gall adelgid	D	78
		cooley spruce gall adelgid	G	79
		cryptomeria scale	D	90
		cryptomeria scale	G	91
		pine spittlebugs	G	274
		spruce needleminer	G	333
		spruce spider mite	D	334
		spruce spider mite	G	335
eastern redcedar	Juniperus virginiana	arborvitae leafminer(s)	G	12
		bagworm	D	31
		bagworm	DD	32
		bagworm	G	33
elder	Sambucus	currant borer	DD	92
		currant borer	G	93
		elder borer	G	108
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361
elm	Ulmus	alder lace bug	G	1
		apple mealybug	D	9
		apple mealybug	G	10
		Asian Longhorned Beetle	G	18
		bagworm	D	31
		bagworm	DD	32
		bagworm	G	33
		calico scale	D	64
		calico scale	G	65

Common	Plant Genus	Pest	Season	Page
elm	Ulmus	carpenterworm	G	68
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		cottony maple scale	D	86
		cottony maple scale	G	88
		elm bark beetles	DD	109
		elm bark beetles	G	110
		elm casebearer	G	111
		elm cockscombgall aphid	G	112
		elm flea beetle	G	114
		elm leaf aphid	G	115
		elm leaf beetle	G	117
		elm leafminer	G	119
		European fruit lecanium	D	127
		European fruit lecanium	G	128
		European red mite	D	133
		European red mite	G	134
		fall webworm	G	136
		forest tent caterpillar	G	143
		fruittree leafroller	G	148
		gypsy moth	G	169
		hornet clearwing moth	G	190
		Japanese beetle	G	195
		leafrollers	G	210
		leopard moth	G	211
		linden looper	G	217
		locust leafminer	G	220
		oystershell scale	D	253
		oystershell scale	G	254
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		redheaded ash borer	G	297
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361
		twospotted spider mite	G	364
		walnut scale	D	375
		walnut scale	G	376
		woolly apple aphid (spring)	G	394
		woolly elm aphid (spring)	G	400
		woolly elm bark aphid	G	403
Euonymus	Euonymus	black vine weevil (adult)	G	52
		cottony camellia (taxus) scale	D	80
		cottony camellia (taxus) scale	G	81

Common	Plant Genus	Pest	Season	Page
Euonymus	Euonymus	cottony maple scale	D	86
		cottony maple scale	G	88
		euonymus scale	D	124
		euonymus scale	G	125
		Indian wax scale	D	193
		Indian wax scale	G	194
		lilac leafminer	G	215
		twospotted spider mite	G	364
falsecypress	Chamaecyparis	arborvitae weevil	G	14
		cryptomeria scale	D	90
		cryptomeria scale	G	91
		false Meyer scale	D	138
		false Meyer scale	G	139
		juniper scale	D	199
		juniper scale	G	200
		Maskell Scale	G	230
		smaller Japanese cedar longhorn beetle	G	318
filbert or hazelnut	Corylus	alder lace bug	G	1
		apple mealybug	D	9
		apple mealybug	G	10
		dogwood borer	G	94
		European fruit lecanium	D	127
		European fruit lecanium	G	128
		Japanese leafhopper	G	197
		oystershell scale	D	253
		oystershell scale	G	254
		pitted ambrosia beetle	G	282
fir	Abies	balsam twig aphid	G	35
		circular hemlock scale	D	71
		circular hemlock scale	DD	72
		circular hemlock scale	G	73
		cryptomeria scale	D	90
		cryptomeria scale	G	91
		elongate hemlock scale	D	120
		elongate hemlock scale	G	121
		gypsy moth	G	169
		hemlock looper	G	176
		pine oystershell scale	G	269
		pine spittlebugs	G	274
		spruce budworm	G	331
		spruce spider mite	D	334
		spruce spider mite	G	335
firethorn	Pyracantha	apple aphid	G	7

Common	Plant Genus	Pest	Season	Page
firethorn	Pyracantha	calico scale	D	64
		calico scale	G	65
		hawthorn lace bug	G	172
		Indian wax scale	D	193
		Indian wax scale	G	194
		woolly apple aphid (summer)	G	396
Forsythia	Forsythia	fourlined plant bug	G	145
		tarnished plant bug	G	343
		twobanded Japanese weevil	G	362
Ginkgo	Ginkgo biloba	American plum borer	G	3
		fruittree leafroller	G	148
		grape mealybug	D	156
		grape mealybug	G	157
		leafrollers	G	210
		whitemarked tussock moth	G	385
golden raintree	Koelreuteria paniculata	white prunicola scale	D	382
		white prunicola scale	G	383
hackberry	Celtis occidentalis	cottony maple scale	D	86
		cottony maple scale	G	88
		hackberry psyllids	G	171
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361
		walnut scale	D	375
		walnut scale	G	376
hawthorn	Crataegus	apple and thorn skeletonizer	G	6
		apple aphid	G	7
		apple mealybug	D	9
		apple mealybug	G	10
		cherry and hawthorn leafminer	G	69
		cottony maple scale	D	86
		cottony maple scale	G	88
		forest tent caterpillar	G	143
		hawthorn lace bug	G	172
		locust leafminer	G	220
		sinuate peartree borer	G	317
		tentiform leafminer	G	349
		terrapin scale	D	350
		terrapin scale	DD	351
		terrapin scale	G	352

Common	Plant Genus	Pest	Season	Page
hawthorn	Crataegus	twospotted spider mite	G	364
		woolly apple aphid (summer)	G	396
heather	Calluna	Japanese beetle	G	195
		oystershell scale	D	253
		oystershell scale	G	254
		twospotted spider mite	G	364
heath	Erica	oystershell scale	D	253
		oystershell scale	G	254
hemlock	Tsuga	bagworm	D	31
		bagworm	DD	32
		bagworm	G	33
		black vine weevil (adult)	G	52
		circular hemlock scale	D	71
		circular hemlock scale	DD	72
		circular hemlock scale	G	73
		cryptomeria scale	D	90
		cryptomeria scale	G	91
		elongate hemlock scale	D	120
		elongate hemlock scale	G	121
		green hemlock needleminer	G	159
		hemlock eriophyid mite	D	174
		hemlock eriophyid mite	G	175
		hemlock looper	G	176
		hemlock woolly adelgid	D	178
		hemlock woolly adelgid	DD	179
		hemlock woolly adelgid	G	180
		Indian wax scale	D	193
		Indian wax scale	G	194
		pine spittlebugs	G	274
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		spruce budworm	G	331
		spruce spider mite	D	334
		spruce spider mite	G	335
hickory	Carya	American plum borer	G	3
		Asiatic oak weevil	G	20
		fall webworm	G	136
		giant bark aphid	G	150
		hickory leaf stem gall phylloxera	G	181
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		oak lecanium scale	D	244
		oak lecanium scale	G	245

Common	Plant Genus	Pest	Season	Page
hickory	Carya	orangestriped oakworm	G	252
		redheaded ash borer	G	297
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361
holly, American	Ilex opaca	Japanese beetle	G	195
holly	Ilex	Comstock mealybug	D	75
		Comstock mealybug	G	76
		cottony camellia (taxus) scale	D	80
		cottony camellia (taxus) scale	G	81
		cottony maple leaf scale	D	83
		cottony maple leaf scale	G	84
		fall webworm	G	136
		foxglove aphid	G	147
		holly leafminer	G	182
		Indian wax scale	D	193
		Indian wax scale	G	194
		native holly leafminer	G	237
		oystershell scale	D	253
		oystershell scale	G	254
		southern red mite	D	320
		southern red mite	G	321
		walnut scale	D	375
		walnut scale	G	376
honeylocust	Gleditsia triacanthos	bagworm	D	31
		bagworm	DD	32
		bagworm	G	33
		cottony maple scale	D	86
		cottony maple scale	G	88
		fruittree leafroller	G	148
		grape mealybug	D	156
		grape mealybug	G	157
		honeylocust plant bug	G	183
		honeylocust pod gall midge	G	185
		honeylocust spider mite	G	186
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		leafrollers	G	210
		mimosa webworm	G	232
		redheaded ash borer	G	297
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361

Common	Plant Genus	Pest	Season	Page
honeylocust	Gleditsia triacanthos	walnut scale	D	375
		walnut scale	G	376
honeysuckle	Lonicera	apple mealybug	D	9
		apple mealybug	G	10
		cottony maple leaf scale	D	83
		cottony maple leaf scale	G	84
		euonymus scale	D	124
		euonymus scale	G	125
		potato aphid	D	284
		potato aphid	G	285
hophornbeam	Ostrya virginiana	birch lace bug	G	44
hornbeam	Carpinus caroliniana	birch and beech girdler	G	43
		pitted ambrosia beetle	G	282
horsechestnut	Aesculus hippocastanum	Asian Longhorned Beetle	G	18
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		Japanese beetle	G	195
		oystershell scale	D	253
		oystershell scale	G	254
		walnut scale	D	375
		walnut scale	G	376
		whitemarked tussock moth	G	385
Hydrangea	Hydrangea	cottony camellia (taxus) scale	D	80
		cottony camellia (taxus) scale	G	81
		fourlined plant bug	G	145
		hydrangea leaftier	G	191
		oystershell scale	D	253
		oystershell scale	G	254
		rose chafer	G	310
		twospotted spider mite	G	364
Juniper	Juniperus	arborvitae leafminer(s)	G	12
		arborvitae weevil	G	14
		false Meyer scale	D	138
		false Meyer scale	G	139
		juniper scale	D	199
		juniper scale	G	200
		juniper webworm	G	202
		Maskell Scale	G	230
		smaller Japanese cedar longhorn beetle	G	318
		spruce spider mite	D	334
		spruce spider mite	G	335

Common	Plant Genus	Pest	<b>Season</b> G	
katsura	Ceridiphyllum	Asian Longhorned Beetle	0	18
kentucky coffee tree	Gymnocladius dioicus	walnut scale	D	375
		walnut scale	G	376
larch	Larix	larch casebearer	G	203
		larch sawfly	G	204
		leafrollers	G	210
		redbanded leafroller	G	295
		woolly larch adelgid	G	405
laurel, mountain	Kalmia latifolia	apple mealybug	D	9
		apple mealybug	G	10
		black vine weevil (adult)	G	52
		rhododendron borer	G	302
		rhododendron lace bug	G	304
		rhododendron stem borer	G	307
		southern red mite	D	320
		southern red mite	G	321
		twobanded Japanese weevil	G	362
Leucothoe	Leucothoe	andromeda lace bug	G	4
lilac	Syringa	ash borer / lilac borer	G	15
		cottony maple scale	D	86
		cottony maple scale	G	88
		euonymus scale	D	124
		euonymus scale	G	125
		Japanese beetle	G	195
		leopard moth	G	211
		lilac borer / ash borer	G	214
		lilac leafminer	G	215
		locust borer	G	219
		locust leafminer	G	220
		oystershell scale	D	253
		oystershell scale	G	254
		privet thrips	G	290
		twobanded Japanese weevil	G	362
		white prunicola scale	D	382
		white prunicola scale	G	383
linden	Tilia	American plum borer	G	3
		apple mealybug	D	9
		apple mealybug	G	10
		basswood aphid	G	37
		basswood lace bug	G	39
		cankerworms	G	66

Common	Plant Genus	Pest	Season	Page
linden	Tilia	cottony maple scale	D	86
		cottony maple scale	G	88
		giant bark aphid	G	150
		gypsy moth	G	169
		Japanese beetle	G	195
		linden looper	G	217
		oystershell scale	D	253
		oystershell scale	G	254
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		redheaded ash borer	G	297
		terrapin scale	D	350
		terrapin scale	DD	351
		terrapin scale	G	352
		tuliptree scale	D	356
		tuliptree scale	G	357
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361
		walnut lace bug	G	373
		walnut scale	D	375
		walnut scale	G	376
Magnolia	Magnolia	apple mealybug	D	9
		apple mealybug	G	10
		magnolia scale	D	222
		magnolia scale	G	223
		Magnolia serpentine leafminer	G	225
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		sassafras weevil	G	315
		tuliptree aphid	G	354
		tuliptree scale	D	356
		tuliptree scale	G	357
maple, Japanese	Acer palmatum	cottony camellia (taxus) scale	D	80
	-	cottony camellia (taxus) scale	G	81
		Japanese beetle	G	195
maple, sugar	Acer saccharum	sugar maple borer	G	339
maple	Acer	apple mealybug	D	9
		apple mealybug	G	10
		Asian Longhorned Beetle	G	18
		Asiatic garden beetle	G	19
		bagworm	D	31
		bagworm	DD	32

Common	Plant Genus	Pest	Season	Page
maple	Acer	bagworm	G	33
		birch lace bug	G	44
		boxelder bug	G	55
		calico scale	D	64
		calico scale	G	65
		cankerworms	G	66
		carpenterworm	G	68
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		cottony maple leaf scale	D	83
		cottony maple leaf scale	G	84
		cottony maple scale	D	86
		cottony maple scale	G	88
		eastern tent caterpillar	G	106
		European fruit lecanium	D	127
		European fruit lecanium	G	128
		fall webworm	G	136
		forest tent caterpillar	G	143
		fruittree leafroller	G	148
		greenstriped mapleworm	G	167
		gypsy moth	G	169
		Japanese beetle	G	195
		leafrollers	G	210
		leopard moth	G	211
		linden looper	G	217
		maple aphids	G	226
		maple bladdergall mite	G	228
		maple trumpet skeletonizer	G	229
		orangestriped oakworm	G	252
		oystershell scale	D	253
		oystershell scale	G	254
		potato leafhopper	G	287
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		redheaded ash borer	G	297
		spotted lanternfly	G	325
		sugar maple borer	G	339
		taxus mealybug	D	346
		taxus mealybug	G	347
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361
		twobanded Japanese weevil	G	362
		walnut scale	D	375
			-	

walnut scale

376

G

Common	Plant Genus	Pest	Season	-
maple	Acer	winter moth	D	388
		winter moth	DD	389
		winter moth	G	390
mimosa	Albizia	mimosa webworm	G	232
mockorange, sweet	Philadelphus coronarius	foxglove aphid	G	147
mountain ash, European	Sorbus aucuparia	American plum borer	G	3
		apple and thorn skeletonizer	G	6
		ash borer / lilac borer	G	15
		Asian Longhorned Beetle	G	18
		birch lace bug	G	44
		dogwood borer	G	94
		European red mite	D	133
		European red mite	G	134
		Japanese leafhopper	G	197
		lilac borer / ash borer	G	214
		mountain ash sawfly	G	233
		oystershell scale	D	253
		oystershell scale	G	254
		sinuate peartree borer	G	317
		walnut scale	D	375
		walnut scale	G	376
		woolly apple aphid (summer)	G	396
mulberry	Morus	American plum borer	G	3
		apple mealybug	D	9
		apple mealybug	G	10
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		cottony maple scale	D	86
		cottony maple scale	G	88
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		San Jose scale	G	313
		terrapin scale	D	350
		terrapin scale	DD	351
		terrapin scale	G	352
oak, black	Quercus velutina	black oak stem gall wasp	DD	49
		black oak stem gall wasp	G	50
		horned oak gall	D	187
		horned oak gall	DD	188
		horned oak gall	G	189
oak	Quercus	apple mealybug	D	9

# Common

oak

**Plant Genus** 

Quercus

Pest	Season	Page
apple mealybug	G	10
Asiatic oak weevil	G	20
bagworm	D	31
bagworm	DD	32
bagworm	G	33
cankerworms	G	66
carpenterworm	G	68
cottony maple scale	D	86
cottony maple scale	G	88
dogwood borer	G	94
eastern tent caterpillar	G	106
European fruit lecanium	D	127
European fruit lecanium	G	128
fall webworm	G	136
forest tent caterpillar	G	143
giant bark aphid	G	150
golden oak scale	G	152
gouty oak gall	DD	153
gouty oak gall	G	154
granulate ambrosia beetle	G	155
greenstriped mapleworm	G	167
gypsy moth	G	169
horned oak gall	D	187
horned oak gall	DD	188
horned oak gall	G	189
hornet clearwing moth	G	190
large hickory lecanium	D	205
large hickory lecanium	G	206
leopard moth	G	211
linden looper	G	217
locust leafminer	G	220
oak blotch leafminers	G	239
oak lace bug	G	241
oak leaftier	DD	243
oak lecanium scale	D	244
oak lecanium scale	G	245
oak skeletonizer	G	246
oak spider mite	G	247
orangestriped oakworm	G	252
Putnam/rhododendron scale	D	292
Putnam/rhododendron scale	G	293
redheaded ash borer	G	297
spotted lanternfly	G	325
twig pruner	D	359
twig pruner	DD	360

Common	Plant Genus	Pest	Season	Page
oak	Quercus	twig pruner	G	361
		twolined chestnut borer	G	363
		winter moth	D	388
		winter moth	DD	389
		winter moth	G	390
peach, ornamental	Prunus persica	American plum borer	G	3
		apple mealybug	D	9
		apple mealybug	G	10
		calico scale	D	64
		calico scale	G	65
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		cottony maple scale	D	86
		cottony maple scale	G	88
		eastern tent caterpillar	G	106
		green peach aphid (dormant)	D	160
		green peach aphid (spring)	G	161
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		lesser peachtree borer	G	213
		peachtree borer	G	256
pear	Pyrus calleryana	calico scale	D	64
		calico scale	G	65
		carpenterworm	G	68
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		cottony maple scale	D	86
		cottony maple scale	G	88
		grape mealybug	D	156
		grape mealybug	G	157
		leopard moth	G	211
		oystershell scale	D	253
		oystershell scale	G	254
		pear psylla	D	257
		pear psylla	G	258
		pearleaf blister mite	D	259
		pearleaf blister mite	G	260
		sinuate peartree borer	G	317
pine, eastern white	Pinus strobus	bagworm	D	31
		bagworm	DD	32
		bagworm	G	33
		black turpentine beetle	G	51
		pine bark adelgid	D	261

Common	Plant Genus	Pest	Season	Page
pine, eastern white	Pinus strobus	pine bark adelgid	DD	262
		pine bark adelgid	G	263
		pine sawflies	G	271
		Southern pine beetle	G	319
		white pine weevil	DD	380
		white pine weevil	G	381
pine	Pinus	bagworm	D	31
		bagworm	DD	32
		bagworm	G	33
		black turpentine beetle	G	51
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		cryptomeria scale	D	90
		cryptomeria scale	G	91
		dogwood borer	G	94
		eastern pine weevil	DD	101
		eastern pine weevil	G	102
		European pine sawfly	G	130
		European pine shoot moth	G	132
		gypsy moth	G	169
		Maskell Scale	G	230
		meadow spittlebug	G	231
		Nantucket pine tip moth	G	235
		pine bark adelgid	D	261
		pine bark adelgid	DD	262
		pine bark adelgid	G	263
		pine eriophyid mite	G	264
		pine needle scale	D	265
		pine needle scale	G	266
		pine needleminer	G	268
		pine oystershell scale	G	269
		pine root collar weevil	G	270
		pine sawflies	G	271
		Pine shoot beetle	G	273
		pine spittlebugs	G	274
		pine tortoise scale	D	275
		pine tortoise scale	G	276
		pine tube moth	G	278
		pine webspinning sawflies	G	279
		pine webworm	G	280
		pitch twig moth	G	281
		redheaded pine sawfly	G	298
		Southern pine beetle	G	319
		spotted lanternfly	G	325

Common	Plant Genus	Pest	Season	Page
pine	Pinus	spruce budworm	G	331
		spruce spider mite	D	334
		spruce spider mite	G	335
		white pine aphid	G	378
		Zimmerman pine moth	G	406
plum, flowering	Prunus cerasifera	apple mealybug	D	9
		apple mealybug	G	10
		boxelder bug	G	55
		cottony maple scale	D	86
		cottony maple scale	G	88
		dogwood borer	G	94
		eastern tent caterpillar	G	106
		granulate ambrosia beetle	G	155
		green peach aphid (dormant)	D	160
		green peach aphid (spring)	G	161
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		leopard moth	G	211
		lesser peachtree borer	G	213
		oystershell scale	D	253
		oystershell scale	G	254
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
poplar or aspen	Populus	American plum borer	G	3
		Asian Longhorned Beetle	G	18
		azalea bark scale	D	21
		azalea bark scale	DD	22
		azalea bark scale	G	23
		bronze birch borer	G	62
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		cottony maple scale	D	86
		cottony maple scale	G	88
		eastern tent caterpillar	G	106
		European fruit lecanium	D	127
		European fruit lecanium	G	128
		imported willow leaf beetle	G	192
		leopard moth	G	211
		oystershell scale	D	253
		oystershell scale	G	254
		poplar and willow borer	G	283
		redhumped caterpillar	G	300
		San Jose scale	G	313
		spotted lanternfly	G	325

Common	Plant Genus	Pest	Season	Page
poplar or aspen	Populus	terrapin scale	D	350
		terrapin scale	DD	351
		terrapin scale	G	352
		walnut scale	D	375
		walnut scale	G	376
privet	Ligustrum	ash borer / lilac borer	G	15
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		euonymus scale	D	124
		euonymus scale	G	125
		lilac borer / ash borer	G	214
		lilac leafminer	G	215
		oleander scale	G	250
		privet rust mite	G	289
		privet thrips	G	290
		San Jose scale	G	313
		twobanded Japanese weevil	G	362
		walnut scale	D	375
		walnut scale	G	376
		white prunicola scale	D	382
		white prunicola scale	G	383
pussywillow	Salix discolor	Japanese beetle	G	195
		poplar and willow borer	G	283
quince, flowering	Chaenomeles	apple aphid	G	7
		hawthorn lace bug	G	172
		leopard moth	G	211
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361
redbud	Cercis canadensis	Asiatic oak weevil	G	20
		European fruit lecanium	D	127
		European fruit lecanium	G	128
		granulate ambrosia beetle	G	155
		greenhouse whitefly	G	165
		oleander scale	G	250
		redhumped caterpillar	G	300
		terrapin scale	D	350
		terrapin scale	DD	351
		terrapin scale	G	352
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361
		twospotted spider mite	G	364

Common	Plant Genus	Pest	Season	Page
redbud	Cercis canadensis	whitemarked tussock moth	G	385
Rhododendron	Rhododendron	Asiatic garden beetle	G	19
		azalea bark scale	D	21
		azalea bark scale	DD	22
		azalea bark scale	G	23
		azalea lace bug	G	25
		azalea whitefly	G	29
		black vine weevil (adult)	G	52
		black vine weevil (larva)	G	54
		cottony camellia (taxus) scale	D	80
		cottony camellia (taxus) scale	G	81
		dogwood twig borer	G	99
		fall webworm	G	136
		pitted ambrosia beetle	G	282
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		rhododendron borer	G	302
		rhododendron gall midge	G	303
		rhododendron lace bug	G	304
		rhododendron leafminer	G	306
		rhododendron stem borer	G	307
		southern red mite	D	320
		southern red mite	G	321
		taxus mealybug	D	346
		taxus mealybug	G	347
		twobanded Japanese weevil	G	362
rose of sharon	Hibiscus syriacus	greenhouse whitefly	G	165
		southern red mite	D	320
		southern red mite	G	321
rose	Rosa	cottony maple scale	D	86
		cottony maple scale	G	88
		Japanese beetle	G	195
		leafhoppers	G	208
		potato aphid	D	284
		potato aphid	G	285
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		rose aphid	G	308
		rose chafer	G	310
		roseslug(s)	G	311
		twospotted spider mite	G	364
Sassafras	Sassafras	sassafras weevil	G	315
		twig pruner	D	359

Common	Plant Genus	Pest	Season	-
Sassafras	Sassafras	twig pruner	DD	360
		twig pruner	G	361
serviceberry, shadbush	Amelanchier	hawthorn lace bug	G	172
		leopard moth	G	211
		lesser peachtree borer	G	213
		oystershell scale	D	253
		oystershell scale	G	254
		pearleaf blister mite	D	259
		pearleaf blister mite	G	260
		roundheaded appletree borer	G	312
		woolly elm aphid (summer)	G	402
smoketree	Cotinus	leafrollers	G	210
		obliquebanded leafroller	G	249
		San Jose scale	G	313
snowbell	Styrax	andromeda lace bug	G	4
		granulate ambrosia beetle	G	155
sourwood	Oxydendrum arboreum	dogwood twig borer	G	99
		rhododendron stem borer	G	307
spicebush	Lindera benzoin	andromeda lace bug	G	4
spreeduur	Linder of Contoni	Asiatic oak weevil	G	20
				20
spirea	Spiraea	cottony maple scale	D	86
		cottony maple scale	G	88
		leafrollers	G	210
		obliquebanded leafroller	G	249
		oystershell scale	D	253
		oystershell scale	G	254
		spirea aphid	G	323
spruce, Colorado	Picea pungens	balsam twig aphid	G	35
		cooley spruce gall adelgid	D	78
		cooley spruce gall adelgid	G	79
		spruce bud scale	D	327
		spruce bud scale	DD	328
		spruce bud scale	G	329
		white pine weevil	DD	380
		white pine weevil	G	381
spruce, dwarf alberta	Picea glauca var. 'Conica'	spruce bud scale	D	327
		spruce bud scale	DD	328
		spruce bud scale	G	329
		twospotted spider mite	G	364

Common	Plant Genus	Pest	Season	-
spruce, Norway	Picea abies	eastern spruce gall adelgid	D	103
		eastern spruce gall adelgid	G	104
		Norway spruce shoot gall midge	G	238
		Southern pine beetle	G	319
		spruce bud scale	D	327
		spruce bud scale	DD	328
		spruce bud scale	G	329
spruce	Picea	bagworm	D	31
		bagworm	DD	32
		bagworm	G	33
		balsam twig aphid	G	35
		circular hemlock scale	D	71
		circular hemlock scale	DD	72
		circular hemlock scale	G	73
		cryptomeria scale	D	90
		cryptomeria scale	G	91
		eastern spruce gall adelgid	D	103
		eastern spruce gall adelgid	G	104
		elongate hemlock scale	D	120
		elongate hemlock scale	G	121
		gypsy moth	G	169
		hemlock looper	G	176
		leafrollers	G	210
		Maskell Scale	G	230
		pine needle scale	D	265
		pine needle scale	G	265
		pine spittlebugs	G	200
		redbanded leafroller	G	295
		spruce bud scale	D	327
		spruce bud scale	DD	327
		•	G	328 329
		spruce bud scale	G	
		spruce budworm	G	331
		spruce needleminer	G D	333
		spruce spider mite		334
		spruce spider mite	G	335
		white pine weevil	DD	380
		white pine weevil	G	381
St. Johnswort	Hypericum calycinum	oleander scale	G	250
summersweet	Clethra alnifolia	southern red mite	D	320
		southern red mite	G	321
sweetgum	Liquidambar	American plum borer	G	3
		Asiatic oak weevil	G	20
		calico scale	D	64

Common	Plant Genus	Pest	Season	Page
sweetgum	Liquidambar	calico scale	G	65
		eastern tent caterpillar	G	106
		forest tent caterpillar	G	143
		granulate ambrosia beetle	G	155
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361
		walnut scale	D	375
		walnut scale	G	376
sycamore	Platanus occidentalis	American plum borer	G	3
		Asian Longhorned Beetle	G	18
		Asiatic oak weevil	G	20
		bagworm	D	31
		bagworm	DD	32
		bagworm	G	33
		cottony maple scale	D	86
		cottony maple scale	G	88
		giant bark aphid	G	150
		Japanese beetle	G	195
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		oak lecanium scale	D	244
		oak lecanium scale	G	245
		oystershell scale	D	253
		oystershell scale	G	254
		sinuate peartree borer	G	317
		sycamore lace bug	G	340
		sycamore plant bug	G	342
		terrapin scale	D	350
		terrapin scale	DD	351
		terrapin scale	G	352
tree of heaven	Ailanthus altissima	brown marmorated stinkbug	G	63
		spotted lanternfly	G	325
tuliptree, yellow poplar	Liriodendron tulipifera	Asiatic oak weevil	G	20
	1.5	oystershell scale	D	253
		oystershell scale	G	254
		sassafras weevil	G	315
		tuliptree aphid	G	354
		tuliptree scale	D	356
		tuliptree scale	G	357
umbrella pine	Sciadopitys verticillata	Maskell Scale	G	230
viburnum	Viburnum	Asiatic garden beetle	G	19

Common	Plant Genus	Pest	Season	Page
viburnum	Viburnum	Asiatic oak weevil	G	20
		fall webworm	G	136
		fourlined plant bug	G	145
		foxglove aphid	G	147
		oystershell scale	D	253
		oystershell scale	G	254
		tarnished plant bug	G	343
		viburnum leaf beetle	D	366
		viburnum leaf beetle	DD	368
		viburnum leaf beetle	G	369
walnut	Juglans	American plum borer	G	3
		fall webworm	G	136
		green peach aphid (summer)	G	163
		large hickory lecanium	D	205
		large hickory lecanium	G	206
		leopard moth	G	211
		oystershell scale	D	253
		oystershell scale	G	254
		spotted lanternfly	G	325
		walnut blister mite	G	370
		walnut caterpillar	G	371
		walnut lace bug	G	373
		walnut scale	D	375
		walnut scale	G	376
Weigela	Weigela florida	Comstock mealybug	D	75
		Comstock mealybug	G	76
		fourlined plant bug	G	145
		twobanded Japanese weevil	G	362
willow	Salix	andromeda lace bug	G	4
		apple and thorn skeletonizer	G	6
		Asian Longhorned Beetle	G	18
		Asiatic oak weevil	G	20
		azalea bark scale	D	21
		azalea bark scale	DD	22
		azalea bark scale	G	23
		birch lace bug	G	44
		carpenterworm	G	68
		cottony maple scale	D	86
		cottony maple scale	G	88
		dogwood borer	G	94
		giant bark aphid	G	150
		imported willow leaf beetle	G	192
		large hickory lecanium	D	205

Common	Plant Genus	Pest	Season	Page
willow	Salix	large hickory lecanium	G	206
		leopard moth	G	211
		oystershell scale	D	253
		oystershell scale	G	254
		poplar and willow borer	G	283
		Putnam/rhododendron scale	D	292
		Putnam/rhododendron scale	G	293
		satin moth	G	316
		spotted lanternfly	G	325
		striped alder sawfly	G	337
		willow flea weevil	G	387
winterberry, common	Ilex verticillata	cottony camellia (taxus) scale	D	80
		cottony camellia (taxus) scale	G	81
Wisteria	Wisteria	Comstock mealybug	D	75
		Comstock mealybug	G	76
		Japanese beetle	G	195
		magnolia scale	D	222
		magnolia scale	G	223
		potato leafhopper	G	287
		twig pruner	D	359
		twig pruner	DD	360
		twig pruner	G	361
witchhazel	Hamamelis	potato leafhopper	G	287
		walnut scale	D	375
		walnut scale	G	376
		witchhazel leaf gall aphid (spring)	G	391
yew	Taxus	black vine weevil (adult)	G	52
		black vine weevil (larva)	G	54
		Comstock mealybug	D	75
		Comstock mealybug	G	76
		cottony camellia (taxus) scale	D	80
		cottony camellia (taxus) scale	G	81
		cryptomeria scale	D	90
		cryptomeria scale	G	91
		Fletcher scale	D	140
		Fletcher scale	G	141
		Maskell Scale	G	230
		pine oystershell scale	G	269
		taxus bud mite	G	345
		taxus mealybug	D	346
		taxus mealybug	G	347
		twobanded Japanese weevil	G	362

Common	Plant Genus	Pest	Season	Page
уисса	Yucca	oleander scale	G	250
zelkova, Japanese	Zelkova serrata	calico scale	D	64
		calico scale	G	65
		elm leaf beetle	G	117

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
alder	Alnus
birch	Betula
crabapple	Malus
elm	Ulmus
filbert or hazelnut	Corylus

### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
adult	May 01	May 20	foliage	discoloration (brownish spots)	visual inspection
nymph	Jun 01	Sep 30	foliage	discoloration (brownish spots)	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph	May 10 - May 20	240 - 360	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
nymph, adult	Jul 10 - Jul 20	1200 - 1420	plants bloom: Abelia, golden rain tree, sourwood

	e only. NOT a label substitute. propriate insecticide/miticide for the cor	<u>Comments</u> rrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin +	Aloft GC G	BEE CAUTION	С	12 hours
bifenthrin				
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

#### **ALDER LACE BUG**

*Corythuca pergandei* Page 426 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	Comments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
F	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

#### Additional information on biology and control

The alder lace bug overwinters as an adult hidden in protected areas on or near last year's host. Wingless, 2 - 4mm long larvae withdraw cell contents with their piercing-sucking mouthparts leaving yellow patches visible on the upper leaf surface. The larvae look nothing like the sculptured, lacy adults. Shed skins and dark, shiny fecal spots on foliage can be diagnostic for this pest.

\*restricted use pesticide

\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: STEM, TRUNK

Host Plants: Common Name	Scientific Name
apple	Malus
cherry, flowering	Prunus
Ginkgo	Ginkgo biloba
hickory	Carya
linden	Tilia
mountain ash, European	Sorbus aucuparia
mulberry	Morus
peach	Prunus persica
poplar or aspen	Populus
sweetgum	Liquidambar
sycamore	Platanus occidentalis
walnut	Juglans

### **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method
adult (moth)	May 01	Jun 01	foliage, trunk	borer tunnels	phero	mone traps
<b>Control:</b> Stage(s	) and Tim	ning				
Stage(s)	Ideal Cont	rol Dat	Degree Days	Treat HOST PLANT when the follow	ving	
adult (moth)	May 10 -	May 31	245 - 440	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ing	
Biological Control     Comments       Steinernema feltige (nematode)     Available commercially						
Steinernema feltiae (	,	toda)		Available commercially		
Steinernema carpoco Heterorhabditis bact		<i>,</i>	<b>)</b>	Available commercially		
Chemical Contro	<b>1</b>		,	Comments	Signal	Agricultural Restricted Entry
	· · · · ·			orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
*bifenthrin	Onyx Pr	0		BEE CAUTION	W	12 hours
	Talstar H	P Profess	ional	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

#### ANDROMEDA LACE BUG

Stephanitis takeyai Page 424 (Johnson & Lyon)

#### **GROWING SEASON**

#### Annual cover sprays are suggested.

#### Frequency with which pest occurs: ANNUAL

#### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name	
andromeda	Pieris japonica	
Leucothoe	Leucothoe	
snowbell	Styrax	
spicebush	Lindera benzoin	
willow	Salix	

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph	May 15	Sep 30	foliage	discoloration (brownish spots)	visual inspection
adult	Jun 01	Sep 30	foliage	discoloration (brownish spots)	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control D	at De	gree D	ays	Treat HOST PLANT when the following
egg, nymph	Jun 01 - Jun 1	400	) -	550	plants bloom: Kousa dogwood, cranberry bush, beautybush
nymph	Jun 10 - Jun 2	550	) -	620	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn
nymph, adult	Jun 20 - Sep 3	) 620	) -	2500	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus

#### Agricultural **Chemical Control** Signal Comments **Restricted Entry** Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. BEE CAUTION С 24 hours acephate Acephate 97 WDG BEE CAUTION С Lepitect 24 hours BEE CAUTION С Orthene T.T & O WSP 24 hours azadirachtin Aza-Direct С 4 hours AzaGuard С 4 hours BEE CAUTION \*bifenthrin Onyx Pro W 12 hours BEE CAUTION С Talstar P Professional 12 hours BEE CAUTION Carbaryl 4L С 12 hours carbaryl BEE CAUTION Sevin SL С 12 hours 4 hours chlorantraniliprole Acelepryn Chlorpyrifos 4E AG Non-residential, BEE CAUTION W 24 hours \*chlorpyrifos BEE CAUTION Aloft GC G С 12 hours \*clothianidin + bifenthrin \*clothianidin Arena .25 G С 12 hours BEE CAUTION \*deltamethrin Suspend SC С BEE CAUTION Safari 20 SG \*dinotefuran С 12 hours BEE CAUTION Tame 2.4EC W \*fenpropathrin 24 hours horticultural oil Damoil С 4 hours Sunspray Ultra-Fine Spray Oil С 4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name

### ANDROMEDA LACE BUG

Stephanitis takeyai Page 424 (Johnson & Lyon)

Chemical Control		<u>Comments</u>	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute. propriate insecticide/miticide for the correc	t life stage of the target pest.	<u>Word</u>	Interval (REI)^
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

### Additional information on biology and control

The andromeda lace bug overwinters as eggs inserted into the lower surface of the foliage. The majority of the eggs are inserted along the mid-vein of the leaf. The spikey, wingless, 2 - 4mm long nymphs withdraw cell contents using their piercing sucking mouthparts leaving yellow patches on the upper leaf surfaces. Dark, shiny fecal spots and shed skins on lower leaf surfaces can be diagnostic for this insect. There can be up to four generations each year.

\*restricted use pesticide

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\*\*ESA approved common name

Choreutis pariana Page 216 (Johnson & Lyon)

### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
apple	Malus
birch	Betula
cherry, flowering	Prunus
crabapple	Malus
hawthorn	Crataegus
mountain ash, European	Sorbus aucuparia
willow	Salix

### **Pest Survey Information:**

<u>Pest Stage</u> larva (caterpillar)	<mark>From</mark> Jun 01	<u>To</u> Sep 01	<u>Plant</u> foliaș		Plant Damage defoliation		<u>Method</u> inspection
Control: Stage(	s) and Tir	ning					
Stage(s)	Ideal Con	trol Dat	Degre	e Days	Treat HOST PLANT when the follo	owing	
larva	May 01 -	May 10	145	- 230	) plants bloom: Japanese quince, saucer magnolia bridalwreath, Japanese flowering cherry	a,	
larva	May 10 -	Aug 10	230	- 193	5 Remainder of season between the beginning and phenology	d end	
larva	Aug 10 -	Aug 20	1935	- 217	5 plant fruit in color: Mountain ash, cranberry bu	ısh	
Chamical Cant					~	Signal	Agricultural

	<b>ol</b> use only. NOT a label substitute. appropriate insecticide/miticide for the	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
B. thuringiensis kurstaki	Biobit HP	Most effective against young larvae.	С	4 hours
	DiPel DF	Most effective against young larvae.	С	4 hours

chlorantraniliprole	Acelepryn			4 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

Arborist

### Apply thorough treatment only when pest stage found.

#### Frequency with which pest occurs: COMMON

#### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
almond, dwarf flowering	Prunus glandulosa
cherry, black	Prunus serotina
crabapple	Malus
firethorn	Pyracantha
hawthorn	Crataegus
quince, flowering	Chaenomeles

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph	May 15	Jul 15	foliage	distortion	visual inspection
adult	Jun 01	Jul 15	foliage	distortion	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the following
nymph, adult	May 01 - May 10	140 - 230	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
nymph, adult	May 10 - Jun 10	230 - 560	Remainder of season between the beginning and end phenology
nymph, adult	Jun 10 - Jun 20	560 - 740	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn

#### **Biological Control**

Orius sp. (predator) Hippodamia convergens (lady beetle - predator) Diaeretiella rapae (wasp, aphid parasite) Deraeocoris nebulosus (mirid bug - predator) Chrysoperla sp. (green lacewing - predator) Aphidoletes aphidimyza (midge, aphid predator) Aphidius matricariae (wasp, aphid parasite)

Aza-Direct

AzaGuard

\*restricted use pesticide

#### Comments

Available commercially; occurs naturally Available commercially; occurs naturally occurs naturally occurs naturally Available commercially; occurs naturally Available commercially; occurs naturally Available commercially; occurs naturally

Agricultural **Chemical Control Comments** Signal **Restricted Entry** Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. BEE CAUTION W \*abamectin Mauget Abacide 2 acephate Acephate 97 WDG BEE CAUTION С 24 hours BEE CAUTION 24 hours Lepitect С BEE CAUTION Orthene T,T & O WSP С 24 hours BEE CAUTION acetamiprid TriStar 8.5 SL С 12 hours

\*bifenthrinOnyx ProBEE CAUTIONTalstar P ProfessionalBEE CAUTION

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

azadirachtin

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\*\*ESA approved common name

С

С

W

С

4 hours

4 hours

12 hours

12 hours

### **APPLE APHID\*\***

Aphis pomi Page 292, 300 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> It life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
, , , , , , , , , , , , , , , , , , ,	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena 50 WDG		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective. \*\*ESA approved common name

\*restricted use pesticide

Arborist

#### **DORMANT SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE, STEMS

Host Plants: Common Name	Scientific Name
apple	Malus
bayberry	Myrica pensylvanica
blueberry	Vaccinium
cherry, black	Prunus serotina
cherry, flowering	Prunus
chestnut, hybrids	Castanea
Cotoneaster	Cotoneaster
dogwood	Cornus
elm	Ulmus
filbert or hazelnut	Corylus
hawthorn	Crataegus
honeysuckle	Lonicera
linden	Tilia
Magnolia	Magnolia
maple	Acer
mulberry	Morus
oak	Quercus
plum	Prunus cerasifera

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	Plant Part	<u>Plant Damage</u>	<u>Surve</u>	y Method
nymph	Mar 01	Apr 10	bark, foliage	discoloration, twig dieback	visua	l inspection
Control: Stage(s	and Tin	ning				
Stage(s)	<b>Ideal Cont</b>	rol Dat	Degree Days	Treat HOST PLANT when the follo	wing	
nymph	Mar 01 -	Apr 10	0 - 40	None Offered		
Chemical Contro	<u>ol</u>			<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. No				<u>Word</u>	Interval (REI)^
Select the appropriate insecticide/miticide for the correct life stage of the target pest.						
horticultural oil	Damoil				С	4 hours
	Sunspra	y Ultra-F	ine Spray Oil		С	4 hours

### Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.
\*restricted use pesticide \*\*ESA approved common name ^for agricultural applications only.

### APPLE MEALYBUG\*\*

Phenacoccus aceris Page 324 (Johnson & Lyon)

#### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE, STEMS

Host Plants: Common Name	Scientific Name
apple	Malus
bayberry	Myrica pensylvanica
blueberry	Vaccinium
cherry, black	Prunus serotina
cherry, flowering	Prunus
chestnut, hybrids	Castanea
Cotoneaster	Cotoneaster
dogwood	Cornus
elm	Ulmus
filbert or hazelnut	Corylus
hawthorn	Crataegus
honeysuckle	Lonicera
laurel, mountain	Kalmia latifolia
linden	Tilia
Magnolia	Magnolia
maple	Acer
mulberry	Morus
oak	Quercus
peach	Prunus persica
plum	Prunus cerasifera

### **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph, adult	May 15	Sep 30	bark, foliage	discoloration, twig dieback	visual inspection
<b>Control: Stage</b>	(s) and Tim	ing			
Stage(g)	Ideal Contr	al Dat	Degree Deve	Treat HOST DI ANT when the feller	ring

Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the following
immature, adult	May 01 - May 10	145 - 230	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
immature, adult	May 10 - Jul 31	230 - 1675	Remainder of season between the beginning and end phenology
immature, adult	Aug 01 - Aug 10	1700 - 1935	plant bloom: Pee Gee Hydrangea blooms turn pink

### **Biological Control**

Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator)

\*restricted use pesticide

#### **Comments**

Available commercially; occurs naturally

 $\label{eq:available} Available\ commercially;\ occurs\ naturally$ 

<u>Chemical Control</u> <u>Comments</u>			Signal	Agricultural Restricted Entry
Reference use only. NOT a label substitute.				Interval (REI)^
Select the appropriate insecticide/miticide for the correct life stage of the target pest.				Inter var (REI)
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

### **APPLE MEALYBUG\*\***

Phenacoccus aceris Page 324 (Johnson & Lyon)

Chemical Control Reference use	Signal <u>Word</u>	Agricultural Restricted Entry		
Select the appropriate insecticide/miticide for the correct life stage of the target pest.				Interval (REI)^
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena 50 WDG		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
fenpyroximate	Akari 5SC	Supression	W	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

### Additional information on biology and control

\*restricted use pesticide

This page may contain additional information in the future.

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\*\*ESA approved common name

#### ARBORVITAE LEAFMINER(S)

Argyresthia sp Page 42 (Johnson & Lyon) Page 11 (Adams & Packauskas)

### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
arborvitae	Thuja
eastern redcedar	Juniperus virginiana
Juniper	Juniperus

#### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
adult (moth)	Jun 10	Jul 10	foliage		visual inspection
Control. Stage(a)	and Tin	ning			

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
larva	May 10 - May 20	150 - 260	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
larva/adult	May 20 - May 31	260 - 425	plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
larva/adult	Jun 01 - Jun 10	440 - 565	plants bloom: Kousa dogwood, cranberry bush, beautybush
adult	Jun 10 - Jun 20	565 - 740	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn
adult	Jul 10 - Jul 20	1200 - 1420	plants bloom: Abelia, golden rain tree, sourwood

Chemical Control		<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry			
	Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.						
*abamectin							
	Mauget Abacide 2	BEE CAUTION	W	241			
acephate	Acephate 97 WDG		C	24 hours			
	Lepitect	BEE CAUTION	С	24 hours			
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours			
azadirachtin	Aza-Direct		С	4 hours			
	AzaGuard		С	4 hours			
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours			
	Talstar P Professional	BEE CAUTION	С	12 hours			
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours			
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours			
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours			
*emamectin benzoate	Tree-age	BEE CAUTION	W				
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours			
	Merit 75WSP	BEE CAUTION	С	12 hours			
	Xytect 2F	BEE CAUTION	С				
lambda-cyhalothrin	Demand CS	BEE CAUTION	С				
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours			
*permethrin	Astro	BEE CAUTION	С	12 hours			

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

^for agricultural applications only.

Arborist

### ARBORVITAE LEAFMINER(S)

Argyresthia sp Page 42 (Johnson & Lyon) Page 11 (Adams & Packauskas)

	<b>ol</b> use only. NOT a label substitute. appropriate insecticide/miticide for the	<u>Comments</u> correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

Phyllobius intrusus Page 240, 244 (Johnson & Lyon)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Commo	on Name		S	cientific Name				
arborvit	arborvitae			Thuja				
cedar			(	Cedrus				
falsecyp	oress		(	Chamaecyparis				
Juniper			J	uniperus				
Pest Survey Information:								
Pest Stage From To Plant Part				<u>Plant Damage</u>	Surve	y Method		
adult	Jun 01	Aug 31	foliage	defoliation (leaf notching)	visua	l inspection		
Control: Stage(s)	Control: Stage(s) and Timing							
Stage(s)	Ideal Contro	l Dat	Degree Days	Treat HOST PLANT when the follo	owing			
adult May 10 - May 20 150 - 260 plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark								
Chemical Contro	<u>)</u>			<u>Comments</u>	Signal	Agricultural Restricted Entry		
Reference u	se only. NOT	a label	l substitute.		<u>Word</u>	Interval (REI)^		
Select the a	opropriate inse	ecticide	/miticide for the	correct life stage of the target pest.				
acephate	Acephate	97 WD	G	BEE CAUTION	С	24 hours		
azadirachtin	Aza-Direc	ct			С	4 hours		
	AzaGuard	l			С	4 hours		
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours		
	Talstar P I	Professi	onal	BEE CAUTION	С	12 hours		
lambda-cyhalothrin	Demand C	CS		BEE CAUTION	С			
pyrethrin	Pyrenone				С	12 hours		

\*\*ESA approved common name

\*restricted use pesticide

### ASH BORER / LILAC BORER\*\*

Podosesia syringae Page 260 (Johnson & Lyon) Page 18 (Adams & Packauskas)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Host Plants: Common Name	Scientific Name
ash	Fraxinus
lilac	Syringa
mountain ash, European	Sorbus aucuparia
privet	Ligustrum

Chemical Control       Comments         Reference use only. NOT a label substitute.       Select the appropriate insecticide/miticide for the correct life stage of the target pest.				Agricultural Restricted Entry Interval (REI)^
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours

### Additional information on biology and control

See "lilac borer / ash borer" for details

\*restricted use pesticide

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

	t of plant to treat.	FULIAG		• 4 • 0 •		
ash	Plants: Common Name Scientific Name ash Fraxinus					
			170	axinus		
Pest Survey Info						
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Par</u>	<u>t</u>	<u>Plant Damage</u>	Survey Method	
nymph	May 15 Sep 30	foliage		discoloration (brownish spots)		l inspection
adult	Jun 01 Sep 30	foliage		discoloration (brownish spots)	visua	l inspection
Control: Stage(s	and Timing					
Stage(s)	Ideal Control Dat	Degree Da	ys	Treat HOST PLANT when the follow	wing	
nymph	May 10 - May 20	230 -	310	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ing	
nymph	May 20 - May 31	310 -	425	plants bloom: ruby horsechestnut, Laburnum alp black locust, ninebark	inum,	
nymph	Jun 01 - Jun 10	440 -	565	plants bloom: Kousa dogwood, cranberry bush, beautybush		
nymph, adult	Jul 01 - Jul 31	990 -	1675	plants bloom: mountain laurel, mock-orange, Jap tree lilac, Washington hawthorn	panese	
<b><u>Chemical Control</u></b>	<u>ol</u>			Comments	Signal	Agricultural Restricted Entry
Reference u	use only. NOT a labe	el substitute.			<u>Word</u>	Interval (REI)^
Select the appropriate insecticide/miticide for the correct life stage of the target pest.						
*abamectin	Mauget Abacide	2		BEE CAUTION	W	
acetamiprid	TriStar 8.5 SL			BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profess	ional		BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG		Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G			BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC			BEE CAUTION	С	
flonicamid	Aria				С	12 hours
horticultural oil	Damoil				С	4 hours
*imidacloprid	Merit 75WSP			BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticid	al Soap Con	centra	te	W	12 hours
	M-Pede	1			W	12 hours
lambda-cyhalothrin	Demand CS			BEE CAUTION	С	
*lambda-cyhalothrii				BEE CAUTION	С	24 hours
malathion	Malathion 8 Flow	wable		BEE CAUTION	С	12 hours
*permethrin	Astro			BEE CAUTION	C	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name

### ASH PLANT BUGS\*\*

Tropidosteptes sp Page 402 (Johnson & Lyon)

	<b>]</b> se only. NOT a label substitute. ppropriate insecticide/miticide for the	<u>Comments</u> correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone		С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

Anoplophora glabripennis

#### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

### Part of plant to treat: TRUNK, BRANCH

Host Plants: Common Name	Scientific Name
birch	Betula
elm	Ulmus
horsechestnut	Aesculus hippocastanum
katsura	Ceridiphyllum
maple	Acer
mountain ash, European	Sorbus aucuparia
poplar or aspen	Populus
sycamore	Platanus occidentalis
willow	Salix

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	Plant Part	<u>Plant Damage</u>	Survey Method
adult (beetle)	Jul 01	Oct 31	foliage, trunk	defoliation (leaf notching)	visual inspection
larva in stems	Nov 01	Jun 30	trunk, branch	borer tunnels	visual inspection

#### Non Chemical Control

Remove and destroy badly infested branch & tree parts.

#### Additional information on biology and control

As of January 2019, the Asian longhorned beetle (ALB) has not been found in Connecticut. The closest known populations are Worcester MA and New York City. While they prefer to attack maple, birch, elm, willow and horsechestnut, they will also attack poplar, sycamore, mimosa, katsura, ash and mountain ash. Goldenrain tree is also a host. Adults emerge from trees in the summer, starting after 1600 degree days, when Rose of Sharon begins to bloom. Adults are 1-1.5" long, have a shiny black body with white spots on the wing covers and long, black and white striped antennae. The beetles mate, and females chew pits in the bark of host trees to lay eggs. Eggs hatch in 10 - 15 days, and the larvae first feed on the conducting tissue under the bark. As larvae grow they move deeper into the heartwood of the host tree. Larvae are white and wormlike, and grow to about 2" in length. Egg-laying ends with the first frost, and adults die soon after. Larvae are the only stage of ALB that overwinters, staying inside the tree's heartwood, where they are protected from weather and predators. The larvae will pupate in the spring, and be ready to emerge as adults in the summer. This lifecycle usually takes 1 year, but if an egg hatches late in the growing season, it may take 2 years to develop. If you suspect that you have found ALB in Connecticut, you must notify the Connecticut Agricultural Experiment Station at (203) 974 8474 or email photos to CAES.StateEntomologist@ct.gov.

**\*\*ESA approved common name** 

\*restricted use pesticide

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### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: <u>Comm</u>	on Name		S	cientific Name		
burning	bush, winged euon	ymus	E	Euonymus alatus		
maple			Α	cer		
Rhodoc	lendron		F	Phododendron		
viburnu	ım		V	liburnum		
Pest Survey Info	ormation:					
Pest Stage	<u>From</u> <u>To</u>	Plant ]	<u>Part</u>	Plant Damage	Surve	y Method
adult	Jun 10 Jul 31	foliag	ge	somenotching	visua	l inspection
<b>Control:</b> Stage(s	) and Timing					
Stage(s)	Ideal Control Dat	Degree	e Days	Treat HOST PLANT when the fe	ollowing	
adult	Jun 10 - Jun 20	563	- 73	7 plants bloom: mountain laurel, mock-orang tree lilac, Washington hawthorn	e, Japanese	
adult	Jun 20 - Jul 20	737				
adult	Jul 20 - Jul 31	1417	- 167	3 plants bloom: butterfly bush, Clethra alnifo spirea	lia, false	
<b>Chemical Control</b>				<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference use only. NOT a label substitute.					<u>Word</u>	Interval (REI)^
Select the a	ppropriate insecticio	le/miticide	e for the	correct life stage of the target pest.		
acephate	Acephate 97 W	DG		BEE CAUTION	С	24 hours
	Orthene T,T &	O WSP		BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profes	sional		BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L			С	12 hours	
	Sevin SL			BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G			BEE CAUTION	С	12 hours
malathion	Malathion 5 EC			BEE CAUTION	W	12 hours
	Malathion 8 Flo	wable		BEE CAUTION	С	12 hours
pyrethrin	Pyrenone				С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

Cyrtepistomus castaneus Page 240, 244 (Johnson & Lyon)

#### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
apple	Malus
beech	Fagus
dogwood	Cornus
hickory	Carya
oak	Quercus
redbud	Cercis canadensis
spicebush	Lindera benzoin
sweetgum	Liquidambar
sycamore	Platanus occidentalis
tuliptree, yellow poplar	Liriodendron tulipifera
viburnum	Viburnum
willow	Salix

### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
adult	Jun 01	Sep 15	foliage	defoliation (leaf notching)	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
adult	Jun 01 - Jun 10	437 - 563	plants bloom: Kousa dogwood, cranberry bush, beautybush
adult	Jun 10 - Sep 01	563 - 2418	Remainder of season between the beginning and end phenology
adult	Sep 01 - Sep 10	2418 - 2576	plant fruit in color: sweet autumn clematis, Polygonum aubertii

	<b>]</b> se only. NOT a label substitute. ppropriate insecticide/miticide for the corre	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone		С	12 hours

#### **Signal words: C=Caution; W = Warning; DP = Danger Poison** Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

### **DORMANT SEASON**

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: STEM, TRUNK

_			» = ===; = ==e			
Host Plants: Common Name			S	Scientific Name		
andro	andromeda		F	Pieris japonica		
Azal	ea		A	zalea		
bluet	berry		V	Vaccinium		
popla	ar or aspen		F	Populus		
Rhod	lodendron		K	Rhododendron		
willo	w		S	lalix		
Pest Survey In	formation:					
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
nymph	Mar 01	Apr 10	bark	discoloration, dieback	visua	l inspection
Control: Stage	e(s) and Tim	ing				
Stage(s)	Ideal Contr	ol Dat	Degree Days	Treat HOST PLANT when the foll	lowing	
adult	Mar 01	Apr 10	0 - 4	1 None Offered		
Chemical Cont				<u>Comments</u>	Signal	Agricultural Restricted Entry
	e use only.  NC e appropriate in			correct life stage of the target pest.	<u>Word</u>	Interval (REI)^
horticultural oil	Damoil				С	4 hours
	Sunspray	y Ultra-F	ine SprayOil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

### **DELAYED DORMANT**

## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: STEM, TRUNK

_						
Host Plants: Common Name			Scientific Name			
andromeda		Pi	eris japonica			
Azal	ea	Az	zalea			
bluel	berry	Va	accinium			
popla	ar or aspen	Pa	opulus			
Rhoo	lodendron	Rł	nododendron			
willo	)W	Sa	lix			
Pest Survey In	formation:					
Pest Stage	From <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method	
nymph	Apr 10 Apr 20	bark	discoloration, twig dieback	visua	l inspection	
Control: Stage	e(s) and Timing					
Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the follo	owing		
adult	Apr 10 - Apr 20	41 - 96	None Offered			
Chemical Con		1 1 1 1 1 1	Comments	Signal	Agricultural Restricted Entry	
	e use only. NOT a labe e appropriate insecticide		correct life stage of the target pest.	<u>Word</u>	Interval (REI)	
horticultural oil	Damoil			С	4 hours	
	Sunspray Ultra-F	ine SprayOil		С	4 hours	

\*restricted use pesticide

\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: STEM, TRUNK

Scientific Name	
Pieris japonica	
Azalea	
Vaccinium	
Populus	
Rhododendron	
Salix	
-	Pieris japonica Azalea Vaccinium Populus Rhododendron

#### **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
adult	May 15	Jun 15	bark	discoloration, twig dieback	visual inspection
crawler	Jul 01	Jul 31	bark	discoloration, twig dieback	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
egg	Jun 20 - Jul 15	724 - 1272	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
crawler	Jul 01 - Jul 31	960 - 1659	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata

#### **Biological Control**

*Lindorus lophanthae (lady beetle - scale predator)* Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator)

\*restricted use pesticide

#### **Comments**

Available commercially Available commercially; occurs naturally Available commercially; occurs naturally occurs naturally

Chemical Contro		<u>Comments</u>	Signal	Agricultural Restricted Entry
	se only. NOT a label substitute.		<u>Word</u>	Interval (REI)^
Select the a	ppropriate insecticide/miticide for the co	rrect life stage of the target pest.		
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*clothianidin+ bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
flonicamid	Aria		С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*\*ESA approved common name

^for agricultural applications only.

#### **AZALEA BARK SCALE\*\***

Eriococcus azaleae Page 336 (Johnson & Lyon)

<u>Chemical Control</u> Reference us Select the ap	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^		
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil	Only effective against immatures.	С	4 hours
*imidacloprid	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance IGR	most effective against immature stages	С	12 hours

#### Additional information on biology and control

Physically this insect resembles a mealybug, but it is a scale in the family Eriococcidae. The insects do produce honey dew like the soft scales. There is one generation per year in Connecticut. The partially grown scales overwinter in cracks, crevices and crotches of twigs and branches. Eggs are laid in the spring and hatch in late June through July. Crawlers are present from late June through July. Under the white lacy covering, the female scale is a dark purple. Males are half the size of the 3mm long females.

\*restricted use pesticide

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\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name Scientific Name					
Azalea			alea		
Rhodo	dendron	Rh	ododendron		
Pest Survey Info	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
nymph	May 15 Sep 30	foliage	discoloration (brownish spots)	visua	l inspection
adult	Jun 01 Sep 30	foliage	discoloration (brownish spots)	visua	l inspection
Control: Stage(s	s) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follow	wing	
egg, immature	Jun 01 - Jun 10	400 - 550	plants bloom: Kousa dogwood, cranberry bush, beautybush		
immature	Jun 10 - Jun 20	551 - 617	plants bloom: mountain laurel, mock-orange, Jap tree lilac, Washington hawthorn	oanese	
immature, adult	Jun 20 - Sep 01	618 - 2500	rest of season		
Chemical Contr	<mark>ol</mark> use only. NOT a labe	l substituto	<u>Comments</u>	Signal	Agricultural Restricted Entry
	•		orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
acephate	Acephate 97 WD		BEE CAUTION	С	24 hours
acephate	Lepitect		BEE CAUTION	C	24 hours
	Orthene T,T & O	WSP	BEE CAUTION	C C	24 hours
azadirachtin	Aza-Direct			C	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Professi	ional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
-	Sevin SL		BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn				4 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G			С	12 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*dinotefuran	Safari 20 SG		BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC		BEE CAUTION	W	24 hours
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-F	ine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours
	Xytect 2F		BEE CAUTION	С	
insecticidal soap	Des-X Insecticida	al Soap Concentra	ite	W	12 hours
	M-Pede			W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name

#### **AZALEA LACE BUG\*\***

Stephanitis pyroides Page 424 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

### Additional information on biology and control

The azalea lace bug overwinters as eggs glued along the lower midvein on foliage. Spikey, wingless, 2 - 4 mm long nymphs feed from the undersides of leaves removing chlorophyll and leaving behind dark, shiny fecal spots. Adults are very sculptured with two lacy wings. There are multiple generations per year. If not treated early, leaves will be brown and fall before the end of the season. Damage is more severe on plants grown in sunny locations.

\*restricted use pesticide

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

	Part of plant to treat: FOLIAGE				
		cientific Name			
Azalea		A	zalea		
Pest Survey Info	rmation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	<u>Surve</u>	y Method
adult (moth)	Jun 01 Jul 0	1 foliage		visua	l inspection
larva (caterpillar)	Jun 15 Jul 1	5 foliage	discoloration (mining), leaf- folding	visua	l inspection
adult	Aug 01 Sep	01 foliage		visua	l inspection
<b>Control:</b> Stage(s	) and Timing				
Stage(s)	Ideal Control Da	t Degree Days	Treat HOST PLANT when the follo	wing	
adult	Jun 01 - Jun 30	450 - 80	<ul> <li>plants bloom: Kousa dogwood, cranberry bush, beautybush</li> </ul>		
larva, adult	Jul 10 - Jul 20	1260 - 150	0 plants bloom: Abelia, golden rain tree, sourwoo	d	
Chemical Contro			<u>Comments</u>	Signal	Agricultural Restricted Entry
	ise only. NOT a la			<u>Word</u>	Interval (REI)^
Select the a			correct life stage of the target pest.		
acephate	Acephate 97 V	VDG	BEE CAUTION	С	24 hours
	Lepitect		BEE CAUTION	С	24 hours
	Orthene T,T &	c O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profe	essional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G			С	12 hours
*diflubenzuron	Dimilin 25W		Effective against immatures. Bee caution.	С	12 hours
*dinotefuran	Safari 20 SG		BEE CAUTION	С	12 hours
*emamectin benzoat	e Tree-age		BEE CAUTION	W	
*fenpropathrin	Tame 2.4EC		BEE CAUTION	W	24 hours
*imidacloprid	Mallet 75 WS	P	BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours
	Xytect 2F		BEE CAUTION	С	
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrir	Scimitar GC		BEE CAUTION	С	24 hours
*permethrin	Astro		BEE CAUTION	С	12 hours
	Perm-UP 3.2E	С	BEE CAUTION	С	12 hours
*thiamethoxam	Meridian 0.33		BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name 27 ^for agricultural applications only.

Arborist

### AZALEA LEAFMINER\*\*

Caloptilia azaleela Page 202 (Johnson & Lyon) Page 11 (Adams & Packauskas)

\*restricted use pesticide

\*\*ESA approved common name

cards

cards

visual inspection, sticky

Agricultural

#### **GROWING SEASON**

#### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

Jun 01

### Part of plant to treat: FOLIAGE

Sep 30

foliage

Host Plants: Con	nmon Name			Scientific Name		
andromeda				Pieris japonica		
Azalea				Azalea		
Rhododendron				Rhododendron		
<u>Pest Survey I</u>	nformation:					
Pest Stage	From	<u>To</u>	<u> Plant Part</u>	Plant Damage	Survey Method	
nymph	Jun 01	Sep 30	foliage	discoloration, leaf drop	visual inspection,	

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
immature	Jun 01 - Jun 10	450 - 540	plants bloom: Kousa dogwood, cranberry bush, beautybush
nymph	Jun 10 - Jun 20	540 - 725	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn
immature, adult	Jul 10 - Jul 20	1250 - 1500	plants bloom: Abelia, golden rain tree, sourwood
immature, adult	Aug 10 - Aug 20	2032 - 2150	plant fruit in color: Mountain ash, cranberry bush

#### **Biological Control**

adult

Encarsia formosa (parasitic wasp) Delphastus catalinae (lady beetle - predator) Chrysoperla sp. (green lacewing - predator)

\*restricted use pesticide

#### **Comments**

Available commercially Available commercially Available commercially; occurs naturally

^for agricultural applications only.

discoloration, leaf drop

<b>Chemical Control</b>	Comments	Signal	Agricultural Restricted Entry	
Reference use	only. NOT a label substitute.		<u>Word</u>	Interval (REI) <sup>^</sup>
Select the app	ropriate insecticide/miticide for the correct	life stage of the target pest.		· · · · · · · · · · · · · · · · · · ·
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	$\mathbf{W}$	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
	Arena 50 WDG		С	12 hours
fenazaquin	Magus	BEE CAUTION	W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

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#### **AZALEA WHITEFLY\*\***

Pealius azaleae Page 318 (Johnson & Lyon)

Chemical Control	e only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
	propriate insecticide/miticide for the correct	t life stage of the target pest.	word	Interval (REI)^
fenpyroximate	Akari 5SC	Supression	W	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
pyriproxyfen	Distance IGR	most effective against immature stages	С	12 hours
spiromesifen	Forbid 4F	most effective against immature stages	С	
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

#### **DORMANT SEASON**

#### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

### Part of plant to treat: FOLIAGE, STEMS

Host Plants: Common Name	Scientific Name
arborvitae	Thuja
buckeye, Ohio	Aesculus glabra
cedar	Cedrus
crabapple	Malus
eastern redcedar	Juniperus virginiana
elm	Ulmus
hemlock	Tsuga
honeylocust	Gleditsia triacanthos
maple	Acer
oak	Quercus
pine	Pinus
spruce	Picea
sycamore	Platanus occidentalis
Pest Survey Information:	

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
egg	Jan 01	Mar 31	stem, branch		visual inspection

#### Additional information on biology and control

\*restricted use pesticide

Hatching in early spring, this caterpillar weaves itself a bag out of silk and bits of leaves from its host plant. The caterpillar will carry the bag along with it as it moves and feeds, and will add to it as it grows. Larvae mature by late summer and pupate directly inside the bag. Only the males emerge as small black hairy clear-winged moths. Females are flightless and never leave their bags. Males fly to females' bags to mate. Females lay eggs in the fall, and the eggs will overwinter inside the female's bag. Chemical controls work best early in the season when caterpillars are small. Physically removing and destroying bags in the fall and winter will prevent eggs from hatching in the spring.

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\*\*ESA approved common name

#### **DELAYED DORMANT**

#### Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: RARE

#### Part of plant to treat: FOLIAGE, STEMS

Host Plants: Common Name	Scientific Name
buckeye, Ohio	Aesculus glabra
cedar	Cedrus
crabapple	Malus
eastern redcedar	Juniperus virginiana
elm	Ulmus
hemlock	Tsuga
honeylocust	Gleditsia triacanthos
maple	Acer
oak	Quercus
pine	Pinus
spruce	Picea
sycamore	Platanus occidentalis

#### **Pest Survey Information:**

Pest Stage	t Stage <u>From</u> <u>To</u> <u>Plant Part</u>		<u>Plant Part</u>	Plant Damage	Survey Method		
	Apr 01	Jun 01	stem, branch		visua	l inspection	
<u>Chemical Control</u> Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the con				<u>Comments</u> correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^	
*emamectin benzoate	Tree-ag	ge		BEE CAUTION	W		

#### Additional information on biology and control

\*restricted use pesticide

Hand remove and destroy bags to remove the over-wintering eggs.

\*\*ESA approved common name

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# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
arborvitae	Thuja
buckeye, Ohio	Aesculus glabra
cedar	Cedrus
crabapple	Malus
eastern redcedar	Juniperus virginiana
elm	Ulmus
hemlock	Tsuga
honeylocust	Gleditsia triacanthos
maple	Acer
oak	Quercus
pine, eastern white	Pinus strobus
spruce	Picea
sycamore	Platanus occidentalis

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method				
larva (caterpillar)	Jun 10	Jun 30	foliage	defoliation	visual inspection				
Control: Stage(s) and Timing									
Stage(s)         Ideal Control Dat         Degree Days         Treat HOST PLANT when the following									
larva	Jun 10	Jun 20	563 - 60	– – – – – – – – – – – – – – – – – – –	ange Japanese				

larva	Jun 10	- Jun 20	563	-	600	plants bloom: mountain laurel, mock-orange, Jap tree lilac, Washington hawthorn	anese	
larva	Jun 20	- Jul 10	600	-	1160	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata		
								Agricultural

# . ~

Chemical Contro	Signal	Restricted Entry				
Reference u	<u>Word</u>	Interval (REI)^				
Select the a						
acephate	cephate Acephate 97 WDG BEE CAUTION					
	Lepitect	BEE CAUTION	С	24 hours		
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours		
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours		
B. thuringiensis aizawai	XenTari	Most effective against young larvae.	С	4 hours		
B. thuringiensis kurstaki	Biobit HP	Most effective against young larvae.	С	4 hours		
	DiPel DF	Most effective against young larvae.	С	4 hours		
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours		
	Talstar P Professional	BEE CAUTION	С	12 hours		
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours		
	Sevin SL	BEE CAUTION	С	12 hours		

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> It life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
indoxacarb	Provaunt	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: **BUD**, **FOLIAGE**

Host Plants: Comm	ion Name	Sci	entific Name		
fir			ies		
spruce		Pic	rea		
spruce	, Colorado	Pic	cea pungens		
Pest Survey Inf	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	<u>y Method</u>
nymph	May 01 Jul 01	needles buds	distortion	visua	l inspection
adult	May 15 Jul 01	needles buds	distortion	visua	l inspection
Control: Stage(s	s) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follow	ving	
nymph, adult	Apr 20 - Apr 30	from - 58	plants bloom: boxelder, star magnolia, periwink Norway maple	le,	
nymph, adult	May 01 - May 10	to - 120	plants bloom: Japanese quince, saucer magnolia bridalwreath, Japanese flowering cherry	,	
<b><u>Biological Control</u></b> Orius sp. (predator)			<u><b>Comments</b></u> Available commercially; occurs naturally		
Hippodamia conver	gens (lady beetle - pro	edator)	Available commercially; occurs naturally		
Deraeocoris nebulosus (mirid bug - predator)			occurs naturally		
Chrysoperla sp. (gro	een lacewing - predate	or)	Available commercially; occurs naturally		
Aphidoletes aphidin	ıyza (midge, aphid pr	edator)	Available commercially; occurs naturally		
Aphidius matricaria	e (wasp, aphid parasi	ite)	Available commercially; occurs naturally		
Chemical Contr			<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a labe			<u>Word</u>	Interval (REI)^
			prrect life stage of the target pest.		
*abamectin	Mauget Abacide		BEE CAUTION	W	
acephate	Acephate 97 WD	)G	BEE CAUTION	С	24 hours
	Lepitect		BEE CAUTION	С	24 hours
	Orthene T,T & C	O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin Onyx Pro			BEE CAUTION	W	12 hours
Talstar P Professional			BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
Sevin SL			BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours
*clothianidin	Arena 50 WDG			С	12 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

#### **BALSAM TWIG APHID\*\***

Mindarus abietinus Page 80 (Johnson & Lyon)

<u>Chemical Control</u>		<u>Comments</u>	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute. propriate insecticide/miticide for the correc	ct life stage of the target pest.	<u>Word</u>	Interval (REI)^
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	Pyrenone		С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

# Part of plant to treat: FOLIAGE?

Host Plants: Comm	ion Name			Sc	ientific Name		
basswo	bod			Til	lia americana		
linden				Til	lia		
Pest Survey Inf	ormation:						
Pest Stage	<u>From</u> <u>To</u>	<u>Plan</u>	t Par	t	<u>Plant Damage</u>	Surve	y Method
adult, nymph	May 15 Sep 30	) folia	ige		discoloration, distortion	visua	l inspection
<b>Control: Stage</b> (	s) and Timing						
Stage(s)	Ideal Control Dat	Degre	ee Da	ys	Treat HOST PLANT when the follo	wing	
nymph, adult	Apr 20 - Apr 30	96	-	137	plants bloom: boxelder, star magnolia, periwink Norway maple	le,	
nymph, adult	May 01 - May 10	144	-	228	plants bloom: Japanese quince, saucer magnolia bridalwreath, Japanese flowering cherry	l,	
nymph, adult	May 10 - May 20	228	-	311	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ring	
<b><u>Biological Control</u></b> Orius sp. (predator)			<u>Comments</u> Available commercially; occurs naturally				
Hippodamia conver	gens (lady beetle - pi	redator)	)		Available commercially; occurs naturally		
Deraeocoris nebulo	sus (mirid bug - pred	lator)			occurs naturally		
Chrysoperla sp. (gro	een lacewing - preda	tor)			Available commercially; occurs naturally		
Aphidoletes aphidin	nyza (midge, aphid p	redator	)		Available commercially; occurs naturally		
Aphidius matricaria	e (wasp, aphid paras	site)			Available commercially; occurs naturally		
Chemical Contr			14.40		Comments	Signal	Agricultural Restricted Entry
	use only. NOT a lab appropriate insecticio			the c	orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
*abamectin	Mauget Abacide			110 0	BEE CAUTION	W	
acephate	Acephate 97 W				BEE CAUTION	C	24 hours
acephate	Lepitect				BEE CAUTION	C C	24 hours 24 hours
	Orthene T,T &	ר wsp			BEE CAUTION	C C	24 hours 24 hours
acetamiprid	TriStar 8.5 SL	5 11 51			BEE CAUTION	C C	12 hours
azadirachtin	Aza-Direct					C C	4 hours
azadıracının	AzaGuard					C C	4 hours
*bifenthrin	Onyx Pro				BEE CAUTION	w	12 hours
chronium m	Talstar P Profes	sional			BEE CAUTION	C	12 hours
carbaryl	Carbaryl 4L	sionai			BEE CAUTION	C C	12 hours
· ··· · · ··· · · ·	Sevin SL				BEE CAUTION	C C	12 hours
chlorantraniliprole	Acelepryn					v	4 hours
*clothianidin + bifenthrin	Aloft GC G				BEE CAUTION	С	12 hours
*clothianidin	Arena 50 WDG					С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

#### **BASSWOOD APHID**

Eucallipterus tiliae Page 302 (Johnson & Lyon)

Chemical Control       Comments         Reference use only. NOT a label substitute.       Select the appropriate insecticide/miticide for the correct life stage of the target pest.			Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	Pyrenone		С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

# Part of plant to treat: FOLIAGE

Host Plants: Common Name Scientific Name		
basswood Tilia americana		
linden Tilia		
Pest Survey Information:		
<u>Pest Stage From To Plant Part Plant Damage</u>	<u>Surve</u>	y Method
adult May 15 Sep 30 foliage discoloration (brownish spots)	visua	l inspection
nymph Jun 01 Sep 30 foliage discoloration (brownish spots)	visua	l inspection
Control: Stage(s) and Timing		
Stage(s)         Ideal Control Dat         Degree Days         Treat HOST PLANT when the follow	wing	
nymph, adult May 10 - May 20 228 - 311 plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ring	
nymph, adult Jul 10 - Jul 20 1196 - 1417 plants bloom: Abelia, golden rain tree, sourwoo	d	
	Signal	Agricultural
<u>Chemical Control</u> Reference use only. NOT a label substitute.	Signal <u>Word</u>	<b>Restricted Entry</b>
Select the appropriate insecticide/miticide for the correct life stage of the target pest.	woru	Interval (REI)^
acephate Acephate 97 WDG BEE CAUTION	С	24 hours
Lepitect BEE CAUTION	C C	24 hours
Orthene T,T & O WSP BEE CAUTION	C C	24 hours
azadirachtin Aza-Direct	C	4 hours
AzaGuard	C	4 hours
*bifenthrin Onyx Pro BEE CAUTION	W	12 hours
Talstar P ProfessionalBEE CAUTION	С	12 hours
carbaryl Carbaryl 4L BEE CAUTION	С	12 hours
Sevin SL BEE CAUTION	С	12 hours
chlorantraniliprole Acelepryn		4 hours
*chlorpyrifos Chlorpyrifos 4E AG Non-residential, BEE CAUTION	W	24 hours
*clothianidin + Aloft GC G BEE CAUTION bifenthrin	С	12 hours
*clothianidin Arena .25 G	С	12 hours
*deltamethrin Suspend SC BEE CAUTION	С	
*dinotefuran Safari 20 SG BEE CAUTION	С	12 hours
*fenpropathrin Tame 2.4EC BEE CAUTION	W	24 hours
horticultural oil Damoil	С	4 hours
*imidacloprid Mallet 75 WSP BEE CAUTION	С	12 hours
Merit 75WSP BEE CAUTION	С	12 hours
Xytect 2FBEE CAUTION	С	
insecticidal soap Des-X Insecticidal Soap Concentrate	W	12 hours
M-Pede	W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

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#### **BASSWOOD LACE BUG\*\***

Gargaphia tiliae Page 426 (Johnson & Lyon)

Chemical Control       Comments         Reference use only. NOT a label substitute.       Select the appropriate insecticide/miticide for the correct life stage of the target pest.				Agricultural Restricted Entry Interval (REI)^
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

### Additional information on biology and control

The basswood or linden lace bug overwinters as an adult in bark cracks and crevices or neaby in debris on the ground. Pale creamy to yellow nymphs have dark horizontal stripes just behind the pronotum and again near the rear of the body. Lacy winged, 4 -5 mm long adults have dark bodies with red eyes. The last antennal segment is dark.

\*restricted use pesticide

\*\*ESA approved common name

Agricultural

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: TRUNK, BRANCH

Host Plants: Commo	n Name			Scientific	Name	
beech				Fagus		
Pest Survey Info	mation:					
Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>		<u>Plant Damage</u>	Survey Method
adult, nymph	Jan 01	Dec 31	bark		discoloration, leaf drop, beech bark disease	visual inspection
nymph (crawler)	Aug 15	Sep 30	bark		discoloration, leaf drop, beech bark disease	visual inspection

# **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
crawler	Aug 01 - Sep 30	1700 - 2862	Not applicable

# **Chemical Control**

<b>Chemical Control</b>		Comments		Agricultural Restricted Entry
Reference use	e only. NOT a label substitute.		<u>Word</u>	Interval (REI) <sup>^</sup>
Select the app	propriate insecticide/miticide for the correc	t life stage of the target pest.		
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance IGR	most effective against immature stages	С	12 hours

# Additional information on biology and control

\*restricted use pesticide

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name

This insect is responsible for creating infection sites for the bark disease, Nectria coccinea var. faginata on native and European beech. This disease occurs in conjunction with infestation by the beech scale. Feeding punctures made by the white woolly scales kill the living bark and produce cracks through which the causal fungus enters the tree. The fungus causes a canker which may be sunken, with small orange lumps of fungal tissue on the surface. Leaves are usually yellow and small, and the tree lacks vigor. When cankers are large enough to encircle the twig, branch, or trunk, the foliage wilts, and the parts of the tree distal to the canker die. Infection usually does not occur when the insects are removed soon after infestation. (From 'The Plant Pest Handbook ', Published by The Connecticut AgriculturalExperiment Station) Fertilize trees in the spring and water well during drought to maintain tree vigor. Control the scale to prevent further infection."

\*restricted use pesticide

\*\*ESA approved common name

#### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

Part of plant to treat: STEM

Host Plants: Common Name	Scientific Name
alder	Alnus
beech	Fagus
birch	Betula
hornbeam	Carpinus caroliniana

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Da</b>	t Degree Days	Treat HOST PLANT when the following
larva	Jul 01 - Jul 10	989 - 1196	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata
larva	Jul 10 - Jul 20	1196 - 1417	plants bloom: Abelia, golden rain tree, sourwood
larva	Jul 20 - Jul 31	1417 - 1673	plants bloom: butterfly bush, Clethra alnifolia, false spirea

#### **Non Chemical Control**

Remove and destroy badly infested branch & tree parts.

	<b>]</b> se only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

#### Additional information on biology and control

\*restricted use pesticide

This half inch long native cerambycid beetle has four yellow markings on its black pronotum. Elytra are a light brown with faint oblique white bands. Adults fly from May through August throughout Northeastern North America. Larvae girdle live branches of hosts.

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
beech	Fagus
birch	Betula
hophornbeam	Ostrya virginiana
maple	Acer
mountain ash, European	Sorbus aucuparia
willow	Salix

### **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
adult	May 15	Sep 30	foliage	discoloration (brownish spots)	visual inspection
nymph	Jun 01	Sep 30	foliage	discoloration (brownish spots)	visual inspection

# **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph, adult	May 10 - May 31	250 - 500	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
nymph, adult	Jul 10 - Jul 30	1266 - 1600	plants bloom: Abelia, golden rain tree, sourwood

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name

Corythuca pallipes Page 426 (Johnson & Lyon)

	e only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
Select the app	propriate insecticide/miticide for the correct	t life stage of the target pest.		
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

### Additional information on biology and control

The birch lace bug overwinters as adults on fallen leaves or in other protected areas near its host. Eggs laid in the spring are inserted into leaf tissue near the veins. There are two generations per year.

\*\*ESA approved common name

\*restricted use pesticide

#### **BIRCH LEAFMINER\*\***

Fenusa pusilla Page 184, 296 (Johnson & Lyon) Page 12 (Adams & Packauskas)

#### **GROWING SEASON**

Annual cover sprays are suggested.

Frequency with which pest occurs: ANNUAL

### Part of plant to treat: FOLIAGE

-	art of plant	to treat.	IULII	UL		
Host Plants: Com	mon Name			Sc	ientific Name	
birch	l			Be	etula	
Pest Survey In	formation:					
Pest Stage	From	To	Plant P	<u>art</u>	<u>Plant Damage</u>	Survey Method
adult (sawfly)	May 01	Jun 15	foliage			visual inspection, sticky cards
larva	May 20	Jul 01	foliage		discoloration (mining)	visual inspection
Control: Stage	e(s) and Tir	ning				
Stage(s)	Ideal Cont	trol Dat	Degree I	Days	Treat HOST PLANT when the fol	lowing
adult, larva	May 01 -	May 10	from -	150	plants bloom: Japanese quince, saucer magne bridalwreath, Japanese flowering cherry	olia,
adult, larva	May 10 -	May 20		-	plants bloom: redbud, Sargent crabapple, flor almond, Tatarian honeysuckle	wering
(adult?), larva	May 20 -	May 31		-	plants bloom: ruby horsechestnut, Laburnum black locust, ninebark	alpinum,
(adult?), larva	Jun 01 -	Jun 10		-	plants bloom: Kousa dogwood, cranberry bub beautybush	sh,
(adult?), larva	Jun 10 -	Jun 20	to -	740	plants bloom: mountain laurel, mock-orange, tree lilac, Washington hawthorn	, Japanese
(adult?), larva	Jul 01 -	Jul 10	989 -	1196	plants bloom: Ceanothus americanus, Clema jackmanii, Tilia cordata	tis

Agricultural **Chemical Control** Signal **Comments Restricted Entry** Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. BEE CAUTION \*abamectin W Mauget Abacide 2 BEE CAUTION acephate Acephate 97 WDG С 24 hours BEE CAUTION С 24 hours Lepitect BEE CAUTION Orthene T,T & O WSP С 24 hours azadirachtin С 4 hours Aza-Direct BEE CAUTION \*bifenthrin W 12 hours Onyx Pro BEE CAUTION С 12 hours Talstar P Professional BEE CAUTION carbaryl Carbaryl 4L С 12 hours BEE CAUTION Sevin SL С 12 hours chlorantraniliprole Acelepryn 4 hours \*clothianidin Arena .25 G С 12 hours BEE CAUTION \*dinotefuran Safari 20 SG С 12 hours \*emamectin benzoate Tree-age BEE CAUTION W BEE CAUTION \*fenpropathrin Tame 2.4EC W 24 hours BEE CAUTION \*imidacloprid Mallet 75 WSP С 12 hours Merit 75WSP BEE CAUTION С 12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

BEE CAUTION

19-Mar-2019

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\*restricted use pesticide

С

#### **BIRCH LEAFMINER\*\***

*Fenusa pusilla* Page 184, 296 (Johnson & Lyon) Page 12 (Adams & Packauskas)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> at life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
phosmet	Imidan 70W	BEE CAUTION	W	24 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

#### Additional information on biology and control

Systemics, such as acephate and imidacloprid can be applied at any time but contacts such as bifenthrin, cyfluthrin and permethrin need to be applied when adults are present. See Control: Stage and Timing.

\*restricted use pesticide

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\*\*ESA approved common name

#### **BIRCH SKELETONIZER\*\***

Bucculatrix canadensisella Page 220 (Johnson & Lyon)

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Commo	on Name		ientific Name		
birch		Ве	tula		
Pest Survey Info	rmation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method
larva	Jun 01 Sep 30	foliage	skeletonized leaf, defoliation	visua	l inspection
<b>Control:</b> Stage(s	) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follo	wing	
larva, adult	Jul 15 - Jul 31	1266 - 1580	plants bloom: Abelia, golden rain tree, sourwoo	od	
Chemical Contro			<u>Comments</u>	Signal	Agricultural Restricted Entry
	ise only. NOT a labe		orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
			BEE CAUTION		
*abamectin	Mauget Abacide	2	BEE CAUTION	W	4.1
azadirachtin	Aza-Direct			C	4 hours
	AzaGuard			С	4 hours
B. thuringiensis kurstaki	DiPel DF		Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	ional	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn				4 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*imidacloprid	Merit 75WSP		BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrii	n Scimitar GC		BEE CAUTION	С	24 hours
*permethrin	Astro		BEE CAUTION	С	12 hours
	Perm-UP 3.2EC		BEE CAUTION	С	12 hours
pyrethrin	Pyrenone			С	12 hours
spinosad	Conserve SC		Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridian 0.33G		BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

#### Host Plants: Common Name **Scientific Name** oak. black Ouercus velutina **Pest Survey Information:** Pest Stage From **Plant Part Plant Damage** Survey Method То adult Mar 15 Apr 15 terminal shoots twig (exit hole), dieback visual inspection **Control: Stage(s) and Timing** Stage(s) Ideal Control Dat Degree Days Treat HOST PLANT when the following 44 plants bloom: silver maple, Cornelian cherry, pussy adult in stem Mar 15 - Apr 15 5 willow Agricultural **Chemical Control** Signal **Comments Restricted Entry** Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. BEE CAUTION \*emamectin benzoate Tree-age W

# **DELAYED DORMANT** Apply thorough treatment only when pest stage found.

#### Additional information on biology and control

As of May 2018, the possibly native black oak stem gall wasp, Zapatella davisae, formerly Callirhytis ceropteroides, has been found in southeast Connecticut. The life cycle involves tiny female wasps emerging from pin-sized holes on black oak twigs throughout May. Only female wasps emerge from the galls. There is one generation per year in New England. Larvae feed and develop in chambers within the twig that begins to swell in late July forming the galls. Galls cause disruption in xylem and phloem, causing branch dieback. Epicormic growth is produced as the season progresses. Trees may die from the top down over multiple years of infestation. Research by Davis and Elkinton, UMass, showed that one injection of either emamectin benzoate or imidacloprid in March did result in fewer gall cavities and lower branch mortality over a one year period. Chalcid parasitoids have reduced damaged caused by this gall wasp on Long Island. Maintaining trees in good health: watering during drought, managing other insect pests and diseases, and fertilizing where a soil test recommends it, can help trees survive an attack by this gall wasp. (Cape Cod Cooperative Extension, 2012)

\*\*ESA approved common name

\*restricted use pesticide

Zapatella davisae

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: **TERMINAL SHOOTS**

Host Plants: Commo	n Name		Scie	ntific Name		
oak, bla	ck		Que	rcus velutina		
Pest Survey Info	rmation:					
Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	Plant Damage	<u>Surve</u>	<u>y Method</u>
adult	Apr 15	May 15	terminal shoots	twig (exit hole), dieback	visual	l inspection
Chemical Contro				<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference u					<u>Word</u>	Interval (REI)^
Select the ap	opropriate i	nsecticide	/miticide for the coi	rect life stage of the target pest.		
carbaryl	Carbary	14L		BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

#### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: **RARE** 

### Part of plant to treat: TRUNK NEAR GROUND LEVEL

Host Plants: Comm	on Name				Sc	ientific Name		
pine					Pir	nus		
pine, ea	astern white				Pir	nus strobus		
Pest Survey Info	ormation:							
Pest Stage	From	<u>To</u>	<u>Plan</u>	t Par	t	Plant Damage	Surve	y Method
all stages	Jan 01	Dec 31	trun	k nea	r grou	ndlevel dieback	visua	l inspection
Control: Stage(s	s) and Tin	ning						
Stage(s)	Ideal Cont	trol Dat	Degr	ee Da	ys	Treat HOST PLANT when the follow	ving	
adult, egg	May 01 -	May 10	133	-	187	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry		
adult (beetle)	Jun 01 -	Jun 10	437	-	563	plants bloom: Kousa dogwood, cranberry bush, beautybush		
<u>Chemical Contr</u>						<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. N						<u>Word</u>	Interval (REI)^
Select the a	appropriate i	nsecticide	e/mitici	de for	the c	orrect life stage of the target pest.		
*abamectin	Mauget	Abacide	2			BEE CAUTION	W	
*permethrin	Astro					BEE CAUTION	С	12 hours

#### Additional information on biology and control

The 3/8" long, black, turpentine beetle, family Scolytidae, overwinters as an adult in bark. Eggs are laid in the basal six feet of tree trunks. Legless creamy white larvae feed on the inner bark or phloem. Stressed trees are attacked first but occasionally healthy trees are attacked as well. White pitch tubes that age into irregular-shaped pitch masses on lower trunks, signal this beetle's attack.

\*restricted use pesticide

\*\*ESA approved common name

#### **BLACK VINE WEEVIL (ADULT)\*\***

Otiorhynchus sulcatus Page 54, 240, 242 (Johnson & Lyon) Page 22 (Adams & Packauskas)

# **GROWING SEASON**

#### Annual cover sprays are suggested.

# Frequency with which pest occurs: ANNUAL

# Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name	
andromeda	Pieris japonica	
arborvitae	Thuja	
Azalea	Azalea	
Euonymus	Euonymus	
hemlock	Tsuga	
laurel, mountain	Kalmia latifolia	
Rhododendron	Rhododendron	
yew	Taxus	

# **Pest Survey Information:**

rest Survey Into	<u>1 mauvil.</u>				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	<u>Surve</u>	<u>y Method</u>
adult	May 20 Jul 10	foliage	notched foliage	visua	l inspection
<b>Control:</b> Stage(s)	) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follo	wing	
adult	May 20 - May 31	150 - 400	<ol> <li>plants bloom: ruby horsechestnut, Laburnum alj black locust, ninebark</li> </ol>	pinum,	
adult	Jun 01 - Jun 10	400 - 540	<ol> <li>Remainder of season between the beginning and phenology</li> </ol>	l end	
adult	Jul 01 - Jul 10	960 - 1160	) plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata		
Chemical Contro			<u>Comments</u>	Signal	Agricultural Restricted Entry
	se only. NOT a lab			<u>Word</u>	Interval (REI)^
Select the a	opropriate insecticio	le/miticide for the	correct life stage of the target pest.		
acephate	Acephate 97 WI	DG	BEE CAUTION	С	24 hours
	Orthene T,T & O	O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profes	sional	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G			С	12 hours
*fenpropathrin	Tame 2.4EC		BEE CAUTION	W	24 hours
horticultural oil	Damoil			С	4 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC		BEE CAUTION	С	24 hours
*permethrin	Astro		BEE CAUTION	С	12 hours
-	Perm-UP 3.2EC		BEE CAUTION	С	12 hours
pyrethrin	Pyrenone			С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name 52

# **BLACK VINE WEEVIL (ADULT)\*\***

Otiorhynchus sulcatus Page 54, 240, 242 (Johnson & Lyon) Page 22 (Adams & Packauskas)

\*\*ESA approved common name

\*restricted use pesticide

Otiorhynchus sulcatus Page 54, 240, 242 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: ANNUAL

# Part of plant to treat: **ROOT ZONE**

Host Plants: <u>Com</u> Rhod yew	non Name odendron	Scientific Name Rhododendron Taxus		
<b>Biological Control</b> Steinernema feltiae (nematode) Steinernema carpocapsae (nematode) Heterorhabditis bacteriophora (nematode)		<u>Comments</u> Available commercially Available commercially Available commercially		
<u>Chemical Control</u> Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for th		<u>Comments</u> the correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG Lepitect Orthene T,T & O WSP	BEE CAUTION apply drench when soil is not frozen or waterlogged. BEE CAUTION	C C C	24 hours 24 hours 24 hours
chlorantraniliprole *clothianidin *imidacloprid	Acelepryn Arena .25 G Mallet 75 WSP	OMRI listed, effective against immatures BEE CAUTION	C C	4 hours 12 hours 12 hours

#### Additional information on biology and control

\*restricted use pesticide

Black vine weevil larvae are difficult to control. The listed insecticides will only work if they reach the target.

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: NEW FOLIAGE

Host Plants: Common Name	Scientific Name
apple	Malus
boxelder	Acer negundo
maple	Acer
plum	Prunus cerasifera

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage
adult	May 01	Nov 01	foliage, seeds	distortion, nuisa
nymph	Jun 01	Sep 15	foliage, seeds	distortion, nuisa

#### ortion, nuisance rtion, nuisance

#### Survey Method visual inspection

visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph, adult	Jun 20 - Jun 30	737 - 967	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
nymph, adult	Jul 01 - Sep 10	989 - 2576	Remainder of season between the beginning and end phenology
nymph, adult	Sep 10 - Sep 15	2576 - 2672	plants bloom: Pee Gee Hydrangea, Sevin-son Flower

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*imidacloprid	Merit 75WSP	BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours

### Additional information on biology and control

\*restricted use pesticide

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name 55

These distinctive red and black insects are well known for their habit of clustering on the sunny side of light-colored houses in the fall. They overwinter as adults in homes and other structures. Adults and nymphs feed on boxelder maple foliage and developing seeds throughout the summer into the fall.

\*restricted use pesticide

\*\*ESA approved common name

12 (Adams & Packauskas)

#### **GROWING SEASON**

#### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

#### . \_ . \_.\_

Part	of plant to treat:	FOLIAGE			
Host Plants: Commo	on Name	Sc	ientific Name		
boxwoo	d	Ви	xus spp.		
Pest Survey Info	rmation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
adult (fly)	May 15 Jun 20	foliage		visua cards	l inspection, sticky
larva	Jul 01 Sep 30	foliage	discoloration (mining)		l inspection
Control: Stage(s)	) and Timing				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follow	wing	
adult	Jun 01 - Jun 15	448 - 700	plants bloom: Kousa dogwood, cranberry bush, beautybush		
Chemical Contro Reference u	<mark>)]</mark> se only. NOT a labe	el substitute.	Comments	Signal <u>Word</u>	Agricultural Restricted Entry
			orrect life stage of the target pest.	<u>, , , or a</u>	Interval (REI)^
abamectin	Avid 0.15 EC			W	12 hours
acephate	Acephate 97 WI	DG	BEE CAUTION	С	24 hours
1	Lepitect		BEE CAUTION	С	24 hours
	Orthene T,T & C	O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	sional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G			С	12 hours
*dinotefuran	Safari 20 SG		BEE CAUTION	С	12 hours
*emamectin benzoat	e Tree-age		BEE CAUTION	W	
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours
	Xytect 2F		BEE CAUTION	С	
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC		BEE CAUTION	С	24 hours
malathion	Malathion 5 EC		BEE CAUTION	W	12 hours
	Malathion 8 Flor	wable	BEE CAUTION	С	12 hours
*permethrin	Astro		BEE CAUTION	С	12 hours
pyrethrin	PyGanic		OMRI listed	С	12 hours
spinosad	Conserve SC		Most effective against young larvae.	С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*\*ESA approved common name 57

^for agricultural applications only. Arborist

\*restricted use pesticide

Monarthropalpus flavus Page 204 (Johnson & Lyon) Page 12 (Adams & Packauskas)

Chemical Cont	<u>rol</u>	<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference	use only. NOT a label substitu	ite.	<u>Word</u>	Interval (REI)^
Select the	appropriate insecticide/miticide	for the correct life stage of the target pest.		Inter var (KEI)
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

#### Additional information on biology and control

Adult midges are active for a brief period in the spring, which is the only time foliar (non-systemic) sprays are effective. Females oviposit into new leaves, causing stippling scars. Eggs hatch and the larvae develop between the leaf's epidermal layers, eventually causing the leaf to 'blister.' There are often multiple larvae inside each leaf. Systemics, such as acephate and imidacloprid can be applied at any time soils are not frozen or water logged but contacts such as bifenthrin, carbaryl and permethrin need to be applied when adults are present. See Control: Stage and Timing.

\*restricted use pesticide

**\*\*ESA approved common name** 

#### DORMANT SEASON

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: Com	non Name		Sci	entific Name		
boxwo	bod		Buz	xus spp.		
Pest Survey Inf	ormation:					
Pest Stage	From To	<u>`o</u>	<u> Plant Part</u>	Plant Damage	Surve	y Method
egg	Mar 01 S	Sep 10	foliage			l inspection nification)
Control: Stage(	s) and Timin	ng				
Stage(s)	<b>Ideal Control</b>	l Dat I	Degree Days	Treat HOST PLANT when the	following	
egg	Mar 01 - Ap	pr 10 0	) - 41	None Offered		
	use only. NOT			<u>Comments</u> prrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
horticultural oil	Damoil				С	4 hours
	Sunspray U	Ultra-Fin	ne SprayOil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: <u>Common</u>	n Name			Scientific Name	
boxwood	1			Buxus spp.	
Pest Survey Infor	mation:				
Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
immature	May 01	Oct 31	foliage	discoloration (stippling)	visual inspection (magnification)
adult	May 15	Oct 31	foliage	discoloration (stippling)	visual inspection (magnification)

# **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
immature, adult	May 10 - May 20	from - 245	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
immature, adult	May 20 - May 31		plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
immature, adult	Jun 01 - Jun 10		plants bloom: Kousa dogwood, cranberry bush, beautybush
adult	Jun 10 - Jun 20	to - 600	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn

Biological Control	<u>Comments</u>
Stethorus punctillum (lady beetle - predator)	Available commercially; occurs naturally
Phytoseiulus persimilis (predatory mite)	Available commercially; occurs naturally
Orius sp. (predator)	Available commercially; occurs naturally
Neoseiulus cucumeris (predatory mite)	Available commercially; occurs naturally

<u>Chemical Control</u>	<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference use only. NOT a label substitute.		<u>Word</u>	Interval (REI)^
Select the appropriate insecticide/miticide for the co	rrect life stage of the target pest.		

abamectin	Avid 0.15 EC		W	12 hours
bifenazate	Floramite SC	BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
etoxazole	Tetrasan 5 WDG		С	12 hours
fenazaquin	Magus	BEE CAUTION	W	12 hours
fenpyroximate	Akari 5SC		W	12 hours
hexythiazox	Hexygon DF	most effective against immature stages	С	12 hours
horticultural oil	Damoil	С	4 hours	
	Sunspray Ultra-Fine Spray Oil		С	4 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate			12 hours
	M-Pede		W	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
spiromesifen	Forbid 4F	most effective against immature stages	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

^for agricultural applications only.

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#### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: **EXPANDING FOLIAGE**

Streme Journey Lande Buxus spp.         Pest Survey Information:         Pest Survey Information:       Plant Part       Plant Damage       Survey Method         nymph       May 01       Jun 01       foliage       distortion       visual inspection         adult       May 02       Sep 30       foliage       distortion       visual inspection         Control: Stage(s) and Timing         Stage(s)       Ideal Control Dat       Perce Pays       Treat HOST PLANT when the following         nymph       May 15       - May 31       200       - 440       plants blom: ruby horsechestur, Laburnum alpinon, black locust, nineback         Chemical Control       Ederonce use only.       NOT a label substitute.       Comments       Signal       Agricultural Restricted Entry         Reference use only.       NOT a label substitute.       Comments       Word       Interval (RED^A tract 8.5 SL         acetamiprid       Tristar 8.5 SL       BEE CAUTION       C       24 hours         acetamiprid       Tristar 8.5 SL       BEE CAUTION       C       12 hours         azadirachtin       Aza-Direct       C       4 hours       21 hours         Talstar P Professional       BEE CAUTION       C <td< th=""><th></th><th>non Nama</th><th></th><th>cientific Name</th><th></th><th></th></td<>		non Nama		cientific Name		
Arrival Number of Name of						
Pest Stage nymphFrom May 01In I I Int 01 May 20Plant Part foliagePlant Damage distortionSure			2	r r		
nymph adultMay 01 Jun 01 May 20foliage foliagedistortionvisual inspectionControl: Stage(s) and TimingStage(s) May 15 - May 31Degree Days 290 - 440Treat HOST PLANT when the following plants bloom: ruby horsechestnut, Labumum alpinum. black tocus, ninebarkChemical ControlDegree Days May 15 - May 31Treat HOST PLANT when the following plants bloom: ruby horsechestnut, Labumum alpinum. black tocus, ninebarkChemical ControlCommentsSignal Agricultural Reference use only. NOT a label substitute. Select the appropriate insecticide/initicide for the correct life stage of the target pest.Agricultural Refrence Use only. NOT a label substitute. Select the appropriate insecticide/initicide for the correct life stage of the target pest.C24 hoursacephateAcephate 97 WDGBEE CAUTIONC24 hoursacetamipridTriStar 8.5 SLBEE CAUTIONC12 hoursacadirachtinAza-DirectC4 hours24 hours*bifenthrinOnyx ProBEE CAUTIONC12 hoursarbarylCarbaryl 4LBEE CAUTIONC12 hours*chloingdin +Aloft GC GBEE CAUTIONC12 hours*chloinaidin +Aloft GC GBEE CAUTIONC12 hours*diothianidinArea.25 GC12 hours21 hours*diothianidinArea.25 GC12 hours21 hours*diothianidinArea.25 GBEE CAUTIONC12 hours*diothianidinAre			Plant Part	Plant Damage	Surve	v Method
adultMay 20 Sep 30foliagedistortionvisual inspectionControl: Stage(s) and TimingStage(s)Ideal Control Dat May 15 - May 31Degree Days 290 - 440Treat HOST PLANT when the followingnymphMay 15 - May 31Degree Days 290 - 440Treat HOST PLANT when the followingNymphMay 15 - May 31Degree Days 290 - 440Treat HOST PLANT when the followingReference use only.NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.Signal Agricultural Restricted Entry MordAgricultural Restricted Entry MordacephateAcephate 97 WDGBEE CAUTIONC24 hoursorthene T, T & O WSPBEE CAUTIONC24 hoursacetamipridTriStar 8.5 SLBEE CAUTIONC12 hoursacaduardC440BEE CAUTIONC12 hours*bifenthrinOnyx ProBEE CAUTIONC12 hoursactrbarylCarbaryl 4LBEE CAUTIONC12 hourssevin SLBEE CAUTIONC12 hours*clothianidin +Alot GC GBEE CAUTIONC12 hours*clothianidin +Alot 5SCK24 hours*clothianidin +Alot 5SCW12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hours*fenpyroximateAkari 5SCW12 hourshorticultural oilDamoilC12 hours*fenpyroximateAkari 5SCW <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td></t<>						
Stage(s) nymph       Ideal Control Dat May 15 + May 31       Degree Days 200 + 440       Treat HOST PLANT when the following plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark         Chemical Control Select the appropriate insecticide/miticide for the correct life stage of the target pest.       Signal Agricultural Restricted Entry Interval (REI)^A         Comments       Comments       Signal Word       Agricultural Restricted Entry Interval (REI)^A         acephate       Acephate 97 WDG       BEE CAUTION       C       24 hours         acetamiprid       Tristar 8.5 SL       BEE CAUTION       C       24 hours         acetamiprid       Tristar 8.5 SL       BEE CAUTION       C       12 hours         azadirachtin       AzaGuard       C       4 hours       C       4 hours         *bifenthrin       Onyx Pro       BEE CAUTION       C       12 hours         carbaryl       Carbaryl 4L       BEE CAUTION       C       12 hours         *chlorpyrifos       Chlorpyrifos 4E AG       Non-residential, BEE CAUTION       W       24 hours         *clothianidin +       Aloft GC G       BEE CAUTION       C       12 hours         *clothianidin +       Aloft GC G       BEE CAUTION       C       12 hours         *feinthrin       Safari 20 SG       BEE CAUTION	• •	•	•	distortion		-
Stage(s) nymph       Ideal Control Dat May 15 + May 31       Degree Days 200 + 440       Treat HOST PLANT when the following plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark         Chemical Control Select the appropriate insecticide/miticide for the correct life stage of the target pest.       Signal Agricultural Restricted Entry Interval (REI)^A         Comments       Comments       Signal Word       Agricultural Restricted Entry Interval (REI)^A         acephate       Acephate 97 WDG       BEE CAUTION       C       24 hours         acetamiprid       Tristar 8.5 SL       BEE CAUTION       C       24 hours         acetamiprid       Tristar 8.5 SL       BEE CAUTION       C       12 hours         azadirachtin       AzaGuard       C       4 hours       C       4 hours         *bifenthrin       Onyx Pro       BEE CAUTION       C       12 hours         carbaryl       Carbaryl 4L       BEE CAUTION       C       12 hours         *chlorpyrifos       Chlorpyrifos 4E AG       Non-residential, BEE CAUTION       W       24 hours         *clothianidin +       Aloft GC G       BEE CAUTION       C       12 hours         *clothianidin +       Aloft GC G       BEE CAUTION       C       12 hours         *feinthrin       Safari 20 SG       BEE CAUTION	Control: Stage	(s) and Timing	-			-
Chemical Control Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.         Signal Restricted Entry Word Interval (RED)^           acephate         Acephate 97 WDG         BEE CAUTION         C         24 hours           acetamiprid         Acephate 97 WDG         BEE CAUTION         C         24 hours           acetamiprid         TriStar 8.5 SL         BEE CAUTION         C         24 hours           azadirachtin         Aza-Direct         C         4 hours           AzaGuard         C         4 hours           *bifenthrin         Onyx Pro         BEE CAUTION         C         12 hours           carbaryl         Carbaryl 4L         BEE CAUTION         C         12 hours           carbaryl         Carbaryl 4L         BEE CAUTION         C         12 hours           *chlorpyrifos         Chlorpyrifos 4E AG         Non-residential, BEE CAUTION         W         24 hours           *chlorpyrifos         Chlorpyrifos 4E AG         Non-residential, BEE CAUTION         W         24 hours           *chlorpyrifos         Chlorpyrifos 4E AG         Non-residential, BEE CAUTION         W         24 hours           *chlorpyrifos         Arena .25 G         EE CAUTION         C         12 hours </th <th></th> <th></th> <th>Degree Days</th> <th>Treat HOST PLANT when the fol</th> <th>lowing</th> <th></th>			Degree Days	Treat HOST PLANT when the fol	lowing	
Chemical Control     Comments     Signal     Restricted Entry       Reference use only. NOT a label substitute.     Vord     Interval (REI)^       Select the appropriate insecticide/initicide for the correct lite stage of the target pest.     acephate     Acephate 97 WDG     BEE CAUTION     C     24 hours       acephate     Acephate 97 WDG     BEE CAUTION     C     24 hours       acetamiprid     TriStar 8.5 SL     BEE CAUTION     C     4 hours       azadirachtin     AzaGuard     C     4 hours       *bifenthrin     Onyx Pro     BEE CAUTION     W     12 hours       carbaryl     Carbaryl 4L     BEE CAUTION     C     12 hours       schlorpyrifos     Chlorpyrifos 4E AG     Non-residential, BEE CAUTION     W     24 hours       *clothianidin +     Aloft GC G     BEE CAUTION     C     12 hours       *clothianidin +     Aloft GC G     BEE CAUTION     W     24 hours       *clothianidin +     Aloft GC G     BEE CAUTION     C     12 hours       *dinotefuran     Safari 20 SG     BEE CAUTION     C     12 hours       *fenproximate     Akari 5SC     W     24 hours       *midacloprid     Mallet 75 WSP     BEE CAUTION     C     12 hours       *imidacloprid     Danoil     C <td>nymph</td> <td>May 15 - May 31</td> <td>290 - 440</td> <td></td> <td>alpinum,</td> <td></td>	nymph	May 15 - May 31	290 - 440		alpinum,	
Reference use only. NOT a label substitute. Select the approtate insecticide/miticide for the correct life stage of the target pest.       Word       Interval (REI)*         acephate       Acephate 97 WDG       BEE CAUTION       C       24 hours         acetamiprid       TriStar 8.5 SL       BEE CAUTION       C       24 hours         acetamiprid       Aza-Direct       C       4 hours       C       4 hours         azadirachtin       Aza-Direct       C       4 hours       C       4 hours         *bifenthrin       Onyx Pro       BEE CAUTION       C       12 hours         *bifenthrin       Onyx Pro       BEE CAUTION       C       12 hours         carbaryl       Carbaryl 4L       BEE CAUTION       C       12 hours         carbaryl       Sevin SL       BEE CAUTION       C       12 hours         *chorpyrifos       Koff GC G       Non-residential, BEE CAUTION       C       12 hours         *clothianidin +       Alof GC G       Non-residential, BEE CAUTION       C       12 hours         *clothianidin +       Alof GC G       BEE CAUTION       C       12 hours         *clothianidin +       Alof GC G       BEE CAUTION       C       12 hours         *dinotefuran       Safari 20 SG <t< td=""><td><b>Chemical Cont</b></td><td>rol</td><td></td><td>Comments</td><td>Signal</td><td></td></t<>	<b>Chemical Cont</b>	rol		Comments	Signal	
Select the appropriate insecticide/miticide for the correct life stage of the target pest.         acephate       Acephate 97 WDG       BEE CAUTION       C       24 hours         orthene T, T & O WSP       BEE CAUTION       C       24 hours         acetamiprid       TriStar 8.5 SL       BEE CAUTION       C       4 hours         azadirachtin       Aza-Direct       C       4 hours         AzaGuard       C       4 hours         *bifenthrin       Onyx Pro       BEE CAUTION       C       12 hours         acarbaryl       Carbaryl 4L       BEE CAUTION       C       12 hours         carbaryl       Carbaryl 4L       BEE CAUTION       C       12 hours         *chorpyrifos       Chorpyrifos 4E AG       Non-residential, BEE CAUTION       C       12 hours         *clothianidin +       Aloft GC G       Non-residential, BEE CAUTION       C       12 hours         *clothianidin +       Aloft GC G       BEE CAUTION       C       12 hours         *dinotefuran       Safari 20 SG       BEE CAUTION       C       12 hours         *dinotefuran       Safari 20 SG       BEE CAUTION       C       12 hours         *midacloprid       Mallet 75 WSP       BEE CAUTION       C       12	Reference	e use only. NOT a labe	el substitute.		<u>Word</u>	
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CarbarylTalstar P ProfessionalBEE CAUTIONC12 hoursCarbaryl 4LBEE CAUTIONC12 hoursSevin SLBEE CAUTIONC12 hours*chlorpyrifosChlorpyrifos 4E AGNon-residential, BEE CAUTIONW24 hours*clothianidin + bifenthrinAloft GC GBEE CAUTIONC12 hours*clothianidinArena .25 GC12 hours12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hoursfenpyroximateAkari 5SCW12 hours12 hourshorticultural oilDamoilC12 hours12 hours*imidaclopridMallet 75 WSPBEE CAUTIONC12 hoursinsecticidal soapDes-X Insecticidal Soap ConcentrateW12 hoursminetM-PedeMRI listedC12 hourspyrethrinPyGanicOMRI listedC12 hours		AzaGuard			С	4 hours
carbarylCarbaryl 4LBEE CAUTIONC12 hoursSevin SLBEE CAUTIONC12 hours*chlorpyrifosChlorpyrifos 4E AGNon-residential, BEE CAUTIONW24 hours*clothianidin + bifenthrinAloft GC GBEE CAUTIONC12 hours*clothianidin + bifenthrinAloft GC GBEE CAUTIONC12 hours*clothianidinArena .25 GC12 hoursC*dinotefuranSafari 20 SGBEE CAUTIONC12 hoursfenpyroximateAkari 5SCW12 hours12 hourshorticultural oilDamoilC4 hours2*imidaclopridMallet 75 WSPBEE CAUTIONC12 hoursinsecticidal soapDes-X Insecticidal Soap Concentrate M-PedeW12 hourspyrethrinPyGanicOMRI listedC12 hours	*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
Sevin SLBEE CAUTIONC12 hours*chlorpyrifosChlorpyrifos 4E AGNon-residential, BEE CAUTIONW24 hours*clothianidin + bifenthrinAloft GC GBEE CAUTIONC12 hours*clothianidin A bifenthrinArena .25 GC12 hours*clothianidinArena .25 GEE CAUTIONC12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hoursfenpyroximateAkari 5SCW12 hourshorticultural oilDamoilC4 hours*imidaclopridMallet 75 WSPBEE CAUTIONC12 hoursinsecticidal soapDes-X Insecticidal Soap ConcentrateW12 hoursM-PedeMPedeOMRI listedC12 hours		Talstar P Profess	sional	BEE CAUTION	С	12 hours
*chlorpyrifosChlorpyrifos 4E AGNon-residential, BEE CAUTIONW24 hours*clothianidin + bifenthrinAloft GC GBEE CAUTIONC12 hours*clothianidinArena .25 GC12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hoursfenpyroximateAkari 5SCW12 hourshorticultural oilDamoilC4 hours*imidaclopridMallet 75 WSPBEE CAUTIONC12 hoursinsecticidal soapDes-X Insecticidal Soap ConcentrateW12 hourspyrethrinPyGanicOMRI listedC12 hours	carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
*clothianidin + bifenthrinAloft GC GBEE CAUTIONC12 hours*clothianidinArena .25 GC12 hours*clothianidinArena .25 GC12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hoursfenpyroximateAkari 5SCW12 hourshorticultural oilDamoilC4 hours*imidaclopridMallet 75 WSPBEE CAUTIONC12 hours*imidaclopridMallet 75 WSPBEE CAUTIONC12 hoursinsecticidal soapDes-X Insecticidal Soap ConcentrateW12 hoursM-PedeM-PedeW12 hourspyrethrinPyGanicOMRI listedC12 hours		Sevin SL		BEE CAUTION	С	12 hours
bifenthrinC12 hours*clothianidinArena .25 GC12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hoursfenpyroximateAkari 5SCW12 hourshorticultural oilDamoilC4 hours*imidaclopridMallet 75 WSPBEE CAUTIONC12 hoursinsecticidal soapDes-X Insecticidal Soap ConcentrateW12 hoursM-PedeMRI listedC12 hourspyrethrinPyGanicOMRI listedC12 hours	*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*dinotefuranSafari 20 SGBEE CAUTIONC12 hoursfenpyroximateAkari 5SCW12 hourshorticultural oilDamoilC4 hours*imidaclopridMallet 75 WSPBEE CAUTIONC12 hoursXytect 2FBEE CAUTIONC12 hoursinsecticidal soapDes-X Insecticidal Soap ConcentrateW12 hoursM-PedeM12 hoursC12 hourspyrethrinPyGanicOMRI listedC12 hours		Aloft GC G		BEE CAUTION	С	12 hours
fenpyroximateAkari 5SCW12 hourshorticultural oilDamoilC4 hours*imidaclopridMallet 75 WSPBEE CAUTIONC12 hoursXytect 2FBEE CAUTIONC12 hoursinsecticidal soapDes-X Insecticidal Soap ConcentrateW12 hoursM-PedeMPedeMRI listedC12 hourspyrethrinPyGanicOMRI listedC12 hours	*clothianidin	Arena .25 G			С	12 hours
horticultural oilDamoilC4 hours*imidaclopridMallet 75 WSPBEE CAUTIONC12 hoursXytect 2FBEE CAUTIONC12 hoursinsecticidal soapDes-X Insecticidal Soap ConcentrateW12 hoursM-PedeM12 hours12 hourspyrethrinPyGanicOMRI listedC12 hours	*dinotefuran	Safari 20 SG		BEE CAUTION	С	12 hours
*imidaclopridMallet 75 WSPBEE CAUTIONC12 hours $Xytect 2F$ BEE CAUTIONCinsecticidal soapDes-X Insecticidal Soap ConcentrateW12 hours $M$ -PedeW12 hours12 hourspyrethrinPyGanicOMRI listedC12 hours	fenpyroximate	Akari 5SC			W	12 hours
InductionNumber of WorkDescriptionDescripti	horticultural oil	Damoil			С	4 hours
insecticidal soap Des-X Insecticidal Soap Concentrate M-Pede W 12 hours pyrethrin PyGanic OMRI listed C 12 hours	*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
M-Pede W 12 hours pyrethrin PyGanic OMRI listed C 12 hours		Xytect 2F		BEE CAUTION	С	
pyrethrin PyGanic <i>OMRI listed</i> C 12 hours	insecticidal soap	Des-X Insecticid	lal Soap Concent	rate	W	12 hours
		M-Pede			W	12 hours
Pyrenone C 12 hours	pyrethrin	PyGanic		OMRI listed	С	12 hours
		Pyrenone			С	12 hours

#### Additional information on biology and control

\*restricted use pesticide

This page may contain additional information in the future.

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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Agrilus anxius Page 272 (Johnson & Lyon) Page 14 (Adams & Packauskas)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

#### Frequency with which pest occurs: COMMON

# Part of plant to treat: TRUNK, BRANCH

Part of plant to treat: <b>I RUNK, BRANCH</b>					
Host Plants: Comm	Host Plants: Common Name Scientific Name				
birch		Be	tula		
poplar	or aspen	Pa	ppulus		
Pest Survey Info	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method	
adult exit holes, bar rippling	k Jan 01 Dec 3	1 bark	branch dieback	visual inspection	
adult (beetle)	May 20 Aug 2	0 bark		visual inspection	
Control: Stage(s	Control: Stage(s) and Timing				
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the foll	owing	
larva	May 01 - Sep 30	135 - 2850	plants bloom: Kousa dogwood, cranberry bus beautybush	h,	
adult	Jun 01 - Jun 10	from - 440	plants bloom: Kousa dogwood, cranberry bus beautybush	h,	

Jun 10 - Jun 20 to - 800 plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn

	only. NOT a label substitute.	<u>Comments</u> t life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours

#### Additional information on biology and control

\*restricted use pesticide

Black, up to <sup>1</sup>/2" long beetles, with bronze iridescence, emerge from trunks in late May and early June. Exit holes are D-shaped and slightly smaller than those of the emerald ash borer. Adults feed on foliage, mate and lay eggs in bark crevices. Cream colored, elongated, flat larvae tend to move in a spiral underneath the bark, causing girdling and swelling of the infected branch or trunk. Bronze birch borer is a threat to non-native birch varieties such as European white birch. Maintaining good health in birches can prevent bronze birch borer attack. Systemics, such as acephate and imidacloprid, can be applied against larvae anytime during the growing season when the soil is not waterlogged orfrozen.

#### Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name

adult

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# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: Com	non Name	S	cientific Name		
cherry, black		P	runus serotina		
crabar	ople	M	lalus		
tree of	heaven	A	ilanthus altissima		
Pest Survey Inf	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
adult	Apr 20 May 2	0 foliage	discoloration (stippling)	visua	l inspection
Control: Stage(	s) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follo	owing	
adult, nymph	May 01 - Jun 30	133 - 940	) plants bloom: mountain laurel, mock-orange, J tree lilac, Washington hawthorn	apanese	
Chemical Cont			<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a lab			<u>Word</u>	Interval (REI)^
Select the	appropriate insecticio	le/miticide for the o	correct life stage of the target pest.		
acephate	Acephate 97 W	DG	BEE CAUTION	С	24 hours
	Lepitect		BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Profes	sional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours
flonicamid	Aria			С	12 hours
*imidacloprid	Merit 75WSP		BEE CAUTION	С	12 hours
malathion	Malathion 8 Flo	wable	BEE CAUTION	С	12 hours
pyrethrin	PyGanic		OMRI listed	С	12 hours

#### Additional information on biology and control

\*restricted use pesticide

As of January 2018, the brown marmorated stinkbug is found throughout Connecticut and is both a nuisance and agricultural pest. Adults invade homes in the winter. Based on CAES Information office data, it is most often associated with crabapples in the home landscape. It is a serious pest of tree fruit in central Connecticut (Mary Concklin, UConn, personal communication).

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\*\*ESA approved common name

#### **DORMANT SEASON**

#### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

### Part of plant to treat: TWIG BARK

Host Plants: Common Name		Scientific Name				
	bayberry			Myrica pensylvanica		
	buckeye, Ohio			Aesculus glabra		
	cherry, black			Prunus serotina		
	crabapple			Malus		
	dogwood			Cornus		
	elm			Ulmus		
	firethorn		Pyracantha			
	maple		Acer			
	peach		Prunus persica			
	pear		Pyrus calleryana			
	sweetgum		Liquidambar			
	zelkova, Japanese		Zelkova serrata			
Pest Survey Information:						
Pest Stage	Fron	<u>1 To</u>	<u>Plant Part</u>	Plant Damage	Survey Method	
nymph	Mar	01 Apr 15	twig bark	decline	visual inspection	

Control: Stage(s) and Timing						
Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the following			
nymph	Mar 10 - Apr 10	2 - 30	None Offered			

#### Additional information on biology and control

\*restricted use pesticide

This soft scale, named because of its coloring like that of a calico cat, overwinters as a second instar nymph on twigs. In heavy infestations twigs and foliage become dark and sticky with honeydew and the resulting sooty mold. Crawlers are present in mid-June to July. Crawlers migrate to feed on leaves during the growing season. Second instar nymphs migrate back to twigs in the fall so they can remain on the deciduous host. There is thought to be only one generation per year in Connecticut.

**\*\*ESA approved common name** 

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

# Part of plant to treat: TWIG BARK

Host Plants: Common Name	Scientific Name	
bayberry	Myrica pensylvanica	
buckeye, Ohio	Aesculus glabra	
cherry, black	Prunus serotina	
cherry, flowering	Prunus	
crabapple	Malus	
dogwood	Cornus	
elm	Ulmus	
firethorn	Pyracantha	
maple	Acer	
peach	Prunus persica	
pear	Pyrus calleryana	
sweetgum	Liquidambar	
zelkova, Japanese	Zelkova serrata	

#### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	Survey Method
crawler, ?nymph	Jun 01	Sep 30	foliage, stems	discoloration, dieback	visual inspection
~					

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Con	ntrol Dat	Degre	ee Da	nys	Treat HOST PLANT when the following
crawler	Jun 10 -	- Jun 20	563	-	737	plants bloom: Kousa dogwood, cranberry bush, beautybush
crawler, nymph	Jun 20 -	Jun 30	737	-	940	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
nymph	Jul 01 -	Jul 10	960	-	1162	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata

	e only. NOT a label substitute. propriate insecticide/miticide for the cor	<u>Comments</u> rect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
*clothianidin	Arena .25 G	apply drench when soil is not frozen or waterlogged.	С	12 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
malathion	Malathion 8 Flowable	Effective against adults only.	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

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#### **CANKERWORMS\*\***

Geometridae Page 142, 144 (Johnson & Lyon) Page 25 (Adams & Packauskas)

#### **GROWING SEASON**

#### Apply thorough treatment only when pest stage found.

#### Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
almond, dwarf flowering	Prunus glandulosa
apple	Malus
beech	Fagus
cherry, black	Prunus serotina
crabapple	Malus
elm	Ulmus
linden	Tilia
maple	Acer
oak	Quercus

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<b>Plant</b>	<u>Part</u>	<u>Plant Damage</u>	Survey Method		
larva (caterpillar)	May 01	Jun 01	foliag	ge	defoliation visual inspection			
Control: Stage(s) and Timing								
Stage(s)	<b>Ideal Cont</b>	rol Dat	Degree	e Days	Treat HOST PLANT when the following			
larva	May 01 -	May 10	from	- 148	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry			
larva	May 10 -	May 20	-		plants bloom: redbud, Sargent crabapple, flowerin almond, Tatarian honeysuckle	ng		
larva	May 20 -	May 31	to	- 400	plants bloom: ruby horsechestnut, Laburnum alpi black locust, ninebark	num,		

#### **Biological Control**

Podisus maculiventris (spined soldier bug - predator)

\*restricted use pesticide

<u>Comments</u>

Available commercially; occurs naturally

^for agricultural applications only.

	se only. NOT a label substitute.	<u>Comments</u> rrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
B. thuringiensis aizawai	XenTari	Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	Biobit HP	Most effective against young larvae.	С	4 hours
	DiPel DF	Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

#### **CANKERWORMS\*\***

*Geometridae* Page 142, 144 (Johnson & Lyon) Page 25 (Adams & Packauskas)

Chemical Control	e only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
	propriate insecticide/miticide for the correct	ct life stage of the target pest.		Interval (REI)^
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
indoxacarb	Provaunt	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
phosmet	Imidan 70W	BEE CAUTION	W	24 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

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\*\*ESA approved common name

Page 256, 282 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: STEM, TRUNK

Host Plants: Common Name	Scientific Name
ash	Fraxinus
birch	Betula
elm	Ulmus
maple	Acer
oak	Quercus
pear	Pyrus calleryana
willow	Salix

#### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
exit hole(s), frass	Jan 01	Dec 31	bark	discoloration, dieback, tree death	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal C	ontrol Dat	Degr	ee Da	ays	Treat HOST PLANT when the following
larva	Jun 01	- Jun 10	437	-	563	plants bloom: Kousa dogwood, cranberry bush, beautybush
larva	Jun 10	- Jun 30	563	-	967	Remainder of season between the beginning and end phenology
larva	Jul 01	- Jul 10	989	-	1196	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata
Biological Con Steinernema feltic		le)				Comments Available commercially

Available commercially

Steinernema carpocapsae (nematode)

# **Chemical Control**

Chemical Contr Reference	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^		
Select the	appropriate insecticide/mitticide for th	e correct life stage of the target pest.		
acephate	Lepitect	BEE CAUTION	С	24 hours
*bifenthrin	Onyx Pro	BEE CAUTION	$\mathbf{W}$	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours

### Additional information on biology and control

\*restricted use pesticide

Northern red oak show the greatest amount of damage.

\*\*ESA approved common name

^for agricultural applications only.

Agricultural

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOL LAGE

Part	of plant to treat:	FOLIAG	£			
Host Plants: Common Name			Sc	ientific Name		
hawthorn			Cr	ataegus		
Pest Survey Info	rmation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>		Plant Damage	Surve	y Method
adult (sawfly)	May 15 Jun 30	foliage			visua cards	l inspection, sticky
larva	Jun 01 Aug 01	foliage		discoloration (mining)	visua	l inspection
Control: Stage(s)	) and Timing					
Stage(s)	Ideal Control Dat	Degree Day	y <b>s</b>	Treat HOST PLANT when the follo	wing	
adult, larva	May 10 - May 20	from -	295	plants bloom: redbud, Sargent crabapple, flowe almond, Tatarian honeysuckle	ering	
adult, larva	May 20 - Jun 10		-	Remainder of season between the beginning an phenology	id end	
adult, larva	Jun 10 - Jun 20	to -	610	plants bloom: mountain laurel, mock-orange, Ja tree lilac, Washington hawthorn	apanese	
<b><u>Chemical Control</u></b>	<u>)</u>			<u>Comments</u>	Signal	Agricultural Restricted Entry
	ise only. NOT a labe				Word	Interval (REI) <sup>^</sup>
Select the a	ppropriate insecticide	e/miticide for	the c	orrect life stage of the target pest.		
*abamectin	Mauget Abacide	2		BEE CAUTION	W	
acephate	Acephate 97 WD	OG		BEE CAUTION	С	24 hours
	Lepitect			BEE CAUTION	С	24 hours
	Orthene T,T & C	) WSP		BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profess	ional		BEE CAUTION	С	12 hours
*dinotefuran	Safari 20 SG			BEE CAUTION	С	12 hours
*emamectin benzoat	e Tree-age			BEE CAUTION	W	
*imidacloprid	Mallet 75 WSP			BEE CAUTION	С	12 hours
	Merit 75WSP			BEE CAUTION	С	12 hours
	Xytect 2F			BEE CAUTION	С	
lambda-cyhalothrin	Demand CS			BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC			BEE CAUTION	С	24 hours
*permethrin	Astro			BEE CAUTION	С	12 hours
	Perm-UP 3.2EC			BEE CAUTION	С	12 hours
*thiamethoxam	Meridian 0.33G			BEE CAUTION	С	12 hours

#### Additional information on biology and control

\*restricted use pesticide

Systemics, such as acephate and imidacloprid can be applied at any time the soil is not waterlogged or frozen but contacts such as bifenthrin and permethrin need to be applied when adults are

\*\*ESA approved common name

#### Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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^for agricultural applications only.

Page 188 (Johnson & Lyon)

present. See Control: Stage and Timing.

\*restricted use pesticide

\*\*ESA approved common name

### **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: Common Name				Scientific Name			
fir			A	Abies			
hemlo	ck		Т	<sup>r</sup> suga			
spruce			P	Picea			
Pest Survey Inf	ormation						
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	<u>y Method</u>	
nymph (crawler)	Sep 15	Apr 01	foliage	discoloration, twig dieback	visua	l inspection	
Control: Stage(	s) and Tin	ning					
Stage(s)	Ideal Con	trol Dat	<b>Degree Days</b>	Treat HOST PLANT when the follo	wing		
egg	Mar 01 -	Apr 10	0 - 4	1 None Offered			
	use only. N			<u>Comments</u> correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^	
horticultural oil	Damoil	l			С	4 hours	
	Sunspra	ay Ultra-l	Fine SprayOil		С	4 hours	

\*restricted use pesticide

\*\*ESA approved common name

Nuculaspis tsugae Page 102 (Johnson & Lyon)

# **DELAYED DORMANT**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: Common Name				Scientific Name			
hemlock				Tsuga			
spruce				Picea			
Pest Survey Info	ormation:						
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method	
nymph	Apr 01	Apr 20	foliage	discoloration, twig dieback	visua	l inspection	
Control: Stage(s	s) and Tin	ning					
Stage(s)	<b>Ideal Cont</b>	trol Dat	Degree Days	Treat HOST PLANT when the follow	ving		
egg	Apr 01 -	Apr 20	28 -	96 plants bloom: silver maple, Cornelian cherry, pus- willow	sy		
<b>Chemical Contr</b>	<u>ol</u>			Comments	Signal	Agricultural Restricted Entry	
Reference	use only. N	OT a labe	l substitute.		<u>Word</u>	Interval (REI)^	
Select the a	appropriate i	insecticide	/miticide for th	ne correct life stage of the target pest.			
horticultural oil	Damoil				С	4 hours	
	Sunspra	ay Ultra-F	ine SprayOil		С	4 hours	

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
hemlock	Tsuga
spruce	Picea
Doct Survey Information.	

#### Pest Survey Information:

Pest Stage	From	<u>To</u>	<u> Plant Part</u>	Plant Damage	Survey Method
adult	Apr 01	Sep 15	foliage	discoloration, twig dieback	visual inspection
nymph	May 15	Aug 01	foliage	discoloration, twig dieback	visual inspection
nymph	Sep 01	Nov 01	foliage	discoloration, twig dieback	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
crawler	Jun 20 - Jun 30	737 - 967	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
crawler	Jul 01 - Jul 10	989 - 1196	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata
crawler	Jul 10 - Jul 20	1196 - 1417	plants bloom: Abelia, golden rain tree, sourwood
crawler	Sep 01 - Sep 10	2418 - 2576	plant fruit in color: sweet autumn clematis, Polygonum aubertii

#### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) Chilocorus stigma (lady beetle - predator)

\*restricted use pesticide

# Available commercially

occurs naturally

**Comments** 

	<b>1</b> se only. NOT a label substitute. ppropriate insecticide/miticide for the correc	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil	Only effective against immatures.	С	4 hours
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name

#### CIRCULAR HEMLOCK SCALE

Nuculaspis tsugae Page 102 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	C	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

DORMANT SEASON	Apply thorough treatment only when pest stage found
Host Plants: Common Name	Scientific Name
apple	Malus
boxwood	Buxus spp.
burning bush, winged euonym	nus Euonymus alatus
crabapple	Malus
elm	Ulmus
holly	Ilex
horsechestnut	Aesculus hippocastanum
maple	Acer
mulberry	Morus
peach	Prunus persica
pear	Pyrus calleryana
pine	Pinus
poplar or aspen	Populus
Weigelia	Weigelia
Wisteria	Wisteria
yew	Taxus
Pest Survey Information:	
Pest Stage From To	Plant Part         Plant Damage         Survey Method
egg Mar 01 Apr 15	foliage visual inspection
Control: Stage(s) and Timing	

Stage(s)	<b>Ideal Control Dat</b>	Degree Da	iys	Treat HOST PLANT when the fol	lowing	
egg	Mar 01 - Apr 15	0 -	69	None Offered		
	e use only. NOT a labe			<u>Comments</u> orrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
horticultural oil	Damoil				С	4 hours
	Sunspray Ultra-H	Fine Spray O	il		С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective. \*restricted use pesticide

\*\*ESA approved common name

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Pseudococcus comstocki Page 326 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

# Part of plant to treat: WHOLE PLANT

Host Plants: Common Name	Scientific Name
apple	Malus
boxwood	Buxus spp.
burning bush, winged euonymus	Euonymus alatus
crabapple	Malus
elm	Ulmus
holly	Ilex
horsechestnut	Aesculus hippocastanum
maple	Acer
mulberry	Morus
peach	Prunus persica
pear	Pyrus calleryana
pine	Pinus
poplar or aspen	Populus
privet	Ligustrum
Weigelia	Weigelia
Wisteria	Wisteria
yew	Taxus

# **Pest Survey Information:**

Pest Stage	<b>From</b>	To	<u>Plant</u>	t Par	<u>'t</u>	<u>Plant Damage</u>	Survey Method	
nymph (crawler)	May 01	Sep 30	bark, foliage		age	discoloration, leaf drop	visual inspection	
Control: Stage(s) and Timing								
Stage(s)	Ideal Cont	trol Dat	Degre	e Da	iys	Treat HOST PLANT when the following		
adult, crawler	Jun 01 -	Jun 10	437	-	563	plants bloom: Kousa dogwood, cranberry bush, beautybush		
adult, crawler	Aug 01 -	Aug 10	1700	-	1933	plant bloom: Pee Gee Hydrangea blooms turn pin	ık	
Biological Control Comments								
Cryptolaemus montrouzieri (lady beetle predator)					Available commercially; occurs naturally			

Chrysoperla sp. (green lacewing - predator)

\*restricted use pesticide

Available commercially; occurs naturally Available commercially; occurs naturally

^for agricultural applications only.

	<b>ol</b> use only. NOT a label substitute. appropriate insecticide/miticide for the co	Comments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

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\*\*ESA approved common name

# **COMSTOCK MEALYBUG\*\***

Pseudococcus comstocki Page 326 (Johnson & Lyon)

<u>Chemical Control</u>		<u>Comments</u>	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute.		<u>Word</u>	Interval (REI)^
Select the app	propriate insecticide/miticide for the correct			
	Talstar P Professional	BEE CAUTION	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
	Arena 50 WDG		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
fenpyroximate	Akari 5SC	Supression	W	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
phosmet	Imidan 70W	BEE CAUTION	W	24 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*\*ESA approved common name

\*restricted use pesticide

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Adelges cooleyi Page 76, 112 (Johnson & Lyon)

#### **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: **BASE OF BUD**

Host Plants: Comm	ion Name	Sci	ientific Name	
dougla	douglas fir Pseudotsuga menziesii			
spruce	, Colorado	Pie	cea pungens	
Pest Survey Info	ormation:			
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
nymph	Mar 01 Apr 15	twig bark (sprud	ce)	visual inspection
Control: Stage(s	<u>s) and Timing</u>			
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the	efollowing
nymph	Mar 01 - Apr 10	0 - 41	None Offered	
<b>Chemical Contr</b>			<b>Comments</b>	Signal Agricultural Restricted Entry
	<mark>∶ol</mark> use only. NOT a labe	l substitute.	<u>Comments</u>	Signal <sup>9</sup>
Reference	use only. NOT a labe		<u>Comments</u> orrect life stage of the target pest.	Signal Restricted Entry Word Interval (REI)^
Reference	use only. NOT a labe			Signal Restricted Entry <u>Word</u> Interval (REI)^

# Additional information on biology and control

WARNING: use of oil on blue colored conifers will cause color to change.

\*\*ESA approved common name

\*restricted use pesticide

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

#### Part of plant to treat: **BASE OF EXPANDING BUD**

	1						
Host Plants: Common Name			Scientific	Scientific Name			
douglas fir		Pseudots	Pseudotsuga menziesii				
	spruce, Colorado		Picea pur	igens			
Pest Survey Information:							
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method		
nymph	May 01	Sep 30	twig bark (spruce)	gall	visual inspection		
nymph	Jun 15	Sep 30	foliage (Douglas-fir)	discoloration, distortion	visual inspection		

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph, adult	May 01 - May 10	120 - 190	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
nymph, adult	Jul 20 - Jul 31	1500 - 1775	plants bloom: butterfly bush, Clethra alnifolia, false spirea
nymph, adult	Aug 01 - Aug 10	1500 - 1775	plant bloom: Pee Gee Hydrangea blooms turn pink
nymph, adult	Sep 15 - Oct 10	1850 - 1950	None Offered

	se only. NOT a label substitute.	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

# Additional information on biology and control

\*restricted use pesticide

WARNING: use of oil on blue colored conifers will cause color to change.

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name

Pulvinaria floccifera Page 344 (Johnson & Lyon)

#### **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

#### Part of plant to treat: FOLIAGE, STEMS

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the fo	llowing	
immature	Mar 01 - Apr 10	0 - 40	None Offered		
	use only. NOT a labe		<u>Comments</u> orrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
horticultural oil	Damoil Sunspray Ultra-H	Fine Spray Oil		C C	4 hours 4 hours

#### Additional information on biology and control

\*restricted use pesticide

Cottony camellia/taxus scale overwinters as a second instar mostly on twigs. Females produce long white cottony egg masses on the undersides of host leaves in the late spring. Crawler treatments should be applied after the eggs have hatched around mid-June, between 800 and 1400 degree days. Crawlers will disperse to new areas, insert their mouthparts, and begin to feed. Once settled, the young scales never move again. There is one generation per year. Black sooty mold grows on the honeydew that falls on the foliage below where scales are feeding.

**\*\*ESA approved common name** 

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

#### Part of plant to treat: FOLIAGE, STEMS

Host Plants: Common Name	Scientific Name
Azalea	Azalea
beautyberry	Callicarpa
Euonymus	Euonymus
holly	Ilex
Hydrangea	Hydrangea
maple, Japanese	Acer palmatum
Rhododendron	Rhododendron
winterberry, common	Ilex verticillata
yew	Taxus

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
crawler	Jun 20 - Jul 10	from - 800	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata
crawler	Jul 10 - Jul 20	to - 1400	plants bloom: Abelia, golden rain tree, sourwood

#### **Biological Control Comments** Lindorus lophanthae (lady beetle - scale predator) Available commercially Cryptolaemus montrouzieri (lady beetle predator) Available commercially; occurs naturally Available commercially; occurs naturally Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator) occurs naturally

#### **Chemical Control**

#### **Comments** Reference use only. NOT a label substitute. **Word** Select the appropriate insecticide/miticide for the correct life stage of the target pest.

acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro	Effective against immatures. Bee caution.	W	12 hours
	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin+ bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

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\*\*ESA approved common name

Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

#### **COTTONY CAMELLIA (TAXUS) SCALE\*\***

Pulvinaria floccifera Page 344 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the corr	<u>Comments</u> ect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

# Additional information on biology and control

\*restricted use pesticide

See Dormant Season page for additional information on pest biology.

\*\*ESA approved common name

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#### DORMANT SEASON

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

## Part of plant to treat: STEM

	1					
Host Plants: Com	mon Name		Scientific Name			
andr	omeda		Pieris japonica			
blacl	kgum, tupelo		Nyssa sylvatica			
dogv	vood		Cornus			
holly	7		Ilex			
hone	ysuckle		Lonicera			
map	le		Acer			
Pest Survey In	formation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	ey Method	
nymph	Mar 01 Apr	15 bark	twig death	visua	l inspection	
Control: Stage	e(s) and Timing					
Stage(s)	<b>Ideal Control D</b>	at Degree Day	Treat HOST PLANT when the fo	ollowing		
nymph	Mar 01 - Apr 1	0 -	40 None Offered			
Chemical Con			Comments	Signal	Agricultural Restricted Entr	
	e use only. NOT a l e appropriate insecti		the correct life stage of the target pest.	<u>Word</u>	Interval (REI)	
horticultural oil	Damoil			С	4 hours	
	Sunspray Ult	a-Fine SprayOil		С	4 hours	

#### Additional information on biology and control

\*restricted use pesticide

Cottony maple leaf scale overwinters as partially grown nymphs on twigs and branches. Mature females migrate to leaves in May and produce long white cottony egg masses on the undersides of host leaves. Egg hatch generally occurs about mid-June, with mobile nymphs or 'crawlers' dispersing onto new parts of the plant. Crawlers will settle, insert their mouthparts, and begin to feed. In the fall the young scales migrate back to twigs to overwinter. There is one generation per year.

**\*\*ESA approved common name** 

#### COTTONY MAPLE LEAF SCALE

Pulvinaria acericola Page 340, 342, 346 (Johnson & Lyon)

#### **GROWING SEASON**

#### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

#### Part of plant to treat: FOLIAGE

Scientific Name	
Pieris japonica	
Nyssa sylvatica	
Cornus	
llex	
Lonicera	
Acer	
-	Pieris japonica Nyssa sylvatica Cornus Ilex Lonicera

#### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
adult	May 15	Sep 30	foliage	discoloration, leaf drop	visual inspection
nymph (crawler)	Jun 20	Jul 30	foliage	discoloration, leaf drop	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Co	ntrol Dat	Degre	ee Da	ys	Treat HOST PLANT when the following
nymph	Jun 20	- Jun 30	from	-	800	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
nymph, adult	Jul 01	- Jul 20	-	-	-	Remainder of season between the beginning and end phenology
nymph, adult	Jul 20	- Jul 30	to	-	1265	plants bloom: butterfly bush, Clethra alnifolia, false spirea

#### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator)

\*restricted use pesticide

#### <u>Comments</u> Available commercially

Available commercially; occurs naturally Available commercially; occurs naturally occurs naturally

^for agricultural applications only.

	<b>bl</b> ise only. NOT a label substitute. ppropriate insecticide/miticide for the co	<u>Comments</u> prrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

# **COTTONY MAPLE LEAF SCALE**

Pulvinaria acericola Page 340, 342, 346 (Johnson & Lyon)

<u>Chemical Control</u>		Comments	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute.		<u>Word</u>	Interval (REI)^
Select the app	propriate insecticide/miticide for the corre	ct life stage of the target pest.		
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

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\*\*ESA approved common name

Page 340, 346 (Johnson & Lyon)

#### **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: **STEM**

Host Plants	s: Common Nam	e			Scientific Name			
	beech				Fagus			
	cherry, flowering				Prunus			
	dogwood				Cornus			
	elm				Ulmus			
	Euonymus				Euonymus			
	hackberry				Celtis occidentalis			
	hawthorn				Crataegus			
	honeylocust				Gleditsia triacanthos			
	lilac				Syringa			
	linden				Tilia			
	maple				Acer			
	mulberry		Morus					
	oak		Quercus					
	peach		Prunus persica					
	pear				Pyrus calleryana			
	plum				Prunus cerasifera			
	poplar or aspen	ı			Populus			
	rose				Rosa			
	spirea				Spiraea			
	sycamore				Platanus occidentalis			
	willow				Salix			
Pest Surv	vev Informati	<u>on:</u>						
Pest Stage	Fro	<u>n</u>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method		
nymph	Ma	01	Apr 15	twig bark	twig death	visual inspection		
<b>Control:</b>	Stage(s) and	Tin	ning					
Stage(s)	Ideal (	Cont	rol Dat	<b>Degree Days</b>	<b>Treat HOST PLANT when th</b>	nefollowing		
nymph	Mar 01	-	Apr 10	0 -	41 None Offered			
Chemical	Control				Comments	Signal Agricultural Restricted Entry		

Chemical Control	<u>Comments</u>	0	Restricted Entry
Reference us	e only. NOT a label substitute.	<u>Word</u>	Interval (REI)^
Select the ap	et pest.		
horticultural oil	Damoil	С	4 hours
	Sunspray Ultra-Fine SprayOil	С	4 hours

#### Additional information on biology and control

\*restricted use pesticide

Cottony maple scale overwinters as immature females on twigs. Females produce long white cottony egg masses on the undersides of host leaves in late May. Egg hatch occurs around late June, with mobile nymphs or 'crawlers' dispersing onto either leaf surface for the summer. Males

#### Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name

mature in the early fall and mate with immature females. Females migrate to bark to spend the winter. Unfertilized females produce only male offspring. There is one generation per year.

\*restricted use pesticide

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\*\*ESA approved common name

Pulvinaria innumerabilis Page 340, 346 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
beech	Fagus
cherry, flowering	Prunus
dogwood	Cornus
elm	Ulmus
Euonymus	Euonymus
hackberry	Celtis occidentalis
hawthorn	Crataegus
honeylocust	Gleditsia triacanthos
lilac	Syringa
linden	Tilia
maple	Acer
mulberry	Morus
oak	Quercus
peach	Prunus persica
pear	Pyrus calleryana
plum	Prunus cerasifera
poplar or aspen	Populus
rose	Rosa
spirea	Spiraea
sycamore	Platanus occidentalis
willow	Salix

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
nymph (crawler)	Jun 20	Sep 30	foliage	discoloration, dieback	visual inspection

#### Control: Stage(s) and Timing

Stage(s)	Ideal Control Da	Degree Days	Treat HOST PLANT when the following
immature	Apr 20 - Apr 30	from - 7	plants bloom: boxelder, star magnolia, periwinkle, Norway maple
immature	May 01 - May 10	to - 178	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
egg, crawler	Jun 20 - Jun 30	from - 802	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
crawler	Jul 01 - Jul 10		plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata
crawler	Jul 10 - Jul 31	to - 1265	plants bloom: Abelia, golden rain tree, sourwood

#### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator)

\*restricted use pesticide

#### **Comments**

Available commercially

Available commercially; occurs naturally

Available commercially; occurs naturally

^for agricultural applications only.

#### Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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#### **COTTONY MAPLE SCALE\*\***

*Pulvinaria innumerabilis* Page 340, 346 (Johnson & Lyon)

Biological Contro Chilocorus stigma (laa		<u>Comments</u> occurs naturally		
Chemical Control Reference us	e only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
Select the app	propriate insecticide/miticide for the corre	ect life stage of the target pest.		
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name 89

Arborist

#### **CRYPTOMERIA SCALE**

Aspidiotus cryptomeriae

#### **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

Host Plants: Common Name	Scientific Name	
cedar, atlas	Cedrus atlanticus	
cryptomeria	Cryptomeria	
douglas fir	Pseudotsuga menziesii	
falsecypress	Chamaecyparis	
hemlock	Tsuga	
pine	Pinus	
spruce	Picea	
yew	Taxus	

# Additional information on biology and control

The cryptomeria, or 'fried hard egg' scale is native to Japan and can have two generations a year in Connecticut. Crawlers are present from June into July and again in late August into September. This elongated, somewhat transparent scale overwinters as a second instar on the undersides of needles.

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: NEEDLES

Host Plants: Common Name	Scientific Name	
cedar, atlas	Cedrus atlanticus	
cryptomeria	Cryptomeria	
douglas fir	Pseudotsuga menziesii	
falsecypress	Chamaecyparis	
fir	Abies	
hemlock	Tsuga	
pine	Pinus	
spruce	Picea	
yew	Taxus	

# **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat Degree Day			ee Da	iys	Treat HOST PLANT when the folle		
crawler	Jun 15	- Jul 31	630	-	2380	plants bloom: Abelia, golden rain tree, sourwo	ood	
<u>Chemical C</u>			-1			<u>Comments</u>		Agricultural Restricted Entry
Refere	ence use only.	NOT a lab					<u>Word</u>	Interval (REI)^

Reference u	Reference use only. NOT a label substitute.				
Select the a	opropriate insecticide/miticide for the correc	ct life stage of the target pest.		Interval (REI)^	
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours	
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours	
malathion	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours	
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours	
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours	

\*restricted use pesticide

91

\*\*ESA approved common name

#### **DELAYED DORMANT**

Frequency with which pest occurs: OCCASIONAL

Part of plant to treat: STEM

Host Plants: Com elder	Host Plants: Common Name elder		Scientific Name
Control: Stage Stage(s)	( <u>s) and Timing</u> Ideal Control Dat	Degree Days	Treat HOST PLANT when the following
larva	Apr 01 - Apr 20	28 - 9	96 plants bloom: silver maple, Cornelian cherry, pussy willow

### **Non Chemical Control**

Remove and destroy infested plant parts.

\*restricted use pesticide

\*\*ESA approved common name

Agricultural

Signal

#### **GROWING SEASON**

Frequency with which pest occurs: OCCASIONAL

Part of plant to treat: STEM

Host Plants: Common Name	Scientific Name
elder	Sambucus

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the following
larva	Apr 20 - Apr 30	96 - 137	plants bloom: boxelder, star magnolia, periwinkle, Norway maple
larva	May 01 - Jun 10	144 - 563	Remainder of season between the beginning and end phenology
larva	Jun 10 - Jun 20	563 - 737	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn

## **Non Chemical Control**

Remove and destroy infested plant parts.

#### **Chemical Control**

<u>Chemical Control</u>		Comments	Signal	Restricted Entry
Reference us	e only. NOT a label substitute	e.	Word	Interval (REI)^
Select the ap	propriate insecticide/miticide f	or the correct life stage of the target pest.		
chlorantraniliprole	Acelepryn			4 hours

chlorantraniliprole Acelepryn

#### **DOGWOOD BORER\*\***

Synanthedon scitula Page 262 (Johnson & Lyon) Page 15 (Adams & Packauskas)

#### **GROWING SEASON**

#### Annual cover sprays are suggested.

# Frequency with which pest occurs: ANNUAL

# Part of plant to treat: TRUNK, STEM

Scientific Name
Malus
Myrica pensylvanica
Fagus
Betula
Vaccinium
Prunus serotina
Castanea
Cornus
Corylus
Sorbus aucuparia
Quercus
Pinus
Prunus cerasifera
Salix

## **Pest Survey Information:**

<u>Pest Stage</u>	From	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
adult (clearwing moth	) May 15	Sep 30	bark		pheromone traps
larva	Jul 01	Oct 30	trunk, branch	discoloration, dieback	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
adult	May 01 - May 10	148 - 700	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
adult, egg	May 10 - May 20	148 - 700	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
adult	Jun 01 - Jun 10	148 - 700	plants bloom: Kousa dogwood, cranberry bush, beautybush
adult	Jun 10 - Sep 30	700 - 2500	rest of season

Comments

Available commercially Available commercially

Available commercially

^for agricultural applications only.

#### **Biological Control**

Steinernema feltiae (nematode)
Steinernema carpocapsae (nematode)
Heterorhabditis bacteriophora (nematode)

\*restricted use pesticide

### **Chemical Control**

	e only. NOT a label substitute. propriate insecticide/miticide for the cc	<u>Comments</u> rrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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\*\*ESA approved common name

#### **DOGWOOD BORER\*\***

Synanthedon scitula Page 262 (Johnson & Lyon) Page 15 (Adams & Packauskas)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours

\*restricted use pesticide

95

\*\*ESA approved common name

Resseliella clavula Page 436 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: YOUNG LEAVES AND SHOOTS

Host Plants: Comm				c <mark>ientific Name</mark> ornus	
Pest Survey Inf	ormation:				
Pest Stage	<b>From</b>	<u>To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	Survey Method
adult	Jun 01	Jul 01	foliage		visual inspection, sticky cards
larva	Jul 01	Sep 30	leaf petiole	distortion, gall	visual inspection
Control: Stage(	s) and Tin	ning			
Stage(s)	Ideal Cont	rol Dat	Degree Days	Treat HOST PLANT when the follow	wing
adult	Jun 20 -	Jun 30	737 - 967	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus	l
adult	Jun 30 -	Jul 31	967 - 1673	Remainder of season between the beginning and phenology	end
adult	Aug 01 -	Aug 10	1700 - 1933	plant bloom: Pee Gee Hydrangea blooms turn pi	nk

#### **Non Chemical Control**

Remove and destroy badly infested branch & tree parts.

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*bifenthrin	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

	or prant	to treat.	ruli	IAG				
Host Plants: Common Name dogwood					entific Name rnus			
-					Co	rnus		
Pest Survey Infor	mation	<u>.</u>						
Pest Stage	<b>From</b>	<u>To</u>	<u>Plant</u>	Par	<u>t</u>	Plant Damage	Surve	<u>y Method</u>
larva	Jul 01	Jul 31	folia	ge		defoliation	visua	l inspection
Control: Stage(s)	and Tir	ning						
Stage(s)	deal Con	trol Dat	Degre	e Da	ys	Treat HOST PLANT when the follow	ving	
larva	Jul 01 -	Jul 10	1151	-	1500	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata		
larva	Jul 10 -	Jul 20	1151	-	1500	plants bloom: Abelia, golden rain tree, sourwood	l	
larva .	Jul 20 -	Jul 31	1500	-	1673	plants bloom: butterfly bush, Clethra alnifolia, fa spirea	llse	
Chemical Contro						<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference us							<u>Word</u>	Interval (REI)^
-				ie tor	the co	prrect life stage of the target pest.		
*abamectin	-	t Abacide				BEE CAUTION	W	
acephate		ate 97 WD	)G			BEE CAUTION	С	24 hours
	Lepited					BEE CAUTION	С	24 hours
	Orthen	e T,T & C	) WSP			BEE CAUTION	С	24 hours
azadirachtin	Aza-Di						С	4 hours
	AzaGu	ard					С	4 hours
*bifenthrin	Talstar	P Profess	ional			BEE CAUTION	С	12 hours
carbaryl	Carbar	yl 4L				BEE CAUTION	С	12 hours
	Sevin S	SL				BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorp	yrifos 4E	AG			Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspen	d SC				BEE CAUTION	С	
*emamectin benzoate	e Tree-ag	ge				BEE CAUTION	W	
horticultural oil	Damoil	1					С	4 hours
	Sunspr	ay Ultra-F	ine Spr	ay O	il		С	4 hours
*imidacloprid	Mallet	75 WSP				BEE CAUTION	С	12 hours
	Merit 7	5WSP				BEE CAUTION	С	12 hours
	Xytect	2F				BEE CAUTION	С	
insecticidal soap	Des-X	Insecticid	al Soap	Con	centra	te	W	12 hours
	M-Pede	e				Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Deman	d CS				BEE CAUTION	С	
*lambda-cyhalothrin	Scimita	ar GC				BEE CAUTION	С	24 hours
*permethrin	Perm-U	JP 3.2EC				BEE CAUTION	С	12 hours
spinosad	Conser	ve SC				Most effective against young larvae.	С	4 hours
*thiamethoxam		an 0.33G				BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name

#### **DOGWOOD SAWFLY**

Macremphytus tarsatus Page 126 (Johnson & Lyon)

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: STEM

Host Plants: Comm	ion Name				Sci	ientific Name		
dogwood					Со	rnus		
Rhododendron					Rh	ododendron		
sourwo	bod				Ox	ydendrum arboreum		
Pest Survey Info	ormation:							
Pest Stage	<u>From</u>	<u>To</u>	Plan	t Par	<u>t</u>	<u>Plant Damage</u>	<u>Surve</u>	<u>y Method</u>
adult (beetle)	Jun 01	Jul 15	bark	, folia	ige	distortion	visua	inspection
larva	Aug 01	Jun01	twig	, maiı	n stem	twig (exit hole), dieback	visua	inspection
Control: Stage(	s) and Timi	ing						
Stage(s)	<b>Ideal Contr</b>	ol Dat	Degre	ee Dag	ys	Treat HOST PLANT when the follow	wing	
adult?	Jun 01 - Ju	un 10	437	-	563	plants bloom: Kousa dogwood, cranberry bush, beautybush		
adult?	Jun 10 - Ju	un 20	563	-	737	plants bloom: mountain laurel, mock-orange, Jap tree lilac, Washington hawthorn	panese	
adult?	Jun 20 - Ju	un 30	737	-	967	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus	ı	
Chemical Contr						<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NO						<u>Word</u>	Interval (REI)^
Select the a	appropriate ins	secticide	e/miticio	de for	the co	orrect life stage of the target pest.		
*bifenthrin	Onyx Pro	)				BEE CAUTION	W	12 hours
	Talstar P	Profess	ional			BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyr	ifos 4E	AG			Non-residential, BEE CAUTION	W	24 hours
*clothianidin+ bifenthrin	Aloft GC	G				BEE CAUTION	С	12 hours
*clothianidin	Arena .25	5 G					С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

Croesus latitarsus Page page 128 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Comm	on Name	Sc	ientific Name		
birch			etula		
Pest Survey Info	ormation:				
Pest Stage	<u>From</u> <u>To</u>	Plant Part	<u>Plant Damage</u>	Surve	<u>y Method</u>
adult (sawfly)	May 01 May 3	<ol> <li>foliage just after break</li> </ol>	er bud	visua cards	l inspection, sticky
larva	May 31 Jul 15	foliage	defoliation	visua	l inspection
adult (sawfly)	Jul 15 Sep 0	foliage		visua	l inspection
<b>Control:</b> Stage(s	) and Timing				
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the follo	owing	
adult, egg	Jun 01 - Jun 30	408 - 940	plants bloom: mountain laurel, mock-orange, J tree lilac, Washington hawthorn	apanese	
larva	Aug 01 - Sep 30	1685 - 2850	plants bloom: butterfly bush, Clethra alnifolia, spirea	false	
Chemical Contro	<mark>ol</mark> Jse only. NOT a lab	al substituta	<u>Comments</u>	Signal	Agricultural Restricted Entry
			correct life stage of the target pest.	<u>Word</u>	Interval (REI)^
*abamectin	Mauget Abacid	e 2	BEE CAUTION	W	
acephate	Acephate 97 W	DG	BEE CAUTION	С	24 hours
	Lepitect		BEE CAUTION	С	24 hours
horticultural oil	Sunspray Ultra-	Fine Spray Oil		С	4 hours
*imidacloprid	Xytect 2F		BEE CAUTION	С	
spinosad	Conserve SC		Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridian 0.33G		BEE CAUTION	С	12 hours

### Additional information on biology and control

\*restricted use pesticide

Dusky birch sawfly overwinters as a prepupae in the soil. First generation adults emerge in May. Females use their saw-like ovipositor to lay eggs in leaf tissue. The black headed larvae have a yellow body with longitudinal rows of black spots in the later stages. Larvae feed from the edge of the leaf and maintain a unique "S" shape to their body. A second generation of adults emerges in mid-July with caterpillars feeding into the fall.

**\*\*ESA approved common name** 

#### **DELAYED DORMANT**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

Part of plant to treat: <b>STEM</b>					
Host Plants: Common Name					
pine	Pinus				
Pest Survey Information:					
Pest Stage <u>From</u> <u>To</u>	Plant Part Plant Damage	Survey Method			
adult Mar 01 A	pr 20 debris at base of tree	visual inspection of deb			
Control: Stage(s) and Timing					
Stage(s) Ideal Control	Dat         Degree Days         Treat HOST PLANT	when the following			
adult Apr 01 - Apr	20 28 - 96 plants bloom: silver maple, C willow	Cornelian cherry, pussy			
<u>Chemical Control</u>	Comments	Signal Agricultural Restricted Entry			
Reference use only. NOT a	a label substitute.	Word Interval (REI)^			
Select the appropriate insec	cticide/miticide for the correct life stage of the ta				
acephate Acephate 9'	7 WDG BEE CAUTION	C 24 hours			
Orthene T,T	C & O WSPBEE CAUTION	C 24 hours			
*bifenthrin Onyx Pro	BEE CAUTION	W 12 hours			
Talstar P Pr	rofessional BEE CAUTION	C 12 hours			
lambda-cyhalothrin Demand CS	BEE CAUTION	С			

\*restricted use pesticide

\*\*ESA approved common name

Pissodes nemorensis Page 54, 56 (Johnson & Lyon)

### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: STEM

Host Plants: Common Name	Sci	Scientific Name			
cedar, atlas	Ce	edrus atlanticus			
pine	Pii	nus			
<b>Pest Survey Information:</b>					
Pest Stage <u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method	
adult May 01 Sep 30	branch	discoloration	visua	l inspection	
Control: Stage(s) and Timing					
Stage(s) Ideal Control Dat	Degree Days	Treat HOST PLANT when the follow	ving		
adult Apr 20 - Apr 30	96 - 137	plants bloom: boxelder, star magnolia, periwinkl Norway maple	e,		
adult May 01 - May 10	144 - 228	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry			
<u>Chemical Control</u>		<u>Comments</u>	Signal	Agricultural Restricted Entry	
Reference use only. NOT a labe			<u>Word</u>	Interval (REI)^	
Select the appropriate insecticide	e/miticide for the c	orrect life stage of the target pest.			
acephate Acephate 97 WI	OG	BEE CAUTION	С	24 hours	
Orthene T,T & C	) WSP	BEE CAUTION	С	24 hours	
*bifenthrin Onyx Pro		BEE CAUTION	W	12 hours	
Talstar P Profess	ional	BEE CAUTION	С	12 hours	
*clothianidin + Aloft GC G bifenthrin		BEE CAUTION	С	12 hours	
lambda-cyhalothrin Demand CS		BEE CAUTION	С		
pyrethrin PyGanic		OMRI listed	С	12 hours	
Pyrenone			С	12 hours	

\*restricted use pesticide

\*\*ESA approved common name

### **DORMANT SEASON**

Annual cover sprays are suggested.

Frequency with which pest occurs: ANNUAL

### Part of plant to treat: BASE OF EXPANDING BUD

Host Plants: Co	ommon Name	Sc	ientific Name	
spi	ruce	Pi	cea	
Pest Survey	Information:			
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	<b>Survey Method</b>
nymph	Mar 01 Apr 15	5 twig bark		visual inspection
Control: Sta	ge(s) and Timing			
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the	nefollowing
immature	Mar 01 - Apr 10	0 - 41	None Offered	
Non Chemic	<u>al Control</u>			
Remove highly	susceptible white spruce			
Do not grow hig	ghly susceptible white spi	ruce.		
Chemical Co	ontrol		<u>Comments</u>	Signal Agricultural Restricted Entry

Chemical Control	Con	<u>iments</u>	Signai	<b>Restricted Entry</b>
Reference use only. NOT a label substitute.			<u>Word</u>	Interval (REI)^
Select the appropriate insecticide/miticide for the correct life stage of the target pest.				Inter var (KEI)
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

### EASTERN SPRUCE GALL ADELGID\*\*

Adelges abietis Page 76, 114 (Johnson & Lyon) Page 35 (Adams & Packauskas)

#### **GROWING SEASON**

Annual cover sprays are suggested.

### Frequency with which pest occurs: ANNUAL

### Part of plant to treat: BASE OF EXPANDING BUD

Host Plants:	Common Name				Sci	ientific Name	
	spruce				Pic	cea	
	spruce, Norway				Pic	cea abies	
Pest Survey Information:							
Pest Stage	From	<u>To</u>	<b>Plant</b>	Part		<u>Plant Damage</u>	Survey Method
nymph	May 01	Sep 01	twig	bark		gall	visual inspection
Control: Stage(s) and Timing							
Stage(s)	Ideal Cont	rol Dat	Degree	e Day	<b>'S</b>	Treat HOST PLANT when the follow	ing
nymph	Apr 15 -	Apr 30	from	-	20	plants bloom: boxelder, star magnolia, periwinkle Norway maple	,
nymph	May 01 -	May 10	-	-	-	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry	
nymph	May 10 -	May 20	to	-	350	plants bloom: redbud, Sargent crabapple, flowerin almond, Tatarian honeysuckle	g
nymph, adult	Aug 01 -	Aug 10	from	-	1600	plant bloom: Pee Gee Hydrangea blooms turn pin	k
nymph, adult	Aug 10 -	Aug 20	to	- 3	2100	plant fruit in color: Mountain ash, cranberry bush	
nymph, adult?	Sep 20 -	Oct 10	2600	- :	3000	None Offered	

#### **Non Chemical Control**

Remove highly susceptible white spruce.

Do not grow highly susceptible white spruce.

\*restricted use pesticide

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> of life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*\*ESA approved common name

### EASTERN SPRUCE GALL ADELGID\*\*

Adelges abietis Page 76, 114 (Johnson & Lyon) Page 35 (Adams & Packauskas)

Chemical Control       Comments         Reference use only. NOT a label substitute.       Comments			Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
Select the	appropriate insecticide/miticide	for the correct life stage of the target pest.		Inter var (KE1)
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

#### EASTERN TENT CATERPILLAR\*\*

Malacosoma americanum Page 168 (Johnson & Lyon) Page 26 (Adams & Packauskas)

#### **GROWING SEASON**

#### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

ashFraxinusbirchBetulablackgum, tupeloNyssa sylvaticacherry, blackPrunus serotinachokecherryPrunus virginianacrabappleMalusmapleAcer	Scientific Name	
blackgum, tupeloNyssa sylvaticacherry, blackPrunus serotinachokecherryPrunus virginianacrabappleMalus		
cherry, blackPrunus serotinachokecherryPrunus virginianacrabappleMalus		
chokecherryPrunus virginianacrabappleMalus		
crabapple Malus		
maple Acer		
oak Quercus		
peach Prunus persica		
plum Prunus cerasifera		
poplar or aspen Populus		
sweetgum Liquidambar		

#### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
larva	Apr 15	May 15	foliage	defoliation	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
larva	May 01 - May 15	135 - 240	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
larva	May 15 - May 30	240 - 380	plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark

#### **Biological Control**

Podisus maculiventris (spined soldier bug - predator)

\*restricted use pesticide

#### **Comments**

Available commercially; occurs naturally

^for agricultural applications only.

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
B. thuringiensis aizawai	XenTari	Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	Biobit HP	Most effective against young larvae.	С	4 hours
	DiPel DF	Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

**\*\*ESA approved common name** 106

### EASTERN TENT CATERPILLAR\*\*

Malacosoma americanum Page 168 (Johnson & Lyon) Page 26 (Adams & Packauskas)

Chemical Control		Comments	Signal	Agricultural Restricted Entry
	only. NOT a label substitute.	life stars of the target post	<u>Word</u>	Interval (REI)^
Select the app	ropriate insecticide/miticide for the correct	The stage of the target pest.		
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
indoxacarb	Provaunt	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
phosmet	Imidan 70W	BEE CAUTION	W	24 hours
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

107

\*\*ESA approved common name

Frequency with which pest occurs: OCCASIONAL

Part of plant to treat: STEM

Host Plants: Cor	nmon Name	Sc	ientific Name		
elde	er	Sa	mbucus		
Control: Stag	e(s) and Timing				
Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the following	lowing	
larva	May 01 - Sep 30	144 - 2862	all season		
Non Chemica Remove and des	<b>1 Control</b> troy badly infested brand	ch & tree parts.			
Chemical Con	<mark>ntrol</mark> ce use only. NOT a lab	1 1 M 1	Comments	Signal	Agricultural Restricted Entry
	<u>Word</u>	Interval (REI)^			
Select tr	ne appropriate insecticid	e/miticide for the c	orrect life stage of the target pest.		
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G			С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

### DELAYED DORMANT

#### Annual cover sprays are suggested.

Frequency with which pest occurs: ANNUAL

### Part of plant to treat: STEM, TRUNK

Host Plants: Com	non Name			Scientific	Name		
elm				Ulmus			
Pest Survey Inf	ormation:						
Pest Stage	From	<u>To</u>	<u>Plant Part</u>		Plant Damage	Surve	y Method
adult	Apr 01	May 01	bark		vector Dutch Elm Disease, tree death		l inspection, mone traps
Control: Stage(	(s) and Tin	ning					
Stage(s)	Ideal Cont	trol Dat	Degree Days	s <u>Treat</u>	HOST PLANT when the follow	ving	
adult	Apr 01 -	Apr 20	28 -	96 plants blo willow	om: silver maple, Cornelian cherry, puss	sy.	
Chemical Cont		~~		<u>(</u>	<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. N appropriate i			he correct li	e stage of the target pest.	<u>Word</u>	Interval (REI)^
*bifenthrin	Onyx P	ro		1	BEE CAUTION	W	12 hours
	Talstar	P Professi	onal	1	BEE CAUTION	С	12 hours
carbaryl	Carbary	/14L		1	BEE CAUTION	С	12 hours
	Sevin S	L		1	BEE CAUTION	С	12 hours

\*restricted use pesticide

109

\*\*ESA approved common name

#### **ELM BARK BEETLES**

Scolytidae Page 248 (Johnson & Lyon) Page 16 (Adams & Packauskas)

### **GROWING SEASON**

Annual cover sprays are suggested.

Frequency with which pest occurs: ANNUAL

### Part of plant to treat: STEM, TRUNK

Host Plants: Commo	on Name			,	Sci	entific Name		
elm Ul			Ulı	nus				
Pest Survey Info	rmation:							
Pest Stage	<u>From</u> <u>To</u>		Plan	t Par	<u>•t</u>	Plant Damage	Surve	y Method
adult	May 01 Sep	30	bark	, foli	age	vector Dutch Elm Disease, tree death		l inspection, mone traps
Control: Stage(s	) and Timing							
Stage(s)	Ideal Control Da	t	Degre	ee Da	ays	Treat HOST PLANT when the follow	ving	
immature, adult	Apr 20 - Apr 30	)	7	-	120	plants bloom: boxelder, star magnolia, periwinkl Norway maple	e,	
adult	Jul 20 - Jul 20		1110	-	1400	plants bloom: Abelia, golden rain tree, sourwood	l	
<b>Chemical Contro</b>						<u>Comments</u>	Signal	Agricultural Restricted Entry
	ise only. NOT a la						<u>Word</u>	Interval (REI)^
Select the a	ppropriate insection	cide/	miticio	de to	r the co	prrect life stage of the target pest.		
*abamectin	Mauget Abac	de 2	2			BEE CAUTION	W	
*bifenthrin	Onyx Pro					BEE CAUTION	W	12 hours
	Talstar P Prof	essi	onal			BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L					BEE CAUTION	С	12 hours
	Sevin SL					BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G					BEE CAUTION	С	12 hours
*emamectin benzoat	te Tree-age					BEE CAUTION	W	
*permethrin	Astro					BEE CAUTION	С	12 hours
	Perm-UP 3.2	EC				BEE CAUTION	С	12 hours
pyrethrin	Pyrenone						С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

	it of plant to treat.				
Host Plants: Comn	ion Name		cientific Name		
elm		L	/lmus		
Pest Survey Inf	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
larva	May 15 Jun 15	foliage	defoliation	visua	l inspection
larva	Aug 01 Sep 30	foliage	defoliation	visua	l inspection
Control: Stage(	<u>s) and Timing</u>				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follow	wing	
larva	May 20 - May 31	from - 30	<ul> <li>plants bloom: ruby horsechestnut, Laburnum alj black locust, ninebark</li> </ul>	pinum,	
larva	Jun 01 - Jun 10	to - 53.	3 plants bloom: Kousa dogwood, cranberry bush, beautybush		
Chemical Contr			Comments	Signal	Agricultural Restricted Entry
	use only. NOT a labe			<u>Word</u>	Interval (REI)^
Select the			correct life stage of the target pest.		
acephate	Acephate 97 WI		BEE CAUTION	С	24 hours
	Orthene T,T & C	O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	sional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn				4 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*imidacloprid	Merit 75WSP		BEE CAUTION	С	12 hours
indoxacarb	Provaunt		BEE CAUTION	С	
lambda-cyhalothrir	Demand CS		BEE CAUTION	С	
*lambda-cyhalothr	in Scimitar GC		BEE CAUTION	С	24 hours
*permethrin	Perm-UP 3.2EC		BEE CAUTION	С	12 hours
pyrethrin	Pyrenone			С	12 hours

\*\*ESA approved common name

\*restricted use pesticide

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Colopha ulmicola Page 464 (Johnson & Lyon)

### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Par	rt of plant to trea	t: FOLI	AG	E			
Host Plants: Comm	ion Name			Sci	ientific Name		
elm				Uli	mus		
Pest Survey Info	ormation:						
Pest Stage	<u>From</u> <u>To</u>	<u>Plant</u>	Part		<u>Plant Damage</u>	Surve	y Method
adult, nymph	Apr 01 Jun 3	0 foliag	ge		leaf distortion (gall)	visua	l inspection
Control: Stage(s	s) and Timing						
Stage(s)	Ideal Control Dat	Degre	e Day	7 <b>S</b>	Treat HOST PLANT when the follo	wing	
adult, ?nymph	Apr 20 - Apr 30	100	-	140	plants bloom: boxelder, star magnolia, periwink Norway maple	le,	
adult, ?nymph	May 01 - Jun 10	140	-	560	Remainder of season between the beginning and phenology	d end	
adult, ?nymph	Jun 10 - Jun 20	560	-	740	plants bloom: mountain laurel, mock-orange, Ja tree lilac, Washington hawthorn	panese	
Biological Cont Hippodamia conver		redator)			<u><b>Comments</b></u> Available commercially; occurs naturally		
Diaeretiella rapae (		· · · ·			occurs naturally		
Chrysoperla sp. (gre					Available commercially; occurs naturally		
Chemical Contr	<u>ol</u>				<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference use only. NOT a label					and the second second	<u>Word</u>	Interval (REI)^
			e tor	the c	orrect life stage of the target pest.		
*abamectin	Mauget Abacid				BEE CAUTION	W	
acephate	Acephate 97 W	DG			BEE CAUTION	С	24 hours
	Lepitect				BEE CAUTION	С	24 hours
	Orthene T,T &	O WSP			BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL				BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct					С	4 hours
	AzaGuard					С	4 hours
*bifenthrin	Onyx Pro				BEE CAUTION	W	12 hours
	Talstar P Profe	ssional			BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn						4 hours
*chlorpyrifos	Chlorpyrifos 4	EAG			Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G				BEE CAUTION	С	12 hours
*clothianidin	Arena 50 WDC	5				С	12 hours
*deltamethrin	Suspend SC				BEE CAUTION	С	
*dinotefuran	Safari 20 SG				BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC				BEE CAUTION	W	24 hours
flonicamid	Aria					С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

horticultural oil

Damoil

\*restricted use pesticide

4 hours

С

### ELM COCKSCOMBGALL APHID\*\*

Colopha ulmicola Page 464 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

**\*\*ESA approved common name** 113

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Commo	on Name	5	Scientific Name		
elm		l	Ulmus		
Pest Survey Info	rmation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
adult	May 01 Jun 30	foliage	defoliation	visua	l inspection
Control: Stage(s	) and Timing				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follo	owing	
adult	May 01 - May 10	144 - 22	28 plants bloom: Japanese quince, saucer magnolis bridalwreath, Japanese flowering cherry	a,	
adult	May 10 - May 20	228 - 31	1 plants bloom: redbud, Sargent crabapple, flowe almond, Tatarian honeysuckle	ering	
adult	May 20 - May 31	311 - 42	23 plants bloom: ruby horsechestnut, Laburnum al black locust, ninebark	lpinum,	
adult	Jun 01 - Jun 10	437 - 56	53 plants bloom: Kousa dogwood, cranberry bush, beautybush	,	
Chemical Contro Reference u	)] Ise only. NOT a labe	el substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
	· · · · · · · · · · · · · · · · · · ·		correct life stage of the target pest.	woru	Interval (REI)^
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	sional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
horticultural oil	Damoil			С	4 hours
insecticidal soap	Des-X Insecticid	lal Soap Concen	trate	W	12 hours
-	M-Pede	-	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrin	n Scimitar GC		BEE CAUTION	С	24 hours
pyrethrin	Pyrenone			С	12 hours
*thiamethoxam	Meridian 0.33G		BEE CAUTION	С	12 hours

**Signal words: C=Caution; W = Warning; DP = Danger Poison** Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

	on Name	to treat.	TUL			ientific Name		
Host Plants: Comm elm	on maine					mus		
					011	nu g		
Pest Survey Info								
<u>Pest Stage</u>	<u>From</u>	<u>To</u>	<u>Plant</u>		<u>'t</u>	<u>Plant Damage</u>		y Method
adult, nymph	Jun 01	Aug 01	folia	ge		distortion	visua	l inspection
Control: Stage(s) and Timing								
Stage(s)	Ideal Con	trol Dat	Degre	e Da	iys	Treat HOST PLANT when the follow	ving	
nymph, adult	Jul 10 -	Jul 20	710	-	1500	plants bloom: Abelia, golden rain tree, sourwood	1	
nymph, adult	Jul 20 -	Jul 31	1500	-	1673	plants bloom: butterfly bush, Clethra alnifolia, fa spirea	alse	
<b>Biological Contr</b> Orius sp. (predator)	<u>·ol</u>					<u><b>Comments</b></u> Available commercially; occurs naturally		
Hippodamia converg	gens (lady b	eetle - pre	dator)			Available commercially; occurs naturally		
Diaeretiella rapae (	wasp, aphid	parasite)				occurs naturally		
Deraeocoris nebulos	sus (mirid b	ug - preda	tor)			occurs naturally		
Chrysoperla sp. (gre	en lacewing	g - predate	or)			Available commercially; occurs naturally		
Aphidoletes aphidimyza (midge, aphid predator)					Available commercially; occurs naturally			
Aphidius matricariae (wasp, aphid parasite)					Available commercially; occurs naturally			
Chemical Contr Reference		IOT a labe	l substi	tute.		<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
	-				r the co	orrect life stage of the target pest.	word	Interval (REI)^
*abamectin	Mauget	t Abacide	2			BEE CAUTION	W	
acephate	-	te 97 WD				BEE CAUTION	С	24 hours
I	Lepitec		-			BEE CAUTION	C	24 hours
	-	e T,T & O	WSP			BEE CAUTION	С	24 hours
acetamiprid	TriStar					BEE CAUTION	С	12 hours
azadirachtin	Aza-Di	rect					С	4 hours
	AzaGua	ard					С	4 hours
*bifenthrin	Onyx P	ro				BEE CAUTION	W	12 hours
	Talstar	P Profess	ional			BEE CAUTION	С	12 hours
carbaryl	Carbary	yl 4L				BEE CAUTION	С	12 hours
	Sevin S	SL				BEE CAUTION	С	12 hours
chlorantraniliprole	Acelep	ryn						4 hours
*chlorpyrifos	Chlorp	yrifos 4E .	AG			Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft G	GC G				BEE CAUTION	С	12 hours
*clothianidin	Arena 5	50 WDG					С	12 hours
*deltamethrin	Suspen	d SC				BEE CAUTION	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name

Arborist

#### **ELM LEAF APHID\*\***

Tinocallis ulmifolii

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> at life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours
pyrethrin	Endeavor Pyrenone		C C	12 hours 12 hours

\*restricted use pesticide

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\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Comm	on Name		Sc	ientific Name		
elm			Ul	mus		
zelkova	a, Japanese		Ze	lkova serrata		
Pest Survey Info	ormation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>		<u>Plant Damage</u>	<u>Surve</u>	y Method
adult	May 15 Sep 30	foliage		defoliation	visua	l inspection
larva	Jun 01 Aug 01	foliage		defoliation	visua	l inspection
Control: Stage(s	) and Timing					
Stage(s)	Ideal Control Dat	Degree Day	<b>ys</b>	Treat HOST PLANT when the follow	ving	
adult	May 20 - May 31	from -	363	plants bloom: ruby horsechestnut, Laburnum alp black locust, ninebark	inum,	
adult, egg	Jun 01 - Jun 10		-	plants bloom: Kousa dogwood, cranberry bush, beautybush		
egg, larva	Jun 10 - Jun 20		-	plants bloom: mountain laurel, mock-orange, Jap tree lilac, Washington hawthorn	oanese	
larva	Jun 20 - Jun 30	to -	912	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus		
<b>Chemical Control</b>	ol			Comments	Signal	Agricultural Restricted Entry
	use only. NOT a labe	el substitute.		<u>comments</u>	Word	Interval (REI)^
Select the a	ppropriate insecticide	e/miticide for	the c	orrect life stage of the target pest.		Interval (KEI)"
*abamectin	Mauget Abacide	2		BEE CAUTION	W	
acephate	Acephate 97 WI	)G		BEE CAUTION	С	24 hours
	Lepitect			BEE CAUTION	С	24 hours
	Orthene T,T & C	) WSP		BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profess	sional		BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG		Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G			BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G				С	12 hours
*deltamethrin	Suspend SC			BEE CAUTION	С	
*dinotefuran	Safari 20 SG			BEE CAUTION	С	12 hours
horticultural oil	Damoil				С	4 hours
*imidacloprid	Mallet 75 WSP			BEE CAUTION	С	12 hours
*	Merit 75WSP			BEE CAUTION	С	12 hours
	Xytect 2F			BEE CAUTION	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

#### **ELM LEAF BEETLE\*\***

Pyrrhalta luteola Page 222 (Johnson & Lyon) Page 23 (Adams & Packauskas)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> It life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
phosmet	Imidan 70W	BEE CAUTION	W	24 hours
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

#### £ ...1

Par	t of plant to treat:	FOLIAG	E			
Host Plants: Comm	on Name			ientific Name		
elm			Uli	mus		
Pest Survey Info	rmation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>		<u>Plant Damage</u>	Surve	y Method
adult (sawfly)	May 01 Jun 01	foliage			visua cards	l inspection, sticky
larva	Jun 01 Jun 15	foliage		discoloration (mining)	visua	l inspection
<b>Control:</b> Stage(s	<u>) and Timing</u>					
Stage(s)	Ideal Control Dat	Degree Day	'S	Treat HOST PLANT when the follow	ving	
adult	May 10 - May 20	from -	263	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ing	
adult	May 20 - May 31		-	plants bloom: ruby horsechestnut, Laburnum alp black locust, ninebark	oinum,	
adult, larva	Jun 01 - Jun 10	to -	530	plants bloom: Kousa dogwood, cranberry bush, beautybush		
Chemical Contro Reference L	<mark>).</mark> Ise only. NOT a lab	el substitute.		<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
Select the a	ppropriate insecticid	e/miticide for	the c	orrect life stage of the target pest.		Interval (REI) <sup>^</sup>
*abamectin	Mauget Abacide	2		BEE CAUTION	W	
acephate	Acephate 97 WI	DG		BEE CAUTION	С	24 hours
	Lepitect			BEE CAUTION	С	24 hours
	Orthene T,T & O	O WSP		BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profess	sional		BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G				С	12 hours
*diflubenzuron	Dimilin 25W			Effective against immatures. Bee caution.	С	12 hours
*dinotefuran	Safari 20 SG			BEE CAUTION	С	12 hours
*emamectin benzoat	e Tree-age			BEE CAUTION	W	
*imidacloprid	Mallet 75 WSP			BEE CAUTION	С	12 hours
	Merit 75WSP			BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS			BEE CAUTION	С	
*lambda-cyhalothrii	n Scimitar GC			BEE CAUTION	С	24 hours
*permethrin	Astro			BEE CAUTION	С	12 hours

spinosad \*thiamethoxam Perm-UP 3.2EC

Meridian 0.33G

Conserve SC

\*restricted use pesticide

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

BEE CAUTION

BEE CAUTION

Most effective against young larvae.

\*\*ESA approved common name 119

12 hours

12 hours

4 hours

С

С

С

Fiorinia externa Page 104 (Johnson & Lyon) Page 44 (Adams & Packauskas)

#### **DORMANT SEASON**

Annual cover sprays are suggested.

### Frequency with which pest occurs: ANNUAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name			cientific Name		
fir		Α	bies		
hemlo	ck	$T_{*}$	suga		
spruce		P	icea		
Pest Survey Inf	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
egg	Mar 01 Apr 15	foliage		visua	l inspection
Control: Stage(	<u>s) and Timing</u>				
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the follo	owing	
adult	Mar 01 - Apr 10	0 - 41	None Offered		
Chemical Contr	<u>·ol</u>		<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference	use only. NOT a labe	el substitute.		<u>Word</u>	Interval (REI)^
Select the	appropriate insecticid	e/miticide for the o	correct life stage of the target pest.		
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-I	Fine SprayOil		С	4 hours

#### Additional information on biology and control

This hard scale is often seen in conjunction with the circular hemlock scale. Elongate hemlock scale normally has only one generation per year in New England, but can have two in the Mid-Atlantic region. Fertile females and eggs overwinter. Crawlers are present throughout the spring and summer due to overlapping life stages. Crawlers settle under the thin waxy cuticle of young needles and begin to develop, females through three stages, males five. The males ultimately emerge as tiny 2-winged insects that may be mistaken for wasp parasitoids as they move around mature brown female scales. The white waxy male cover may sometimes be mistaken for hemlock woolly adelgid activity.

### ELONGATE HEMLOCK SCALE\*\*

### **GROWING SEASON**

#### Annual cover sprays are suggested.

Frequency with which pest occurs: ANNUAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
fir	Abies
hemlock	Tsuga
spruce	Picea

#### **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
adult	May 01	Sep 30	foliage	discoloration, needle drop	visual inspection
nymph (crawler)	May 15	Jun 30	foliage	discoloration, needle drop	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
crawler	May 20 - May 31	from - 360	plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
crawler, nymph	Jun 01 - Jun 10		plants bloom: Kousa dogwood, cranberry bush, beautybush
crawler, nymph	Jun 10 - Jun 20	to - 700	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn
crawler	Jun 20 - Jun 30	700 - 970	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus

#### **Biological Control**

Aspidiotiphagus citrinus Lindorus lophanthae (lady beetle - scale predator) Chilocorus stigma (lady beetle - predator)

\*restricted use pesticide

#### **Chemical Control**

### occurs naturally

**Comments** 

Available commercially

<u>Comments</u> naturally occurring

#### Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.

LepitectEffective against immatures. Bee caution.C24 hoursOrthene T,T & O WSPBEE CAUTIONC24 hoursacetamipridTriStar 8.5 SLBEE CAUTIONC12 hours*bifenthrinOnyx ProEffective against immatures. Bee caution.W12 hoursbuprofezinTalus 70DFOnly effective against immatures.W12 hourscarbarylCarbaryl 4LEffective against immatures. Bee caution.C12 hours*deltamethrinSuspend SCBEE CAUTIONC12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hoursflonicamidAriaLi andC12 hours	acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
acetamipridTriStar 8.5 SLBEE CAUTIONC12 hours*bifenthrinOnyx ProEffective against immatures. Bee caution.W12 hoursbuprofezinTalus 70DFOnly effective against immatures. Bee caution.W12 hourscarbarylCarbaryl 4LEffective against immatures. Bee caution.C12 hourssevin SLBEE CAUTIONC12 hours*deltamethrinSuspend SCEffective against immatures. Bee caution.C12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hours		Lepitect		С	24 hours
accumptionFindure 0.5 SEFindure 0.5 SEFindure 0.5 SEFindure 0.5 SE*bifenthrinOnyx ProEffective against immatures. Bee caution.W12 hoursbuprofezinTalus 70DFOnly effective against immatures.W12 hourscarbarylCarbaryl 4LEffective against immatures. Bee caution.C12 hoursSevin SLBEE CAUTIONC12 hours*deltamethrinSuspend SCEffective against immatures. Bee caution.C12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hours		Orthene T,T & O WSP	BEE CAUTION	С	24 hours
buprofezinTalus 70DFOnly effective against immatures.W12 hourscarbarylCarbaryl 4LEffective against immatures. Bee caution.C12 hoursSevin SLBEE CAUTIONC12 hours*deltamethrinSuspend SCEffective against immatures. Bee caution.C12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hours	acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
carbarylCarbaryl 4LEffective against immatures. Bee caution.C12 hoursSevin SLBEE CAUTIONC12 hours*deltamethrinSuspend SCEffective against immatures. Bee caution.C12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hours	*bifenthrin	Onyx Pro		W	12 hours
Carbon yrCarbon yrCarbon yrCarbon yrSevin SLSevin SLBEE CAUTIONC12 hours*deltamethrinSuspend SCEffective against immatures. Bee caution.C12 hours*dinotefuranSafari 20 SGBEE CAUTIONC12 hours	buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
*deltamethrinSuspend SCEffective against immatures. Bee caution.C*dinotefuranSafari 20 SGBEE CAUTIONC12 hours	carbaryl	Carbaryl 4L		С	12 hours
*dinotefuran Safari 20 SG BEE CAUTION C 12 hours		Sevin SL	BEE CAUTION	С	12 hours
	*deltamethrin	Suspend SC	00 0	С	
flonicamid Aria C 12 hours	*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
	flonicamid	Aria		С	12 hours
horticultural oil Damoil C 4 hours	horticultural oil	Damoil		С	4 hours
Sunspray Ultra-Fine SprayOilC4 hours		Sunspray Ultra-Fine SprayOil		С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*\*ESA approved common name

^for agricultural applications only.

Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

Word

### **ELONGATE HEMLOCK SCALE\*\***

Fiorinia externa Page 104 (Johnson & Lyon) Page 44 (Adams & Packauskas)

Chemical Control	e only. NOT a label substitute.	<u>Comments</u>	Signal Word	Agricultural Restricted Entry
Select the app	woru	Interval (REI)^		
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

С

^for agricultural applications only.

12 hours

#### **GROWING SEASON**

#### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: **RARE** 

### Part of plant to treat: TRUNK, STEM, FOLIAGE

Part of plant to treat: IRUNK, SIEM, FOLIAGE							
Host Plants: Common Name Scie		ientific Name					
ash		Fre	axinus				
Pest Survey Info	rmation:						
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	<u>Surve</u>	<u>y Method</u>		
adult (beetle)	May 30 Aug 30	) foliage	notched foliage	visua	l inspection		
larva in stems	Sep 01 May 3	0 stem, trunk	borer tunnels	visua	l inspection		
Control: Stage(s	) and Timing						
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the foll	owing			
adult (beetle)	Jun 01 - Jul 30	410 - 1660	Adults emerge when black locust begins bloom	ning.			
Biological ControlCommentsTetrastichus planipennisi (larval parasite)being researched and released under specific conditionsSpathius agrili (larval parasite)being researched and released under specific conditionsOobius agrili (egg parasite)being researched and released under specific conditions							
	ise only. NOT a lab		<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^		
			orrect life stage of the target pest.				
*bifenthrin	Talstar P Profess	sional	BEE CAUTION	С	12 hours		
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours		
*dinotefuran	Safari 20 SG		BEE CAUTION	С	12 hours		
*emamectin benzoat	e Tree-age		BEE CAUTION	W			
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours		

#### Additional information on biology and control

\*restricted use pesticide

Perm-UP 3.2EC

This beetle is small, approximately <sup>1</sup>/<sub>2</sub>" long, and a shiny metallic green when alive. Adults begin to emerge in late spring, around 450 degree days or when black locust begins to bloom. Exit holes are 1/16", distinctively flat on one side and D-shaped. Adults feed on ash foliage, creating notches in leaf margins. Tiny flat eggs are laid in the cracks of bark. Emerging larvae tunnel underneath the bark, feeding on conducting tissue disrupting sugar flow to the roots and water to the foliage. The larvae feed in the conducting tissue for their entire development, creating distinctive serpentine galleries. The larvae are white, flat, segmented, and wormlike, growing to about <sup>3</sup>/<sub>4</sub>-1" in length. Larvae overwinter, and then pupate in the early spring. Heavy woodpecker activity on a stressed ash tree may be an indicator of an infestation of EAB larvae. As of January 2019, EAB has been found in all Connecticut counties and 135 of our 169 towns. Dr. Claire Rutledge, CAES, is releasing biological control organisms to combat this insect. When deciding whether or not to treat, realize that ash in Connecticut may be infected with ash yellows disease and therefore not be a good candidate for insecticide applications. Refer to Dr. Rich Cowles' fact sheet "Guidelines for Preserving Trees in the Presence of the Emerald Ash Borer."

BEE CAUTION

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*permethrin

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#### **EUONYMUS SCALE\*\***

Unaspis euonymi Page 388 (Johnson & Lyon) Page 44 (Adams & Packauskas)

### **DORMANT SEASON**

#### Annual cover sprays are suggested.

### Frequency with which pest occurs: ANNUAL

### Part of plant to treat: WHOLE PLANT

	e of plane to t		·			
Host Plants: Common Name Scientific Name						
Daphn	e		Da	aphne		
Euonyı	mus		Eι	lonymus		
honeys	suckle		La	nicera		
lilac			Sy	ringa		
privet			Li	gustrum		
1	mations		·	~		
Pest Survey Info						
Pest Stage	<u>From</u> <u>T</u> o	<u>o</u> <u>Plan</u>	<u>nt Part</u>	Plant Damage	Surve	y Method
adult	Mar 01 A	Apr 15 barl	k, foliage	decline	visua	l inspection
Control: Stage(s	s) and Timin	g				
Stage(s)	<b>Ideal Control</b>	Dat Degr	ee Days	Treat HOST PLANT when the fol	llowing	
adult	Mar 01 - Apr	r 10 0	- 41	None Offered		
<u>Chemical Contr</u>	<u>ol</u>			<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference use only. NOT a label substitute.				<u>Word</u>	• Interval (REI)^	
Select the a	appropriate inse	cticide/mitic	ide for the c	orrect life stage of the target pest.		inter val (KEI)
horticultural oil	Damoil				С	4 hours
	Sunspray U		0'1		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

#### Annual cover sprays are suggested.

#### Frequency with which pest occurs: ANNUAL

#### Part of plant to treat: WHOLE PLANT

Host Plants: Common Name	Scientific Name
Daphne	Daphne
Euonymus	Euonymus
honeysuckle	Lonicera
lilac	Syringa
privet	Ligustrum

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u> Plant Part</u>	Plant Damage	Survey Method
nymph (crawler)	Jun 01	Aug 01	bark, foliage	decline	visual inspection
adult	Aug 01	Sep 30	bark, foliage	decline	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
adult, egg	May 01 - May 10	70 - 120	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
egg, crawler	Jun 01 - Jun 15	533 - 820	plants bloom: Kousa dogwood, cranberry bush, beautybush
crawler	Jul 10 - Jul 20	1150 - 1388	plants bloom: Abelia, golden rain tree, sourwood

#### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator)

\*restricted use pesticide

#### **Comments**

Available commercially Available commercially; occurs naturally occurs naturally

^for agricultural applications only.

#### Agricultural Signal **Chemical Control Comments** Restricted Entry Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. BEE CAUTION С acephate Acephate 97 WDG 24 hours Effective against immatures. Bee С Lepitect 24 hours caution. BEE CAUTION С Orthene T,T & O WSP 24 hours BEE CAUTION acetamiprid TriStar 8.5 SL С 12 hours buprofezin Talus 70DF Only effective against immatures. W 12 hours С Effective against immatures. Bee carbaryl Carbaryl 4L 12 hours caution. BEE CAUTION С Sevin SL 12 hours Non-residential, BEE CAUTION \*chlorpyrifos Chlorpyrifos 4E AG W 24 hours Effective against immatures. Bee \*deltamethrin С Suspend SC caution. BEE CAUTION \*dinotefuran Safari 20 SG С 12 hours flonicamid С Aria 12 hours horticultural oil С Damoil 4 hours Sunspray Ultra-Fine SprayOil С 4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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\*\*ESA approved common name

### **EUONYMUS SCALE\*\***

Unaspis euonymi Page 388 (Johnson & Lyon) Page 44 (Adams & Packauskas)

Chemical Control	e only. NOT a label substitute.	<u>Comments</u>	Signal	Agricultural Restricted Entry
Select the app	<u>Word</u>	Interval (REI)^		
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

#### **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: STEM

elm Ulmus	
filbert or hazelnut Corylus	
maple Acer	
oak Quercus	
poplar or aspen Populus	
redbud Cercis canadensis	
Pest Survey Information:	
Pest StageFromToPlant PartPlant DamageSurvey Meth	hod
nymph Mar 01 Apr 15 twig bark dieback visual inspec	ction
Control: Stage(s) and Timing	
Stage(s)         Ideal Control Dat         Degree Days         Treat HOST PLANT when the following	
adultMar 01 - Apr 200-41None Offered	
<u>Chemical Control</u> <u>Reference use only</u> NOT a label substitute <u>NOT a label substitute</u> <u>NOT a label substitute</u> <u>NOT a label substitute</u>	icultural cted Entry val (REI)^
horticultural oil Damoil C 4 ho	ours
Sunspray Ultra-Fine SprayOil C 4 he	ours

\*restricted use pesticide

\*\*ESA approved common name

Parthenolecanium corni Page 98, 354, 364 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

#### Part of plant to treat: FOLIAGE

Scientific Name
Ulmus
Corylus
Acer
Quercus
Populus
Cercis canadensis
-

### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph (crawler)	Jul 01	Aug 01	twig bark, foliage	dieback	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
immature	May 01 - May 10	145 - 180	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
crawler	Jul 01 - Jul 10	from - 1266	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata
crawler	Jul 10 - Jul 20		plants bloom: Abelia, golden rain tree, sourwood
crawler	Jul 20 - Jul 31	to - 1645	plants bloom: butterfly bush, Clethra alnifolia, false spirea

#### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator)

\*restricted use pesticide

#### **Comments**

Available commercially Available commercially; occurs naturally Available commercially; occurs naturally occurs naturally

^for agricultural applications only.

	Se only. NOT a label substitute.	<u>Comments</u> rect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name

### **EUROPEAN FRUIT LECANIUM\*\***

Parthenolecanium corni Page 98, 354, 364 (Johnson & Lyon)

Chemical Control		<u>Comments</u>	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute. propriate insecticide/miticide for the corre	ct life stage of the target pest.	<u>Word</u>	Interval (REI)^
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

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\*\*ESA approved common name

Neodiprion sertifer Page 16, 18 (Johnson & Lyon)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Commo	on Name		ientific Name		
pine		Pir	านร		
Pest Survey Info	rmation:				
Pest Stage	From To	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
larva	Apr 15 May 15	foliage	defoliation	visua	l inspection
<b><u>Control: Stage(s)</u></b>	and Timing				
	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the foll	owing	
larva	Apr 20 - Apr 30	from - 78		nkle,	
larva	May 01 - May 20		Norway maple Remainder of season between the beginning a phenology	ind end	
larva	May 20 - May 31	to - 420		alpinum,	
<b>Chemical Contro</b>	1		<u>Comments</u>	Signal	Agricultural Restricted Entry
	se only. NOT a labe			<u>Word</u>	Interval (REI)^
Select the ap	opropriate insecticide	e/miticide for the co	orrect life stage of the target pest.		
*abamectin	Mauget Abacide	2	BEE CAUTION	W	
acephate	Acephate 97 WD	G	BEE CAUTION	С	24 hours
	Lepitect		BEE CAUTION	С	24 hours
	Orthene T,T & O	WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Talstar P Profess	ional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*diflubenzuron	Dimilin 25W		Effective against immatures. Bee caution.	С	12 hours
*dinotefuran	Safari 20 SG		Effective against immatures. Bee caution.	С	12 hours
*emamectin benzoate	e Tree-age		BEE CAUTION	W	
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-F	ine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours
	Xytect 2F		BEE CAUTION	С	
indoxacarb	Provaunt		BEE CAUTION	С	
insecticidal soap	Des-X Insecticida	al SoapConcentra	te Only effective against immatures.	W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

### **EUROPEAN PINE SAWFLY\*\***

Neodiprion sertifer Page 16, 18 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the cor	<u>Comments</u> rect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

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\*\*ESA approved common name

Rhyacionia buoliana Page 48, 50 (Johnson & Lyon) Page 17 (Adams & Packauskas)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

Part of plant to treat: BUD

Host Plants: Common Name			Sc	ientific Name		
pine				nus		
Pest Survey Info	ormation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>		<u>Plant Damage</u>	Surve	y Method
adult	Apr 15 Jul 15	foliage			phero	omone traps
larva	Apr 20 May 0	l foliage		discoloration (mining)	visua	l inspection
Control: Stage(s) and Timing						
Stage(s)	<b>Ideal Control Dat</b>	Degree Day	<b>S</b>	Treat HOST PLANT when the follo	wing	
larva	Apr 20 - Apr 30	34 -	121	plant bloom: Pee Gee Hydrangea blooms turn p	ink	
adult?, larva	Jun 01 - Jun 10	437 -	563	plants bloom: Kousa dogwood, cranberry bush, beautybush		
adult?, larva	Jun 10 - Jun 20	563 -	737	plants bloom: mountain laurel, mock-orange, Ja tree lilac, Washington hawthorn	panese	
Chemical Contro Reference L	<mark>ol</mark> ise only. NOT a labe	el substitute.		<u>Comments</u>	Signal Word	Agricultural Restricted Entry
Select the a	ppropriate insecticid	e/miticide for	the c	orrect life stage of the target pest.		Interval (REI)^
*abamectin	Mauget Abacide	2		BEE CAUTION	W	
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG		Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G			BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC			BEE CAUTION	С	
*diflubenzuron	Dimilin 25W			Effective against immatures. Bee caution.	С	12 hours
*imidacloprid	Merit 75WSP			BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS			BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC			BEE CAUTION	С	24 hours
malathion	Malathion 5 EC			BEE CAUTION	W	12 hours
	Malathion 8 Flow	wable		BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name

\*restricted use pesticide

#### **DORMANT SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: STEM

Host Plants: Common Name				Scientific Name		
	almond, d	warf flow	vering		Prunus glandulosa	
	cherry, bla	ack			Prunus serotina	
	elm				Ulmus	
	mountain	ash, Euro	pean		Sorbus aucuparia	
Pest Surv	vey Inform	nation:				
Pest Stage		From	<u>To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	Survey Method
egg		Mar 01	Apr 15	foliage		visual inspection

visual inspection (magnification)

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the fol	llowing	
egg	Mar 01 - Apr 10	0 - 41	None Offered		
	e use only. NOT a lab		<u>Comments</u> correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-I	Fine Spray Oil		С	4 hours

\*restricted use pesticide

133

\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name		
almond, dwarf flowering	Prunus glandulosa		
cherry, black	Prunus serotina		
elm	Ulmus		
mountain ash, European	Sorbus aucuparia		
Pest Survey Information:			

Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
immature	May 01 Sep 3	0 foliage	discoloration (stippling)	visual inspection (magnification), plant tapping
adult	May 15 Sep 3	0 foliage	discoloration (stippling)	visual inspection (magnification), plant tapping

### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
immature, adult	May 10 - May 20	from	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
egg, immature	May 20 - May 31		plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
immature, adult	Jun 01 - Jun 10	to - 440	plants bloom: Kousa dogwood, cranberry bush, beautybush
immature, adult	Jun 10 - Jun 20	440 - 710	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn
immature, adult	Jun 20 - Jun 30	710 - 810	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus

#### **Biological Control**

<b>Biological Control</b>	<u>Comments</u>
Stethorus punctillum (lady beetle - predator)	Available commercially; occurs naturally
Phytoseiulus persimilis (predatory mite)	Available commercially; occurs naturally
Orius sp. (predator)	Available commercially; occurs naturally
Neoseiulus cucumeris (predatory mite)	Available commercially; occurs naturally

#### **Chemical Control**

Reference use only. NOT a label substitute.
Select the appropriate insecticide/miticide for the correct life stage of the target pest.

abamectin	Avid 0.15 EC		W	12 hours
bifenazate	Floramite SC	BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
etoxazole	Tetrasan 5 WDG		С	12 hours
fenazaquin	Magus	BEE CAUTION	W	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
fenpyroximate	Akari 5SC		W	12 hours
hexythiazox	Hexygon DF	most effective against immature stages	С	12 hours

**Comments** 

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

**Word** 

#### **EUROPEAN RED MITE\*\***

Panonychus ulmi Page 472, 474 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> of life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
spiromesifen	Forbid 4F	most effective against immature stages	С	

\*restricted use pesticide

135

\*\*ESA approved common name

#### FALL WEBWORM\*\*

Hyphantria cunea Page 160, 166 (Johnson & Lyon) Page 27 (Adams & Packauskas)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
almond, dwarf flowering	Prunus glandulosa
apple	Malus
birch	Betula
blackgum, tupelo	Nyssa sylvatica
elm	Ulmus
hickory	Carya
holly	llex
maple	Acer
oak	Quercus
Rhododendron	Rhododendron
viburnum	Viburnum
walnut	Juglans

#### **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
larva	May 15	Sep 30	foliage	defoliation, webbing	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
larva	Jun 15 - Jul 20	from - 1266	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
larva	Jul 20 - Aug 10		Remainder of season between the beginning and end phenology
larva	Aug 10 - Aug 20	to - 1917	plant fruit in color: Mountain ash, cranberry bush
larva	Aug 20 - Sep 30	1917 - 2850	rest of season

#### **Biological Control**

Podisus maculiventris (spined soldier bug - predator)

\*restricted use pesticide

**Comments** 

Available commercially; occurs naturally

^for agricultural applications only.

	Se only. NOT a label substitute.	<u>Comments</u> of life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
B. thuringiensis aizawai	XenTari	Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	Biobit HP	Most effective against young larvae.	С	4 hours
	DiPel DF	Most effective against young larvae.	С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

**\*\*ESA approved common name** 136

### FALL WEBWORM\*\*

Hyphantria cunea Page 160, 166 (Johnson & Lyon) Page 27 (Adams & Packauskas)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> It life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
indoxacarb	Provaunt	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

### Additional information on biology and control

\*restricted use pesticide

The first generation of this pest is usually missed because populations are small.

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\*\*ESA approved common name

Nuculaspis pseudomeyeri

### **DORMANT SEASON**

## $\label{eq:apply thorough treatment only when pest stage found.$

### Frequency with which pest occurs: UNCOMMON

## Part of plant to treat: FOLIAGE

Host Plants: Common Name			cientific Name			
arborvitae			Thuja			
cedar			edrus			
fal	secypress	Cl	hamaecyparis			
Jur	niper	Ju	niperus			
Pest Survey	Information:					
<u>Pest Stage</u> nymph	<u>From</u> <u>To</u> Mar 01 Apr 01	Plant Part foliage	Plant Damage discoloration, twig dieback		y Method l inspection	
	ge(s) and Timing					
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follo	wing		
nymph	Mar 15 - Apr 10	5 - 30	None Offered			
	nce use only. NOT a lab		<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^	
Select	ne appropriate insecticio	e/miticide for the d	correct life stage of the target pest.			
horticultural oil	Damoil		WARNING: use of oil on blue colored conifers will cause color to change.	С	4 hours	

### Additional information on biology and control

This scale is known in Japan, Korea, New York, Pennsylvania and Washington, DC. Not much has been published on its biology. Two generations are possible in Connecticut. Stimmel believes it overwinters as second instar nymphs. First generation crawlers occur in May. Second generation crawlers occur in late July - August. (Stimmel, J. Nuculaspis pseudomeyeri (Kuwana), a Scale Insect on Evergreen Conifers, Regulatory Horticulture, PA Dept. of Agriculture, Volume 28, 2002.)

\*restricted use pesticide

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: UNCOMMON

## Part of plant to treat: FOLIAGE

	Fait of plain i	o fieat.	rul	IAC	τĽ				
Host Plants: Co	Iost Plants: Common Name				Sc	Scientific Name			
arb	orvitae	rvitae				Thuja			
ced	lar	Cedrus				drus			
fals	secypress	Chamaecyparis							
Jun	iper				Ju	niperus			
Pest Survey I	nformation:								
Pest Stage	From	<u>To</u>	<u>Plan</u>	t Paı	<u>:t</u>	Plant Damage	Surve	y Method	
crawler	Apr 15	Jun 15	folia	ige		discoloration, twig dieback	visua	l inspection	
crawler	Jul 10	Aug 30	folia	ige		discoloration, twig dieback	visua	l inspection	
Control: Stag	ge(s) and Tin	ning							
Stage(s)	<b>Ideal Cont</b>	rol Dat	Degre	ee Da	ays	Treat HOST PLANT when the follo	owing		
crawler	Apr 15 -	May 30	44	-	380	plants bloom: ruby horsechestnut, Laburnum a black locust, ninebark	alpinum,		
crawler	Jul 15 -	Aug 30	1272	-	2358	plants bloom: butterfly bush, Clethra alnifolia spirea	, false		
<u>Chemical Co</u> Referer	<mark>ntrol</mark> nce use only. No	OT a labe	l subst	titute.		<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry	
Select t	he appropriate ii	nsecticide	/miticio	de fo	r the c	orrect life stage of the target pest.		Interval (REI)^	
acephate	Acephat	e 97 WD	G			BEE CAUTION	С	24 hours	
	Lepitect					Effective against immatures. Bee caution.	С	24 hours	
acetamiprid	TriStar	8.5 SL				BEE CAUTION	С	12 hours	

acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
flonicamid	Aria		С	12 hours
insecticidal soap	M-Pede	Only effective against immatures.	W	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours

### Additional information on biology and control

\*restricted use pesticide

See Dormant Season page for additional information on pest biology.

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\*\*ESA approved common name

### **FLETCHER SCALE\*\***

Parthenolecanium fletcheri Page 98, 364 (Johnson & Lyon) Page 46 (Adams & Packauskas)

## **DORMANT SEASON**

Annual cover sprays are suggested.

## Frequency with which pest occurs: ANNUAL

## Part of plant to treat: STEM, FOLIAGE

Host Plants: Common Name			Scientific Name		
arborvitae			Thuja		
baldcy	press	7	Taxodium distichum		
yew		7	Taxus		
Pest Survey Inf	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
nymph	Mar 01 Apr 15	bark	decline	visua	l inspection
Control: Stage(	s) and Timing				
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the follo	owing	
nymph	Mar 01 - Apr 10	0 - 4	1 None Offered		
	use only. NOT a labe		<u>Comments</u> e correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-H	Fine SprayOil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

### Annual cover sprays are suggested.

Frequency with which pest occurs: ANNUAL

### Part of plant to treat: **STEM, FOLIAGE**

Host Plants: Common Name	Scientific Name
arborvitae	Thuja
baldcypress	Taxodium distichum
yew	Taxus

### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
adult	May 01	Jun 15	bark	decline	visual inspection
nymph (crawler)	Jun 01	Sep 30	bark	decline	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph	May 01 - May 10	60 - 148	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
crawler	Jun 01 - Jul 20	450 - 1388	Remainder of season between the beginning and end phenology
nymph	Sep 01 - Sep 10	2515 - 2800	plant fruit in color: sweet autumn clematis, Polygonum aubertii

### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator)

\*restricted use pesticide

## <u>Comments</u>

**Comments** 

Available commercially Available commercially; occurs naturally Available commercially; occurs naturally occurs naturally

### **Chemical Control**

Reference use only. NOT a label substitute.	<u>Word</u>
Select the appropriate insecticide/miticide for the correct life stage of the target pest.	

acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

^for agricultural applications only.

Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

### **FLETCHER SCALE\*\***

Parthenolecanium fletcheri Page 98, 364 (Johnson & Lyon) Page 46 (Adams & Packauskas)

Chemical Control Reference us	e only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
	propriate insecticide/miticide for the correct	t life stage of the target pest.		Interval (REI)^
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE

Scientific Name
Nyssa sylvatica
Prunus serotina
Prunus
Ulmus
Crataegus
Acer
Quercus
Liquidambar
_

### **Pest Survey Information:**

I est Survey Into					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	<u>Surve</u>	y Method
larva	May 01 Jun 01	foliage	defoliation	visua	l inspection
Control: Stage(s	) and Timing				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follow	ving	
larva	May 10 - May 20	from - 192	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ing	
larva	May 20 - May 31	to - 400	plants bloom: ruby horsechestnut, Laburnum alt black locust, ninebark	vinum,	
Biological Contr Podisus maculiventr		g - predator)	<u>Comments</u> Available commercially; occurs naturally		
Chemical Contro	<mark>ol</mark> Jse only. NOT a labo		Comments	Signal	Agricultural Restricted Entry
			correct life stage of the target pest.	<u>Word</u>	Interval (REI)^
	Acephate 97 WI		BEE CAUTION	С	24 hours
acephate	1	0	BEE CAUTION	c c	24 hours
	Lepitect				
	Orthene T,T & O	) wsp	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
B. thuringiensis aizawai	XenTari		Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	Biobit HP		Most effective against young larvae.	С	4 hours
	DiPel DF		Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	sional	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

BEE CAUTION

BEE CAUTION

19-Mar-2019

carbaryl

chlorantraniliprole

Carbaryl 4L

Sevin SL

Acelepryn

\*restricted use pesticide

\*\*ESA approved common name 143

12 hours

12 hours

4 hours

С

С

### FOREST TENT CATERPILLAR\*\*

Malacosoma disstria Page 168, 170, 270, 500 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> at life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
indoxacarb	Provaunt	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Scientific Name	
Azalea	
Cornus	
Forsythia	
Hydrangea	
Viburnum	
Weigelia	
_	Azalea Cornus Forsythia Hydrangea Viburnum

### Pest Survey Information:

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph	May 01	Aug 01	foliage	discoloration, distortion	visual inspection
adult	Jun 01	Sep 30	foliage	discoloration, distortion	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph, adult	May 10 - May 20	230 - 310	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
nymph, adult	May 20 - Jun 10	310 - 560	Remainder of season between the beginning and end phenology
nymph, adult	Jun 10 - Jun 20	560 - 740	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn

#### Agricultural **Chemical Control** Signal **Comments Restricted Entry** Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. BEE CAUTION W \*abamectin Mauget Abacide 2 BEE CAUTION С acephate Lepitect 24 hours BEE CAUTION acetamiprid TriStar 8.5 SL С 12 hours azadirachtin Aza-Direct С 4 hours С AzaGuard 4 hours BEE CAUTION \*bifenthrin W Onyx Pro 12 hours BEE CAUTION Talstar P Professional С 12 hours BEE CAUTION Carbaryl 4L С 12 hours carbaryl BEE CAUTION С Sevin SL 12 hours Chlorpyrifos 4E AG \*chlorpyrifos Non-residential, BEE CAUTION W 24 hours BEE CAUTION \*clothianidin + Aloft GC G С 12 hours bifenthrin \*deltamethrin Suspend SC BEE CAUTION С С flonicamid Aria 12 hours horticultural oil Damoil С 4 hours Merit 75WSP BEE CAUTION С \*imidacloprid 12 hours BEE CAUTION lambda-cyhalothrin Demand CS С

Signal words: C=Caution; W = Warning; DP = Danger Poison

BEE CAUTION

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*lambda-cyhalothrin

Scimitar GC

\*restricted use pesticide

24 hours

С

### **FOURLINED PLANT BUG\*\***

Poecilocapsus lineatus Page 396 (Johnson & Lyon)

	<b>ol</b> use only. NOT a label substitute. appropriate insecticide/miticide for the co	<u>Comments</u> prrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

Host Plants: Common Name	Scientific Name	
bayberry	Myrica pensylvanica	
holly	Ilex	
mockorange, sweet	Philadelphus coronarius	
viburnum	Viburnum	
Chemical Control	Comments	Signal Agricultural

	ise only. NOT a label substitute.	Comments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
Select the a	ppropriate insecticide/miticide for the c	correct life stage of the target pest.		
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

147

\*\*ESA approved common name

### **FRUITTREE LEAFROLLER\*\***

Archips argyrospila Page 172, 202, 214, 218 (Johnson & Lyon)

### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: COMMON

## Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
Azalea	Azalea
burning bush, winged euonymus	Euonymus alatus
chokecherry	Prunus virginiana
crabapple	Malus
elm	Ulmus
Ginkgo	Ginkgo biloba
honeylocust	Gleditsia triacanthos
maple	Acer

### **Pest Survey Information:**

I est Survey III.	tormation.				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	<u>Surve</u>	y Method
larva	May 15 Jun 30	foliage	defoliation	visua	l inspection
Control: Stage	(s) and Timing				
Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the follo	wing	
larva	May 20 - May 31	from - 298	plants bloom: ruby horsechestnut, Laburnum al black locust, ninebark	pinum,	
larva	Jun 01 - Jun 10	to - 618	plants bloom: Kousa dogwood, cranberry bush, beautybush		
<b>Chemical Cont</b>			<u>Comments</u>	Signal	Agricultural Restricted Entry
	e use only. NOT a labe			<u>Word</u>	Interval (REI)^
Select the	e appropriate insecticide	e/miticide for the c	correct life stage of the target pest.		
acephate	Acephate 97 WD	G	BEE CAUTION	С	24 hours
	Orthene T,T & C	) WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
B. thuringiensis aizawai	XenTari		Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	Biobit HP		Most effective against young larvae.	С	4 hours
	DiPel DF		Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	ional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours

Sevin SL BEE CAUTION С Acelepryn 4 hours chlorantraniliprole Aloft GC G BEE CAUTION С \*clothianidin + bifenthrin BEE CAUTION \*deltamethrin Suspend SC С Dimilin 25W Effective against immatures. Bee С \*diflubenzuron caution.

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name

12 hours

12 hours

12 hours

## FRUITTREE LEAFROLLER\*\*

Archips argyrospila Page 172, 202, 214, 218 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

149

\*\*ESA approved common name

Longistigma caryae Page 310 (Johnson & Lyon)

### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: SMALL STEMS

Host Plants: Common Name	Scientific Name
beech	Fagus
birch	Betula
hickory	Carya
linden	Tilia
oak	Quercus
sycamore	Platanus occidentalis
willow	Salix

### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph	May 15	Sep 30	bark	decline	visual inspection
adult	Jun 01	Sep 30	bark	decline	visual inspection

## **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the following
nymph, adult	Jul 20 - Jul 31	1417 - 1673	plants bloom: butterfly bush, Clethra alnifolia, false spirea
nymph, adult	Aug 01 - Aug 20	1700 - 2173	Remainder of season between the beginning and end phenology
nymph, adult	Aug 20 - Aug 31	2173 - 2399	plant fruit in color: Viburnum dentatum

### **Biological Control**

Orius sp. (predator)	Available commercially; occurs naturally
Hippodamia convergens (lady beetle - predator)	Available commercially; occurs naturally
Deraeocoris nebulosus (mirid bug - predator)	occurs naturally
Chrysoperla sp. (green lacewing - predator)	Available commercially; occurs naturally
Aphidoletes aphidimyza (midge, aphid predator)	Available commercially; occurs naturally
Aphidius matricariae (wasp, aphid parasite)	Available commercially; occurs naturally

### **Chemical Control**

**Comments** Reference use only. NOT a label substitute.

**Comments** 

Select the appropriate insecticide/miticide for the correct life stage of the target pest.

*abamectin	Mauget Abacide 2	BEE CAUTION	W	
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name 150

Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

Word

### **GIANT BARK APHID\*\***

*Longistigma caryae* Page 310 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	C	12 hours
*clothianidin	Arena 50 WDG		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	Pyrenone		С	12 hours

\*restricted use pesticide

**\*\*ESA approved common name** 151

Asterolecanium variolosum Page 352 (Johnson & Lyon)

## **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

## Part of plant to treat: STEM, TRUNK

Host Plants: Comm	on Name	s tieut.		•1, 1		ientific Name		
oak						uercus		
Pest Survey Info	ormation:							
Pest Stage		То	Plant	t Par	·t	Plant Damage	Surve	y Method
nymph		Jul 15	bark		-	decline		l inspection
adult	Jul 15	Sep 30	bark			decline	visua	linspection
Control: Stage(s	and Timi	ing						
Stage(s)	Ideal Contro	ol Dat	Degre	e Da	iys	Treat HOST PLANT when the follow	wing	
nymph	Jun 01 - Ju	un 10	437	-	563	plants bloom: Kousa dogwood, cranberry bush, beautybush		
nymph	Jul 01 - Ju	ul 15	989	-	1306	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata		
adult	Jul 15 - S	Sep 30	1306	-	2862	rest of season		
Chemical Contr						<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NO					orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
						BEE CAUTION	C	241
acephate	Acephate	97 WD	G				C	24 hours
	Lepitect					Effective against immatures. Bee caution.	С	24 hours
	Orthene 7	T,T & O	WSP			BEE CAUTION	С	24 hours
buprofezin	Talus 70I	DF				Only effective against immatures.	W	12 hours
carbaryl	Carbaryl	4L				Effective against immatures. Bee caution.	С	12 hours
	Sevin SL					BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyr	ifos 4E /	AG			Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25	5 G					С	12 hours
*deltamethrin	Suspend	SC				Effective against immatures. Bee caution.	С	
horticultural oil	Damoil						С	4 hours
*imidacloprid	Mallet 75	5 WSP				BEE CAUTION	С	12 hours
insecticidal soap	Des-X In	secticida	al Soap	Con	centra	te	W	12 hours
	M-Pede					Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand	CS				Effective against immatures. Bee caution.	С	
*lambda-cyhalothrir	Scimitar	GC				Effective against immatures. Bee caution.	С	24 hours
malathion	Malathio	n 8 Flow	able			Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance	IGR				Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian	0.33G				BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

### **DELAYED DORMANT**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: STEM

Host Plants: Comm	non Name	Scien	tific Name				
oak	Quercus						
Pest Survey Inf	ormation:						
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method			
gall	Apr 01 Apr 20	twig, small branch	gall	visual inspection			
Control: Stage(s) and Timing							
Stage(s)	<b>Ideal Control Dat</b>	Degree Days T	reat HOST PLANT when the	nefollowing			
gall	Apr 01 - Apr 20		nts bloom: silver maple, Cornelian cl llow	herry, pussy			

### **Non Chemical Control**

Prune off and destroy the affected stems.

\*restricted use pesticide

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: TRUNK, STEM

-								
Host Plants: Common Name S				Sc	ientific Name			
oak				Qı	iercus			
Pest Survey I	nformation:							
Pest Stage	From	<u>To</u>	Plant Par	<u>·t</u>	<u>Plant Damage</u>	Survey Method		
gall	May 01	Jun 30	twig, sm	all bra	nch gall	visual inspection		
gall, adult	Jul 01	Jul 10	twig, sma foliage	all brai	nch, gall	visual inspection, sticky cards		
gall	Jul 10	Sep 30	twig, sm	all bra	nch gall	visual inspection		
Control: Stag	e(s) and Tin	ning						
Stage(s)	<b>Ideal Cont</b>	rol Dat	Degree Da	ays	Treat HOST PLANT when the follow	ving		
gall	Apr 20 -	Apr 30	96 -	137	plants bloom: boxelder, star magnolia, periwinkle Norway maple	2,		
gall	May 01 -	May 10	144 -	228	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry			
adult	May 10 -	Jul 10	228 -	1196	Remainder of season between the beginning and phenology	end		
adult	Jul 10 -	Jul 20	1196 -	1417	plants bloom: Abelia, golden rain tree, sourwood			

### Non Chemical Control

Prune off and destroy the affected stems.

<b>Chemical Control</b>		Comments	Signal	Agricultural Restricted Entry
Reference us	<u>Word</u>	Interval (REI)^		
Select the app				
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours

### Additional information on biology and control

\*restricted use pesticide

Biology of the gouty oak gall is similar to that of the horned oak gall. Adults females emerge from galls in May and June. Eggs are laid in the larger veins located on the undersides of leaves. Hatched larvae cause tiny oblong blister like galls to develop in these veins. These galls appear from late May through June. Mature males and females emerge from the leaf galls in early July. Mated females lay eggs in young oak twigs. The galls generally appear the following Spring. Two or more years are required for these twig galls to appear. This insect does not produce horns in its gall. (Johnson and Lyon, 1994)

**\*\*ESA approved common name** 

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## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: TRUNK, BRANCH

Host Plants: Common Name	Scientific Name
cherry, flowering	Prunus
cherry, purple leaf sand	Prunus cistena
dogwood	Cornus
oak	Quercus
plum	Prunus cerasifera
redbud	Cercis canadensis
snowbell	Styrax
sweetgum	Liquidambar

### **Pest Survey Information:**

Pest Stage hole, frass from larv	a May 01	<u>To</u> Jun 30	<u>Plant Pa</u> trunk, st		Plant Damage borer tunnels		<u>y Method</u> l inspection	
Control: Stage(s) and Timing								
Stage(s)         Ideal Control Dat         Degree Days         Treat HOST PLANT when the following								
adult (beetle)	Jun 01 -	Jul 15	400 -	1272	plants bloom: Kousa dogwood, cranberry bush, beautybush			
<u>Chemical Control</u> Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target points						Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^	
*bifenthrin carbaryl	Onyx P Carbary	ro	e/milicide i		BEE CAUTION BEE CAUTION	W C	12 hours 12 hours	

### Additional information on biology and control

\*restricted use pesticide

This 3mm long, chestnut colored beetle overwinters as an adult inside the galleries constructed the previous season. In spring, mated females exit the trees, fly to new hosts and excavate galleries deep into the heartwood of the trunks and larger branches. Her tunneling pushes out 'toothpicks' of compacted wood shavings and frass that can stick out an inch or more. These beetles actually feed on a fungus, also called ambrosia, which they carry with them on their bodies. The fungus can invade plant cells, causing a dark staining. It is not known if they are pathogenic to the plant. Once the fungus is growing in the galleries, females lay eggs. The creamy white, legless larvae feed on the fungus and remain in the gallery until they pupate. Emerged adult females will then mate with their brothers and begin another generation, flying to new trees the following spring.

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\*\*ESA approved common name

Pseudococcus maritimus Page 88 (Johnson & Lyon)

## **DORMANT SEASON**

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: TRUNK, STEM

Host Plants: Comm	non Name	S	Scientific Name		
Ginkg	0	(	Ginkgo biloba		
honeyl	locust	(	Gleditsia triacanthos		
pear		I	Pyrus calleryana		
Pest Survey Inf	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
nymph	Mar 01 May 01	bark	decline	visua	l inspection
<b>Control: Stage</b> (	<u>s) and Timing</u>				
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the follo	owing	
egg, crawler	Mar 01 - Apr 10	0 - 4	1 None Offered		
Chemical ControlCommentsSignalAgricultural Restricted EntryReference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.WordInterval (REI)					
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-F	Fine SprayOil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: TRUNK, STEM

Host Plants: Common Name	Scientific Name	
Ginkgo	Ginkgo biloba	
honeylocust	Gleditsia triacanthos	
pear	Pyrus calleryana	
Pest Survey Information:		

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
nymph	Jul 01	Sep 30	bark	decline	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Da	t Degree Days	Treat HOST PLANT when the following
immature, adult	May 01 - May 10	) 144 - 228	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
immature, adult	Jul 01 - Jul 10	989 - 1196	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata
immature, adult	Jul 10 - Jul 20	1196 - 1417	plants bloom: Abelia, golden rain tree, sourwood

#### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator)

**Comments** 

Available commercially

Available commercially; occurs naturally

Available commercially; occurs naturally

enrysoperia sp. (gree	in account predator)	•		
Chemical Contro		<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference u	se only. NOT a label substitute.		<u>Word</u>	Interval (REI)^
Select the a	ppropriate insecticide/miticide for the co	rrect life stage of the target pest.		
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
	Arena 50 WDG		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
fenpyroximate	Akari 5SC	Supression	W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name 157

^for agricultural applications only.

\*restricted use pesticide

### **GRAPE MEALYBUG\*\***

Pseudococcus maritimus Page 88 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> et life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

158

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

## Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
hemlock	Tsuga

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the following
larva	Jun 10 - Jun 20	563 - 737	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn
larva	Jun 20 - Aug 20	737 - 2173	Remainder of season between the beginning and end phenology
larva	Aug 20 - Aug 31	2173 - 2399	plant fruit in color: Viburnum dentatum

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	Comments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
abamectin	Avid 0.15 EC		W	12 hours
acephate	Acephate 97 WDG	BEE CAUTION	C	24 hours
I	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
*imidacloprid	Merit 75WSP	BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

Myzus persicae Page 300 (Johnson & Lyon)

### **DORMANT SEASON**

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

### Part of plant to treat: TRUNK, STEM

Host Plants: Co	mmon Name	Sc	ientific Name		
apricot			Prunus armeniaca		
ch	erry, flowering	Pr	unus		
pe	ach	Pr	unus persica		
plu	Im	Pr	runus cerasifera		
Pest Survey	Information:				
Pest Stage egg	<u>From</u> <u>To</u> Mar 01 Apr 15	<u>Plant Part</u> bark	<u>Plant Damage</u>	<u>Survey M</u> visual ins	
Control: Sta	ge(s) and Timing				<b>F</b> • • • •
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the fo	llowing	
egg	Mar 01 - Apr 10	0 - 41	None Offered		
	nce use only. NOT a labe		<u>Comments</u> orrect life stage of the target pest.	Signal Res	Agricultural stricted Entry terval (REI)^
horticultural oil	Damoil			<b>C</b> 4	4 hours
	Sunspray Ultra-F	Fine Spray Oil		<b>C</b> 4	4 hours

### Additional information on biology and control

\*restricted use pesticide

The green peach aphid has a complicated life cycle. It overwinters as a glossy, black egg on the bark of peach, cherry, apricot and plum. Eggs hatch about the time of peach bloom and develop to adults in as few as five days. After three or four generations on fruit trees, winged adults develop and then disperse to other hosts including many vegetable crops. "In Pennsylvania this dispersion occurs in late June and July. Generations developing on vegetable crops will have both winged and wingless adults and reproduce asexually. In late August, winged forms will migrate back to fruit trees. Near the end of the growing season on fruit trees, sexual forms of the green peach aphid appear for the first time and mate. The female green peach aphid lays eggs on the bark of fruit trees. There may be 10 - 15 generations in a growing season. (Excerpted from "Green peach aphid on peppers", Penn State College of Agricultural Sciences, Cooperative Extension, Entomological Notes)

**\*\*ESA approved common name** 

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## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
cherry, black	Prunus serotina
cherry, flowering	Prunus
peach	Prunus persica
plum	Prunus cerasifera
Doct Survey Information	

#### **<u>Pest Survey Information:</u>**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
nymph	May 01	Sep 30	foliage, new shoots	decline	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Da	t Degree Days	Treat HOST PLANT when the following
nymph, adult	May 01 - May 10	144 - 228	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
nymph, adult	May 10 - Jun 10	228 - 563	Remainder of season between the beginning and end phenology
nymph, adult	Jun 10 - Jun 20	563 - 737	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn

### **Biological Control**

Orius sp. (predator)

Hippodamia convergens (lady beetle - predator) Diaeretiella rapae (wasp, aphid parasite) Deraeocoris nebulosus (mirid bug - predator) Chrysoperla sp. (green lacewing - predator) Aphidoletes aphidimyza (midge, aphid predator) Aphidius matricariae (wasp, aphid parasite)

\*restricted use pesticide

#### **Comments**

Available commercially; occurs naturally Available commercially; occurs naturally occurs naturally occurs naturally Available commercially; occurs naturally Available commercially; occurs naturally

^for agricultural applications only.

<u>r</u>	$(\cdots \cdots r, \cdots r, \cdots r)$			
Chemical Contro Reference L	<mark>o]</mark> ise only.  NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
Select the a	ppropriate insecticide/miticide for the c	orrect life stage of the target pest.		Interval (KEI)"
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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\*\*ESA approved common name

### **GREEN PEACH APHID (SPRING)\*\***

Myzus persicae Page 300 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*deltamethrin	Suspend SC	BEE CAUTION	С	
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	Pyrenone		С	12 hours

## Additional information on biology and control

See green peach aphid (dormant) for details.

\*restricted use pesticide

162

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

## Part of plant to treat: FOLIAGE

Host Plants: Comm	ion Name		Sc	ientific Name		
Clema			Cl	ematis		
walnut			Ju	glans		
Pest Survey Info	ormation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Pa</u>	<u>rt</u>	Plant Damage	Surve	y Method
adult	May 10 Sep 30	foliage,	new sh	oots distortion	visua	l inspection
Control: Stage(s	s) and Timing					
Stage(s)	Ideal Control Dat	Degree D	ays	Treat HOST PLANT when the follo	wing	
nymph, adult	Jun 10 - Jun 20	563 -	737		panese	
nymph, adult	Jun 20 - Aug 10	737 -	1933	tree lilac, Washington hawthorn Remainder of season between the beginning and phenology	l end	
nymph, adult	Aug 10 - Aug 20	1933 -	2173	1 00	sh	
Biological Cont Orius sp. (predator)				<u><b>Comments</b></u> Available commercially; occurs naturally		
Hippodamia conver	gens (lady beetle - pr	edator)		Available commercially; occurs naturally		
Diaeretiella rapae (	wasp, aphid parasite	)		occurs naturally		
Deraeocoris nebulo	sus (mirid bug - pred	ator)		occurs naturally		
Chrysoperla sp. (gre	een lacewing - preda	tor)		Available commercially; occurs naturally		
Aphidoletes aphidin	ıyza (midge, aphid pı	redator)		Available commercially; occurs naturally		
Aphidius matricaria	e (wasp, aphid paras	site)		Available commercially; occurs naturally		
<u>Chemical Control</u> Reference use only. NOT a label s		al substituta		<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entrv
	-			orrect life stage of the target pest.	woru	Interval (REI)^
*abamectin	Mauget Abacide			BEE CAUTION	W	
acephate	Acephate 97 WI			BEE CAUTION	C	24 hours
	Lepitect			BEE CAUTION	C	24 hours
	Orthene T,T & O	O WSP		BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL			BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profess	sional		BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn					4 hours
*chlorpyrifos	Chlorpyrifos 4E	AG		Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G			BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

### **GREEN PEACH APHID (SUMMER)\*\***

Myzus persicae Page 300 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours

## Additional information on biology and control

\*restricted use pesticide

In summer the green peach aphid is a pale green with red eyes. See green peach aphid (dormant) for additional details.

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

## Part of plant to treat: FOLIAGE

Host Plants: Com	non Name		S	cientific Name			
redbuc	d		C	Cercis canadensis			
rose o	f sharon		H	libiscus syriacus			
Pest Survey Inf	ormation:						
Pest Stage	From	<u>To</u>	<u> Plant Part</u>	Plant Damage	Survey Method		
nymph	May 01	Sep 30	foliage	decline	visual inspection		
adult	May 10	Sep 30	foliage		visual inspection, sticky cards		
Control: Stage(	s) and Tin	ning					
Stage(s)	<b>Ideal Cont</b>	rol Dat	<b>Degree Days</b>	Treat HOST PLANT when the	nefollowing		
immature, adult	May 10 -	Sep 20	228 - 2719	all season			
<b>Biological Cont</b>	rol			<u>Comments</u>			

Eretmocerus eremiscus (parasitic wasp)	Available commercially
Encarsia formosa (parasitic wasp)	Available commercially
Delphastus catalinae (lady beetle - predator)	Available commercially
Chrysoperla sp. (green lacewing - predator)	Available commercially; occurs naturally

	e only. NOT a label substitute. propriate insecticide/miticide for the corred	Comments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	C C	12 hours
azadirachtin	Aza-Direct		C C	4 hours
	AzaGuard		C	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	w	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G		С	12 hours
	Arena 50 WDG		С	12 hours
fenazaquin	Magus	BEE CAUTION	W	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
fenpyroximate	Akari 5SC	Supression	W	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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\*restricted use pesticide

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\*\*ESA approved common name

Arborist

### **GREENHOUSE WHITEFLY\*\***

*Trialeurodes vaporariorum* Page 320, 322 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> t life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
pyriproxyfen	Distance IGR		С	12 hours
spiromesifen	Forbid 4F	most effective against immature stages	С	
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE

	I all of plan	n to neat.	TULIA	IGE				
Host Plants: Common Name					Scientific Name			
box	xelder			Ac	er negundo			
ma	ple			Ac	er			
oal	κ.			$Q\iota$	iercus			
Pest Survey 1	Informatio	<u>n:</u>						
Pest Stage	From	<u>To</u>	<u>Plant P</u>	Part	Plant Damage	Survey Method		
larva	Jun 0	1 Aug 01	foliage	e	defoliation	visual inspection		
Control: Star	ge(s) and T	<u>iming</u>						
Stage(s)	Ideal Co	ntrol Dat	Degree	Days	Treat HOST PLANT when the	following		
larva	Jun 01	- Jun 10	from ·	- 533	plants bloom: Kousa dogwood, cranberry beautybush	<sup>7</sup> bush,		
larva	Jun 10	- Jul 20		• •	Remainder of season between the beginn phenology	ing and end		
larva	Jul 20	- Jul 31	to ·	- 1645	plants bloom: butterfly bush, Clethra alni spirea	folia, false		

#### **Biological Control**

Podisus maculiventris (spined soldier bug - predator)

\*restricted use pesticide

#### **Comments**

Available commercially; occurs naturally

Chemical Control		Comments	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute.		<u>Word</u>	Interval (REI)^
Select the ap	propriate insecticide/miticide for the corre	ect life stage of the target pest.		
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
B. thuringiensis aizawai	XenTari	Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	Biobit HP	Most effective against young larvae.	С	4 hours
	DiPel DF	Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	$\mathbf{W}$	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
indoxacarb	Provaunt	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*\*ESA approved common name 167

^for agricultural applications only.

### **GREENSTRIPED MAPLEWORM\*\***

Dryocampa rubicunda Page 156 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
beech	Fagus
blackgum, tupelo	Nyssa sylvatica
elm	Ulmus
fir	Abies
linden	Tilia
maple	Acer
oak	Quercus
pine	Pinus
spruce	Picea

### **Pest Survey Information:**

Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method		
larva	May 01 Jun 01	foliage	defoliation	visual inspection		
Control: Stage(s) and Timing						
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the fol	lowing		
larva	May 10 - May 20	from - 190	plants bloom: redbud, Sargent crabapple, flow almond, Tatarian honeysuckle	vering		
larva	May 20 - May 31	to - 400	plants bloom: ruby horsechestnut, Laburnum black locust, ninebark	alpinum,		
Biological Control Comments						

Available commercially; occurs naturally

^for agricultural applications only.

### **Biological Control**

Podisus maculiventris (spined soldier bug - predator)

### **Non Chemical Control**

Where feasible, destroy egg masses during the winter

\*restricted use pesticide

Band trees in early summer to trap migrating caterpillars

	<b>)]</b> ise only. NOT a label substitute. ppropriate insecticide/miticide for the co	<u>Comments</u> rrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Lepitect	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
B. thuringiensis aizawai	XenTari	Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	Biobit HP	Most effective against young larvae.	С	4 hours
	DiPel DF	Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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### **GYPSY MOTH\*\***

Lymantria dispar Page 138 (Johnson & Lyon) Page 27 (Adams & Packauskas)

	only. NOT a label substitute.	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
indoxacarb	Provaunt	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
phosmet	Imidan 70W	BEE CAUTION	W	24 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

170

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

## Part of plant to treat: FOLIAGE

Host Plants: Common Name		Sc	ientific Name		
hackberry		Ce	eltis occidentalis		
Pest Survey Inf	formation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	<u>Surve</u>	y Method
nymph	May 15 Sep 01	foliage	leaf distortion (gall)	visual inspection	
adult	Sep 01 Oct 31	foliage		visual inspection	
Control: Stage	(s) and Timing				
Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the follo	owing	
adult, egg	May 01 - May 10	from - 148	plants bloom: Japanese quince, saucer magnol bridalwreath, Japanese flowering cherry	ia,	
egg, nymph	May 10 - May 20		plants bloom: redbud, Sargent crabapple, flow almond, Tatarian honeysuckle	ering	
adult, egg	May 20 - May 31	to - 448	plants bloom: ruby horsechestnut, Laburnum a black locust, ninebark	alpinum,	
Chemical Cont			<u>Comments</u>	Signal	Agricultural Restricted Entry
	e use only. NOT a labe		orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
			BEE CAUTION	C	101
acetamiprid azadirachtin	TriStar 8.5 SL		BEE CAUTION	C	12 hours
azadirachtin	Aza-Direct AzaGuard			C	4 hours 4 hours
*1. ' C		· 1	BEE CAUTION	C	
*bifenthrin	Talstar P Profess	sional	BEE CAUTION BEE CAUTION	C	12 hours
carbaryl	Carbaryl 4L Sevin SL		BEE CAUTION BEE CAUTION	C	12 hours 12 hours
* -1-1::		10	Non-residential, BEE CAUTION	C	
*chlorpyrifos *clothianidin	Chlorpyrifos 4E Arena .25 G	AG	Non-residential, BEE CAUTION	W	24 hours 12 hours
			BEE CAUTION	C	
*dinotefuran	Safari 20 SG Akari 5SC		DEE CAUTION	C	12 hours
fenpyroximate				W	12 hours
horticultural oil	Damoil			C	4 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	C	12 hours
insecticidal soap		lal Soap Concentra	ate	W	12 hours
	M-Pede			W	12 hours
pyrethrin	Pyrenone			С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

Corythucha cydoniae Page 426 (Johnson & Lyon)

### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
Cotoneaster	Cotoneaster
firethorn	Pyracantha
hawthorn	Crataegus
quince, flowering	Chaenomeles
serviceberry, shadbush	Amelanchier

### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
nymph	May 10	Sep 15	foliage	discoloration (brownish spots)	visual inspection
adult	Jul 01	Sep 30	foliage	discoloration (brownish spots)	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph	May 10 - May 20	239 - 363	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
nymph, adult	Jul 10 - Jul 20	1196 - 1417	plants bloom: Abelia, golden rain tree, sourwood

	e only. NOT a label substitute. propriate insecticide/miticide for the co	Comments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin +	Aloft GC G	BEE CAUTION	С	12 hours
bifenthrin				
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name 172

Arborist

### HAWTHORN LACE BUG\*\*

Corythucha cydoniae Page 426 (Johnson & Lyon)

<u>Chemical Control</u> <u>Comments</u>				Agricultural Restricted Entry
	e only. NOT a label substitute. propriate insecticide/miticide for the correc	t life stage of the target pest	<u>Word</u>	Interval (REI)^
Select the app		t me stage of the target pest.		
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

### Additional information on biology and control

The hawthorn lace bug overwinters as an adult in protected areas near hosts. There is most likely one generation in New England. Five to seven weeks are required for an egg to develop into an adult.

\*restricted use pesticide

173

\*\*ESA approved common name

Nalepella tsugifoliae Page 122 (Johnson & Lyon)

### **DORMANT SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Common Name			Sc	eientific Name		
hemloo	ck		Ts	ruga		
Pest Survey Inf	ormation:					
Pest Stage	<b>From</b>	<u>To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	Surve	<u>y Method</u>
immature	Mar 01	Apr 15	foliage	discoloration		l inspection
immature, adult	Apr 15	May 31	foliage	discoloration	visua	nification) l inspection nification)
Control: Stage(	s) and Tin	ning				
Stage(s)	Ideal Cont	rol Dat	<b>Degree Days</b>	Treat HOST PLANT when the foll	owing	
immature, adult	Mar 01 -	Apr 10	0 - 41	None Offered		
Chemical Control       Comments         Reference use only. NOT a label substitute.       Select the appropriate insecticide/miticide for the correct life stage of the target pest.				Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^	
horticultural oil	Damoil				С	4 hours
	Sunspra	y Ultra-F	ine SprayOil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

Word

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
hemlock	Tsuga

### **Control:** Stage(s) and Timing

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
immature, adult	Apr 20 - Apr 30	from - 100	plants bloom: boxelder, star magnolia, periwinkle, Norway maple
immature, adult	May 01 - May 20		Remainder of season between the beginning and end phenology
immature, adult	May 20 - May 31	to - 400	plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark

**Comments** 

### **Chemical Control**

Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.

abamectin	Avid 0.15 EC		W	12 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
fenazaquin	Magus	BEE CAUTION	W	12 hours
fenpyroximate	Akari 5SC		W	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
spiromesifen	Forbid 4F	most effective against immature stages	С	

\*restricted use pesticide

\*\*ESA approved common name

Lambdina fiscellaria Page 24 (Johnson & Lyon)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

	i uni or pruni		1011			
Host Plants: Common Name Scientific Name						
fir				Α	bies	
he	mlock			Т	suga	
spi	ruce		Picea			
Pest Survey Information:						
Pest Stage	<b>From</b>	<u>To</u>	<u>Plant</u>	Part	Plant Damage	Survey Method
larva	Jun 01	Sep 01	foliag	ge	defoliation	visual inspection
Control: Sta	ge(s) and Ti	ming				
Stage(s)	Ideal Cor	ntrol Dat	Degre	e Days	Treat HOST PLANT when the	efollowing
larva	Jun 01	Jun 10	from	- 443	<ul> <li>plants bloom: Kousa dogwood, cranberr beautybush</li> </ul>	y bush,
larva	Jun 10	Jun 20	to	- 70′	7 plants bloom: mountain laurel, mock-ora tree lilac, Washington hawthorn	ange, Japanese
larva	Jun 20	Jun 30	707	- 96	7 plants bloom: Rhododendron maximum, bumalda, Philadelphus	, Spiraea

#### **Biological Control**

Podisus maculiventris (spined soldier bug - predator)

#### Available commercially; occurs naturally Agricultural Signal **Chemical Control Comments Restricted Entry** Reference use only. NOT a label substitute. **Word** Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. Lonitect BEE CAUTION C 24h

**Comments** 

acephate	Lepitect	BEE CAUTION	С	24 hours
-	•			
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
B. thuringiensis aizawai	XenTari	Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	Biobit HP	Most effective against young larvae.	С	4 hours
	DiPel DF	Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
indoxacarb	Provaunt	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name 176

^for agricultural applications only.

\*restricted use pesticide

#### **HEMLOCK LOOPER\*\***

Lambdina fiscellaria Page 24 (Johnson & Lyon)

	e use only. NOT a label substitute	<u>Comments</u> or the correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

### HEMLOCK WOOLLY ADELGID\*\*

Adelges tsugae Page 76, 78 (Johnson & Lyon) Page 36 (Adams & Packauskas)

#### Apply thorough treatment only when pest stage found. **DORMANT SEASON** Frequency with which pest occurs: ANNUAL Part of plant to treat: FOLIAGE-TWIGS Host Plants: Common Name **Scientific Name** hemlock Tsuga **Pest Survey Information:** Pest Stage **Plant Part Plant Damage Survey Method** From To decline egg, adult, some Mar 01 Apr 15 foliage, twig visual inspection (crawlers, nymphs) **Control: Stage(s) and Timing** Stage(s) **Ideal Control Dat Degree Days** Treat HOST PLANT when the following Mar 01 - Apr 01 0 41 None Offered egg, adult, some (crawlers, nymphs) Agricultural **Chemical Control** Signal **Comments Restricted Entry** Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. С horticultural oil Damoil 4 hours С Sunspray Ultra-Fine SprayOil 4 hours

\*restricted use pesticide

\*\*ESA approved common name

#### Apply thorough treatment only when pest stage found. **DELAYED DORMANT** Frequency with which pest occurs: ANNUAL Part of plant to treat: FOLIAGE-TWIGS Host Plants: Common Name **Scientific Name** hemlock Tsuga **Pest Survey Information:** Pest Stage **Plant Part Survey Method** From То **Plant Damage** egg, adult, some Apr 01 foliage, twig decline visual inspection Apr 30 (crawlers, nymphs) **Control: Stage(s) and Timing Ideal Control Dat** Stage(s) **Degree Days** Treat HOST PLANT when the following Apr 01 - Apr 20 28 96 plants bloom: silver maple, Cornelian cherry, pussy egg, adult, some (crawlers, nymphs) willow Agricultural **Chemical Control** Signal **Comments Restricted Entry** Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. horticultural oil С Damoil 4 hours Sunspray Ultra-Fine SprayOil С 4 hours

\*\*ESA approved common name

\*restricted use pesticide

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### **HEMLOCK WOOLLY ADELGID\*\***

Adelges tsugae Page 76, 78 (Johnson & Lyon) Page 36 (Adams & Packauskas)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: ANNUAL

### Part of plant to treat: FOLIAGE-TWIGS

Host Plants: Common Name S				cientific Name	
hemlock	Ĩ		7		
Pest Survey Information:					
Pest Stage	From	<u>To</u>	<u> Plant Part</u>	Plant Damage	Survey Method
nymph (crawler)	May 01	May 15	foliage, twig	decline	visual inspection
all stages	May 10	Aug 01	foliage, twig	decline	visual inspection
nymph (resting)	Jul 01	Oct 31	foliage, twig	decline	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Da	nt Degree Days	Treat HOST PLANT when the following
crawler, immature	May 01 - May 10	0 144 - 22	28 plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
all stages	May 10 - Jun 20	228 - 73	37 Remainder of season between the beginning and end phenology
all stages	Jun 20 - Jun 30	737 - 90	j7 plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
nymph (resting)	Jul 01 - Oct 15	989 - 290	59 rest of season

	e only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
	propriate insecticide/miticide for the correc			
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

cards

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE, STEMS

Host Plants: Cor	nmon Name		Scie	ntific Name	
hick	kory		Cary	va	
Pest Survey I	nformation:	I			
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
gall	Apr 15	Jun 01	foliage, stems	distortion	visual inspection
gall	Jun 01	Jul 01	foliage, stems		visual inspection, sticky

### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	Degre	e Days	s	Treat HOST PLANT when the follow	wing	
nymph	Apr 20 - Apr 30	from	-	50	plants bloom: boxelder, star magnolia, periwink Norway maple	le,	
nymph	May 01 - May 10	-	-	-	plants bloom: Japanese quince, saucer magnolia bridalwreath, Japanese flowering cherry	,	
nymph	May 10 - May 20	to	-	246	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ring	
<u>Chemical Control</u>			<u>Comments</u>	Signal	Agricultural Restricted Entry		
Referenc	e use only. NOT a labe	el substi	itute.			<u>Word</u>	Interval (REI) <sup>^</sup>
Select the	e appropriate insecticid	e/miticic	de for ti	he c	orrect life stage of the target pest.		Inter var (KEI)
horticultural oil	Damoil					С	4 hours
*imidacloprid	Xytect 2F				BEE CAUTION	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

Phytomyza ilicis Page 206 (Johnson & Lyon) Page 13 (Adams & Packauskas)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Part	of plant t	treat:	FOL	IAG.	E			
Host Plants: Commo	n Name				Sc	ientific Name		
holly					Ile	2.x		
Pest Survey Info	<u>rmation:</u>							
Pest Stage	<b>From</b>	<u>To</u>	Plan	t Part		<u>Plant Damage</u>	Surve	<u>y Method</u>
adult (fly)	May 01	Jun 01	folia	ıge		small leaf holes	visua cards	l inspection, sticky
larva	Jul 01	Oct 31	folia	ige		discoloration (mining)	visua	l inspection
<b>Control:</b> Stage(s)	and Tim	ning						
_	Ideal Cont		Degre	ee Day	ys	Treat HOST PLANT when the follo	owing	
adult	May 10 -	May 20	from	-	245	plants bloom: redbud, Sargent crabapple, flow almond, Tatarian honeysuckle	ering	
adult	May 20 -	May 30	to	-	448	plants bloom: ruby horsechestnut, Laburnum a black locust, ninebark	alpinum,	
Chemical Contro			d ou bot	ututo.		<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference us	-				the c	orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
*abamectin		Abacide			110 0	BEE CAUTION	W	
acephate	U	te 97 WD				BEE CAUTION	C VV	24 hours
acephate	Lepitect					BEE CAUTION	C C	24 hours 24 hours
acetamiprid	TriStar 8					BEE CAUTION	C C	12 hours
azadirachtin	Aza-Dir						C C	4 hours
	AzaGua						C	4 hours
*bifenthrin	Onyx Pr					BEE CAUTION	W	12 hours
	•	P Profess	ional			BEE CAUTION	С	12 hours
carbaryl	Carbary	14L				BEE CAUTION	С	12 hours
·	Sevin Sl					BEE CAUTION	С	12 hours
*dinotefuran	Safari 20	0 SG				BEE CAUTION	С	12 hours
*emamectin benzoate	e Tree-age	e				BEE CAUTION	W	
*imidacloprid	Mallet 7	5 WSP				BEE CAUTION	С	12 hours
	Merit 75	5WSP				BEE CAUTION	С	12 hours
	Xytect 2	2F				BEE CAUTION	С	
lambda-cyhalothrin	Demand	l CS				BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar	r GC				BEE CAUTION	С	24 hours
*permethrin	Astro					BEE CAUTION	С	12 hours
	Perm-U					BEE CAUTION	С	12 hours
pyrethrin	PyGanic					OMRI listed	С	12 hours
spinosad	Conserv					Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridia	n 0.33G				BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

Part of plant to treat: FOLIAGE

Host Plants: Common Name honeylocust				Scientific Name Gleditsia triacanthos		
Pest Survey Infe	ormation:					
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method	
nymph	Apr 15	May 31	foliage	distortion, discoloration	visual inspection (magnification), plant tapping	
adult	Jun 01	Jul 01	foliage, stems	distortion, discoloration	visual inspection (magnification), plant tapping	

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph, adult?	Apr 20 - Apr 30	from - 58	plants bloom: boxelder, star magnolia, periwinkle, Norway maple
nymph, adult?	May 01 - May 10	to - 246	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> at life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*emamectin benzoate	Tree-age	BEE CAUTION	W	
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

### HONEYLOCUST PLANT BUG\*\*

Diaphnocoris chlorionis Page 404 (Johnson & Lyon)

	se only. NOT a label substitute.	<u>Comments</u> e correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
pyrethrin	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: **NEW FOLIAR GROWTH**

Host Plants: <u>Comm</u>	on Name			Scientific Name		
honeylo	ocust			Gleditsia triacanthos		
Pest Survey Info	rmation:					
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	<u>y Method</u>
adult	May 01	Jun 30	foliage		visua cards	l inspection, sticky
larva	Jun 15	Jul 15	foliage	distortion (leaf cupping)	visua	l inspection
<b>Control: Stage</b> (s	) and Tin	ning				
Stage(s)	<b>Ideal Cont</b>	rol Dat	<b>Degree Days</b>	Treat HOST PLANT when the foll	owing	
adult, egg	May 20 -	May 31	192 - 2	29 plants bloom: ruby horsechestnut, Laburnum black locust, ninebark	alpinum,	
Chemical Contro				Comments	Signal	Agricultural Restricted Entry
Reference u	· · · · ·				<u>Word</u>	Interval (REI)^
Select the a	ppropriate il	nsecticide	e/miticide for the	e correct life stage of the target pest.		
carbaryl	Carbary	14L		BEE CAUTION	С	12 hours
	Sevin S	L		BEE CAUTION	С	12 hours
*deltamethrin	Suspend	l SC		BEE CAUTION	С	
*imidacloprid	Xytect 2	2F		BEE CAUTION	С	
lambda-cyhalothrin	Demand	l CS		BEE CAUTION	С	
*lambda-cyhalothrir	n Scimitar	r GC		BEE CAUTION	С	24 hours
spinosad	Conserv	ve SC		Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

*Eotetranychus multidigituli* Page 472, 474, 476 (Johnson & Lyon)

### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name			Scientific Name		
honeylocust			leditsia triacanthos		
Pest Survey Info	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method
all stages	Jun 01 Sep 3	0 foliage	discoloration (stippling)		l inspection nification), plant ng
Control: Stage(s	<u>s) and Timing</u>				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follow	wing	
immature, adult	Jul 01 - Jul 10	from - 912	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata		
immature, adult	Jul 10 - Jul 20		plants bloom: Abelia, golden rain tree, sourwood	d	
immature, adult	Jul 20 - Jul 31	to - 2800	plants bloom: butterfly bush, Clethra alnifolia, f spirea	alse	
<b><u>Biological Cont</u></b> Feltiella acarisuga (		predator)	<u>Comments</u> available commercially		
Stethorus punctillun	ı (lady beetle - pred	ator)	Available commercially; occurs naturally		
Phytoseiulus persim	ilis (predatory mite	)	Available commercially; occurs naturally		
Neoseiulus cucumer	is (predatory mite)		Available commercially; occurs naturally		
Chemical Contr	<b>ol</b> use only. NOT a la	hel substitute	Comments	Signal <u>Word</u>	Agricultural Restricted Entry
			correct life stage of the target pest.	woru	Interval (REI)^
abamectin	Avid 0.15 EC			W	12 hours
acephate	Lepitect		BEE CAUTION	С	24 hours
bifenazate	Floramite SC		BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
etoxazole	Tetrasan 5 WD	G		С	12 hours
fenazaquin	Magus		BEE CAUTION	W	12 hours
hexythiazox	Hexygon DF		most effective against immature stages	С	12 hours
horticultural oil	Damoil			С	4 hours
insecticidal soap	Des-X Insectic	idal Soap Concentr	ate	W	12 hours
	M-Pede			W	12 hours
malathion	Malathion 5 E	C	BEE CAUTION	W	12 hours
	Malathion 8 Fl	owable	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

most effective against immature stages

С

^for agricultural applications only.

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

spiromesifen

Forbid 4F

\*restricted use pesticide

\*\*ESA approved common name

### **DORMANT SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: STEM

Host Plants: Comm	non Name	Sc	ientific Name	
oak		Qı	iercus	
Pest Survey Inf	ormation:			
Pest Stage	<u>From</u> <u>To</u>	Plant Part	Plant Damage	Survey Method
gall	Jan 01 Apr 1	5 twig, small brai	nch gall	visual inspection
Control: Stage	s) and Timing			
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the	hefollowing
gall	Mar 01 - Apr 10	0 - 41	None Offered	

### **Non Chemical Control**

Prune off and destroy the affected stems.

\*restricted use pesticide

\*\*ESA approved common name

### **DELAYED DORMANT**

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: STEM

Host Plants: Com	non Name	Scie	ntific Name	
oak		Que	rcus	
oak, t	lack	Que	rcus velutina	
Pest Survey Int	<u>formation:</u>			
Pest Stage	<u>From</u> <u>To</u>	<u> Plant Part</u>	Plant Damage	Survey Method
gall	Apr 01 Apr 20	) twig, small branc	h gall	visual inspection
Control: Stage	s) and Timing			
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Freat HOST PLANT when	thefollowing
gall	Apr 01 - Apr 20		ants bloom: silver maple, Corneliar villow	i cherry, pussy

### **Non Chemical Control**

Prune off and destroy the affected stems.

\*restricted use pesticide

\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Co	mmon Name		Scientifi	c Name	
oak	, black		Quercus	velutina	
Pest Survey I	Information:				
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
gall	May 01	Jun 30	twig, small branch	gall	visual inspection
gall, adult	Jul 01	Jul 10	twig, small branch, foliage	gall	visual inspection, sticky cards
gall	Jul 10	Dec 31	twig, small branch	gall	visual inspection
Control: Stag	e(s) and Tin	ning			
Stage(s)	Ideal Cont	rol Dat	Degree Days Trea	t HOST PLANT when th	ne following

gall	Apr 20 - Apr 30	96 -	137 plants bloom: boxelder, star magnolia, periwinkle, Norway maple	
gall	May 01 - May 10	144 -	228 plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry	
adult	May 10 - Jul 10	228 -	1196 Remainder of season between the beginning and end phenology	
adult	Jul 10 - Jul 20	1196 -	1417 plants bloom: Abelia, golden rain tree, sourwood	

### Non Chemical Control

Prune off and destroy the affected stems.

<b>Chemical Con</b>	t <u>rol</u>	Comments	Signal	Agricultural Restricted Entry
Reference	Word	Interval (REI)^		
Select the	appropriate insecticide/miticide for the	e correct life stage of the target pest.		Inter var (REI)
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours

#### Additional information on biology and control

\*restricted use pesticide

Adults females emerge from galls in May and June. Eggs are laid in the larger veins located on the undersides of leaves. Hatched larvae cause tiny oblong blister like galls to develop in these veins. These galls appear from late May through June. Mature males and females emerge from the leaf galls in early July. Mated females lay eggs in young oak twigs. The galls generally appear the following Spring. Two or more years are required for these twig galls to appear. The horns of this gall develop the second or third year after the eggs are laid. (Johnson and Lyon, 1994)

**\*\*ESA approved common name** 

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Paranthrene simulans Page 254, 260 (Johnson & Lyon)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: **STEM, TRUNK**

Host Plants: Common Name			Sc	Scientific Name			
elm			Ul	mus			
oak			Qı	iercus			
Pest Survey Inf	ormation:						
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Pa</u>	<u>rt</u>	<u>Plant Damage</u>	Surve	<u>y Method</u>	
adult (clearwing mo	th) Apr 01 Aug	01 bark, fol	iage		visua	l inspection	
Control: Stage(s	s) and Timing						
Stage(s)	Ideal Control Da	at Degree D	ays	Treat HOST PLANT when the follo	wing		
larva, ?adult	Jul 01 - Jul 10	989 -	1196	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata			
larva, ?adult	Jul 10 - Jul 20	1196 -	1417	plants bloom: Abelia, golden rain tree, sourwoo	d		
larva, ?adult	Jul 20 - Jul 31	1417 -	1673	plants bloom: butterfly bush, Clethra alnifolia, i spirea	false		
<b>Biological Cont</b> Steinernema feltiae				Comments Available commercially			
Steinernema carpoc				Available commercially			
Heterorhabditis bac		ode)		Available commercially			
Chemical Contr	<u>·ol</u>			Comments	Signal	Agricultural Restricted Entry	
Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for				orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^	
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours	
	Talstar P Prof	essional		BEE CAUTION	С	12 hours	
*chlorpyrifos	Chlorpyrifos	4E AG		Non-residential, BEE CAUTION	W	24 hours	

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE JUST AFTER BUD BREAK

Host Plants: Con Hyd	<b>mmon Name</b> Irangea		<mark>cientific Name</mark> /ydrangea	
Pest Survey I	nformation:			
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
larva	Jun 01 Sep 3	0 foliage	distortion, discoloration	visual inspection
Control: Stag	e(s) and Timing			
Stage(s)	Stage(s) Ideal Control Dat		Treat HOST PLANT when the fol	llowing
larva	Apr 20 - Apr 30	96 - 137	7 plants bloom: boxelder, star magnolia, periw Norway maple	rinkle,
larva	May 01 - May 10	144 - 228	3 plants bloom: Japanese quince, saucer magne bridalwreath, Japanese flowering cherry	olia,

### **Non Chemical Control**

Remove and destroy infested plant parts.

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> t life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Lepitect	Effective against immatures. Bee caution.	С	24 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
B. thuringiensis kurstaki	DiPel DF	Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
horticultural oil	Damoil		С	4 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name 191

### **IMPORTED WILLOW LEAF BEETLE\*\***

Plagiodera versicolora Page 228 (Johnson & Lyon)

### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Comm	on Name		Sci	entific Name		
poplar or aspen			Po	pulus		
willow			Sal	ix		
Pest Survey Info	ormation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>		<u>Plant Damage</u>	Surve	<u>y Method</u>
adult	May 15 Aug 01	foliage		defoliation	visua	l inspection
larva	May 20 Aug 01	foliage		defoliation	visua	l inspection
Control: Stage(s	) and Timing					
Stage(s)	Ideal Control Dat	Degree Days	5	Treat HOST PLANT when the follo	wing	
adult	May 10 - May 20	from -	192	plants bloom: redbud, Sargent crabapple, flowe almond, Tatarian honeysuckle	ring	
adult	May 20 - Jun 10		-	Remainder of season between the beginning an phenology	d end	
adult	Jun 10 - Jun 20	to -	448	plants bloom: mountain laurel, mock-orange, Ja tree lilac, Washington hawthorn	apanese	
Chemical Contro				<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a labe			prrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
			10 00	BEE CAUTION	С	24 hours
acephate	Acephate 97 WD Orthene T,T & O			BEE CAUTION	C C	24 hours 24 hours
azadirachtin	Aza-Direct	w SP		BLE CAUTION	-	4 hours
azaunacinin					C C	4 hours
*1.:	AzaGuard Onyx Pro			BEE CAUTION	C W	4 hours 12 hours
*bifenthrin	•			BEE CAUTION		
a sub- sured	Talstar P Profess	Ional		BEE CAUTION	C	12 hours
carbaryl	Carbaryl 4L			BEE CAUTION	C	12 hours
* -1-1: 6	Sevin SL			Non-residential, BEE CAUTION	C	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG		Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G			BEE CAUTION	C	12 hours
*deltamethrin	Suspend SC				C	10.1
*dinotefuran	Safari 20 SG			BEE CAUTION	C	12 hours
*imidacloprid	Mallet 75 WSP			BEE CAUTION	C	12 hours
lambda-cyhalothrin	Demand CS			BEE CAUTION	C	10.1
pyrethrin	Pyrenone				С	12 hours
spinosad	Conserve SC			Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridian 0.33G			BEE CAUTION	С	12 hours

\*restricted use pesticide

Host Plants: Con	nmon Name	S	cientific Name			
barberry			Berberis			
Euo	nymus	E	Euonymus			
firethorn			yracantha			
hemlock			suga			
holly			Ilex			
Pest Survey In	nformation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method		
nymph	Mar 01 Apr	20 stem, branch	branch dieback	visual inspection		
Control: Stag	e(s) and Timing					
Stage(s)	Ideal Control Da	nt Degree Days	Treat HOST PLANT when th	efollowing		
nymph	Mar 15 - Apr 1	5 5 - 4	4 None Offered			

### **DORMANT SEASON** Apply thorough treatment only when pest stage found.

### Additional information on biology and control

The Indian wax scale overwinters as adult females that look like white dunce caps, on twigs. Reproduction occurs without males and eggs begin to hatch in late spring to early summer. Crawler sprays can be applied to stems in late June to July in Connecticut. This soft scale likely has only one generation in Connecticut. When the host is growing vigorously, the scales can excrete large amounts of honeydew.

\*restricted use pesticide

\*\*ESA approved common name

Ceroplastes ceriferus Page 356 (Johnson & Lyon)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Host Plants: Common Name	Scientific Name	
barberry	Berberis	
boxwood	Buxus spp.	
Euonymus	Euonymus	
firethorn	Pyracantha	
hemlock	Tsuga	
holly	Ilex	

### **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method			
crawler	Jun 01	Jul 01	stem, branch	branch dieback	visual inspection			
Control: Stage(s) and Timing								
Stage(s)	<b>Ideal Control Dat</b>		Degree Days	Treat HOST PLANT when the f	ollowing			
crawler	Jun 15 -	Jun 30	632 - 94	0 plants bloom: Rhododendron maximum, S	piraea			

crawler	Jun 15	- Jun 30	032	-	940	plants biobili. Knououenuron maximum, spiraea
						bumalda, Philadelphus
crawler	Jul 01	- Jul 10	960	-	1162	plants bloom: Ceanothus americanus, Clematis
						jackmanii, Tilia cordata
crawler	Jul 10	- Jul 20	1162	-	1393	plants bloom: Abelia, golden rain tree, sourwood

<u>Chemical Control</u> Reference use	only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
Select the app		Interval (REI)^		
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
*clothianidin	Arena 50 WDG	apply drench when soil is not frozen or waterlogged.	С	12 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
malathion	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
Azalea	Azalea
burning bush, winged euonymus	Euonymus alatus
butterfly bush	Buddleia
crabapple	Malus
dogwood	Cornus
elm	Ulmus
heather	Calluna
holly, American	Ilex opaca
horsechestnut	Aesculus hippocastanum
lilac	Syringa
linden	Tilia
maple	Acer
maple, Japanese	Acer palmatum
pussywillow	Salix discolor
rose	Rosa
sycamore	Platanus occidentalis
Wisteria	Wisteria

### **Pest Survey Information:**

Pest Stage	From	<u>To</u>	Plant Part	Plant Damage	Survey Method
adult	Jul 01	Sep 01	foliage	defoliation	visual inspection,
larva (grub)	Aug 01	Nov 01	turf roots	decline	pheromone traps visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Co	ntrol Dat	Degre	e Da	ays	Treat HOST PLANT when the following
adult	Jul 01	- Jul 10	from	-	1029	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata
adult	Jul 10	- Aug 10	-	-	-	Remainder of season between the beginning and end phenology
adult	Aug 10	- Aug 20	to	-	2154	plant fruit in color: Mountain ash, cranberry bush

Biological Control Steinernema feltiae (ner Steinernema carpocaps Heterorhabditis bacteri	natode) ae (nematode)	<u>Comments</u> Available commercially Available commercially Available commercially		
	only. NOT a label substitute. ropriate insecticide/miticide for the corre	Comments tect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG Orthene T,T & O WSP	BEE CAUTION BEE CAUTION	C C	24 hours 24 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

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\*\*ESA approved common name

### **JAPANESE BEETLE\*\***

Popillia japonica Page 236 (Johnson & Lyon) Page 23 (Adams & Packauskas)

Chemical Control       Comments         Reference use only. NOT a label substitute.       Comments			Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^		
Select the app	Select the appropriate insecticide/miticide for the correct life stage of the target pest.					
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours		
azadirachtin	Aza-Direct		С	4 hours		
	AzaGuard		С	4 hours		
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours		
	Talstar P Professional	BEE CAUTION	С	12 hours		
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours		
	Sevin SL	BEE CAUTION	С	12 hours		
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours		
*deltamethrin	Suspend SC	BEE CAUTION	С			
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours		
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours		
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours		
	Merit 75WSP	BEE CAUTION	С	12 hours		
	Xytect 2F	BEE CAUTION	С			
lambda-cyhalothrin	Demand CS	BEE CAUTION	С			
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours		
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours		
	Malathion 8 Flowable	BEE CAUTION	С	12 hours		
*permethrin	Astro	BEE CAUTION	С	12 hours		
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours		
pyrethrin	Pyrenone		С	12 hours		
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours		

\*restricted use pesticide

\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

			Scientific Name Corylus			
filbert or hazelnut mountain ash, European			ryus rbus aucuparia			
	-		50	rous uncupurtu		
Pest Survey Info		Dlant Day	4	Plant Damage	Current	w Mothod
Pest Stage	From <u>To</u> May 15 Aug 01	Plant Par	<u>t</u>	Plant Damage distortion, discoloration	_	y Method l inspection
nymph, adult		foliage		distortion, discoloration	visua	rinspection
Control: Stage(s						
Stage(s)	Ideal Control Dat	Degree Da	·	Treat HOST PLANT when the follow		
nymph, adult	May 20 - May 31	311 -	423	plants bloom: ruby horsechestnut, Laburnum alp black locust, ninebark	vinum,	
nymph, adult	Jun 01 - Jul 20	437 -	1417	Remainder of season between the beginning and phenology	end	
nymph, adult	Jul 20 - Jul 31	1417 -	1673	plants bloom: butterfly bush, Clethra alnifolia, fa	alse	
<b>Biological Contr</b>				<u>Comments</u>		
Chrysoperla sp. (gre	en lacewing - predat	or)		Available commercially; occurs naturally		
<b>Chemical Control</b>	<u>ol</u>			<u>Comments</u>	Signal	Agricultural Restricted Entry
	ise only. NOT a labe				<u>Word</u>	Interval (REI)^
Select the a	ppropriate insecticide	e/miticide foi	r the co	orrect life stage of the target pest.		
acephate	Acephate 97 WD	)G		BEE CAUTION	С	24 hours
	Orthene T,T & C	) WSP		BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL			BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profess	ional		BEE CAUTION	С	12 hours
buprofezin	Talus 70DF			Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG		Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G			BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G				С	12 hours
*deltamethrin	Suspend SC			BEE CAUTION	С	
*dinotefuran	Safari 20 SG			BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC			BEE CAUTION	W	24 hours
fenpyroximate	Akari 5SC				W	12 hours
flonicamid	Aria				С	12 hours
horticultural oil	Damoil				С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

### JAPANESE LEAFHOPPER

Orientus ishidae Page 416 (Johnson & Lyon)

Chemical Control	Signal	Agricultural Restricted Entry		
Select the app	<u>Word</u>	Interval (REI)^		
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
phosmet	Imidan 70W	BEE CAUTION	W	24 hours

\*restricted use pesticide

198

\*\*ESA approved common name

### **DORMANT SEASON**

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Common Name			Scientific Name			
arborvitae			Ъија			
ceda	r, incense	C	Calocedrus			
false	cypress	C	Chamaecyparis			
Junij	ber	$J_{i}$	uniperus			
Pest Survey In	formation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method	
adult, egg	Mar 01 Apr	15 foliage	decline	visua	l inspection	
Control: Stage	e(s) and Timing					
Stage(s)	Ideal Control D	at Degree Days	Treat HOST PLANT when the fe	ollowing		
adult, egg	Mar 01 - Apr 1	0 0 - 4	1 None Offered			
Chemical Con			Comments	Signal	Agricultural Restricted Entry	
	e use only. NOT a l			<u>Word</u>	Interval (REI)^	
Select the appropriate insecticide/miticide for the correct life stage of the target pest.						
horticultural oil	Damoil			С	4 hours	
	Sunspray Ultr	a-Fine Spray Oil		С	4 hours	

### Additional information on biology and control

WARNING: use of oil on blue colored conifers will cause color to change.

\*restricted use pesticide

\*\*ESA approved common name

### JUNIPER SCALE\*\*

Carulaspis juniperi Page 106 (Johnson & Lyon) Page 46 (Adams & Packauskas)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Comm	on Name	Sci	Scientific Name			
arborvitae			иja			
cedar, i	incense	Ca	locedrus			
falsecy	press	Ch	amaecyparis			
Juniper	[	Jui	niperus			
Pest Survey Info	ormation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	<u>Surve</u>	<u>y Method</u>	
nymph (crawler)	Jun 01 Jul 10	foliage	decline	visua	l inspection	
Control: Stage(s	and Timing					
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follow	ving		
crawler	Jun 01 - Jun 10	from - 707	plants bloom: Kousa dogwood, cranberry bush, beautybush			
crawler	Jun 10 - Jun 30		Remainder of season between the beginning and phenology	end		
crawler	Jul 01 - Jul 10	to - 1260	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata			
<b>Biological Contr</b> Lindorus lophanthae	<mark>rol</mark> e (lady beetle - scale <sub>l</sub>	predator)	Comments Available commercially			
Cryptolaemus montr	ouzieri (lady beetle p	oredator)	Available commercially; occurs naturally			
Chrysoperla sp. (gre	en lacewing - predat	or)	Available commercially; occurs naturally			
Chilocorus stigma (l	ady beetle - predator	·)	occurs naturally			
<b>Chemical Contr</b>	<u>ol</u>		<u>Comments</u>	Signal	Agricultural Restricted Entry	
	use only. NOT a labe		orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^	
acephate	Acephate 97 WI		BEE CAUTION	С	24 hours	
acephate	Lepitect		Effective against immatures. Bee	c c	24 hours 24 hours	
	Lepheet		caution.	C	24 110015	
	Orthene T,T & O	O WSP	BEE CAUTION	С	24 hours	
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours	
*bifenthrin	Onyx Pro		Effective against immatures. Bee caution.	W	12 hours	
buprofezin	Talus 70DF		Only effective against immatures.	W	12 hours	
carbaryl	Carbaryl 4L		Effective against immatures. Bee caution.	С	12 hours	
	Sevin SL		BEE CAUTION	С	12 hours	
*deltamethrin	Suspend SC		Effective against immatures. Bee caution.	С		
*dinotefuran	Safari 20 SG		BEE CAUTION	С	12 hours	
flonicamid	Aria			С	12 hours	
horticultural oil	Damoil			С	4 hours	
	Sunspray Ultra-I	Fine SprayOil	WARNING: use of oil on blue colored conifers will cause color to change.	С	4 hours	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name 200

^for agricultural applications only.

\*restricted use pesticide

### JUNIPER SCALE\*\*

Carulaspis juniperi Page 106 (Johnson & Lyon) Page 46 (Adams & Packauskas)

<u>Chemical Control</u> Reference use Select the app	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^		
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours

### Additional information on biology and control

WARNING: use of oil on blue colored conifers will cause color to change.

\*restricted use pesticide

201

\*\*ESA approved common name

Dichomeris marginella Page 30 (Johnson & Lyon)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

thod
ection
ection
ricultural ricted Entry
rval (REI)^
4 hours
4 hours
hours
hours
2 hours
2 hours
2 hours
2 hours
hours
4 hours
2 hours
4 hours
2 hours
2 hours
2 hours
hours

\*restricted use pesticide

\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Commor	n Name		Scie	ntific Name		
larch			Lari	ix		
Pest Survey Infor	mation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>		<u>Plant Damage</u>	Surve	y Method
larva	Apr 15 May 15	foliage		defoliation	visua	l inspection
larva	Aug 15 Sep 15	foliage		defoliation	visua	l inspection
<b>Control:</b> Stage(s)	and Timing					
Stage(s) I	deal Control Dat	Degree Day	ys ?	<b>Freat HOST PLANT when the follow</b>	wing	
larva A	Apr 20 - Apr 30	from -	- 1	plants bloom: boxelder, star magnolia, periwink Norway maple	le,	
larva M	May 01 - May 10	to -	363 1	plants bloom: Japanese quince, saucer magnolia pridalwreath, Japanese flowering cherry	,	
larva A	Aug 20 - Aug 31	from -	2375 1	plant fruit in color: Viburnum dentatum		
larva S	Sep 10 - Sep 20	to -	2805 1	plants bloom: Pee Gee Hydrangea, Sevin-son Fl	ower	
Chemical Control	e only. NOT a labe	l substituto		<u>Comments</u>	Signal	Agricultural Restricted Entry
	· · · · · · · · · · · · · · · · · · ·		the cor	rrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
acephate	Acephate 97 WD			BEE CAUTION	С	24 hours
acephace	Orthene T,T & O			BEE CAUTION	c c	24 hours
azadirachtin	Aza-Direct	, W.51			C C	4 hours
uzuunuentiin	AzaGuard				c c	4 hours
B. thuringiensis kurstaki	DiPel DF			Most effective against young larvae.	C	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profess	ional		BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn					4 hours
*deltamethrin	Suspend SC			BEE CAUTION	С	
lambda-cyhalothrin	Demand CS			BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC			BEE CAUTION	С	24 hours
*permethrin	Perm-UP 3.2EC			BEE CAUTION	С	12 hours
pyrethrin	Pyrenone				С	12 hours
spinosad	Conserve SC			Most effective against young larvae.	С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name 203

Page 16, 18 (Johnson & Lyon)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

	on Name Scientific Name			
Host Plants: Common Name     Scientific Name       larch     Larix				
Pest Survey Info		G		
Pest Stage	From         To         Plant Part         Plant Damage		<u>y Method</u>	
larva	May 10 May 31 foliage defoliation	visua	l inspection	
Control: Stage(s)	) and Timing			
Stage(s)	Ideal Control Dat Degree Days Treat HOST PLANT when the following the second se	owing		
larva	May 10 - May 20 from - 192 plants bloom: redbud, Sargent crabapple, flow almond, Tatarian honeysuckle	ering		
larva	May 20 - May 30 to - 299 plants bloom: ruby horsechestnut, Laburnum a black locust, ninebark	alpinum,		
<b>Chemical Contro</b>	Commente	Signal	Agricultural	
	se only. NOT a label substitute.	<u>Word</u>	Restricted Entry	
	opropriate insecticide/miticide for the correct life stage of the target pest.	word	Interval (REI)^	
acephate	Acephate 97 WDG BEE CAUTION	С	24 hours	
	Lepitect BEE CAUTION	C	24 hours	
	Orthene T,T & O WSP BEE CAUTION	C	24 hours	
azadirachtin	Aza-Direct	С	4 hours	
	AzaGuard	С	4 hours	
*bifenthrin	Onyx Pro BEE CAUTION	W	12 hours	
	Talstar P ProfessionalBEE CAUTION	С	12 hours	
carbaryl	Carbaryl 4L BEE CAUTION	С	12 hours	
·	Sevin SL BEE CAUTION	С	12 hours	
*chlorpyrifos	Chlorpyrifos 4E AG Non-residential, BEE CAUTION	W	24 hours	
*deltamethrin	Suspend SC BEE CAUTION	С		
*diflubenzuron	Dimilin 25W Effective against immatures. Bee caution.	С	12 hours	
*emamectin benzoate	e Tree-age BEE CAUTION	W		
horticultural oil	Damoil	С	4 hours	
*imidacloprid	Mallet 75 WSPBEE CAUTION	С	12 hours	
	Merit 75WSP BEE CAUTION	С	12 hours	
	Xytect 2FBEE CAUTION	С		
insecticidal soap	Des-X Insecticidal Soap Concentrate	W	12 hours	
	M-Pede Only effective against immatures.	W	12 hours	
lambda-cyhalothrin	Demand CS BEE CAUTION	С		
*lambda-cyhalothrin	Scimitar GC BEE CAUTION	С	24 hours	
*permethrin	Perm-UP 3.2EC BEE CAUTION	С	12 hours	
spinosad	Conserve SC <i>Most effective against young larvae.</i>	С	4 hours	
*thiamethoxam	Meridian 0.33G BEE CAUTION	С	12 hours	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

### **DORMANT SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: STEMS 4-12 MM

Host Plants: Co	mmon Name			Sc	ientific Name			
app	ole			Ma	alus			
bee	ech			Fa	gus			
bir	ch			Be	tula			
che	erry, black			Pr	unus serotina			
che	erry, flowering			Pr	unus			
hac	kberry			Ce	ltis occidentalis			
hic	kory			Ca	rya			
hoi	neylocust			Gl	editsia triacanthos			
mu	lberry			Ma	prus			
oal	2			Qı	nercus			
pea	ich			Pr	unus persica			
plu	m			Pr	unus cerasifera			
syc	amore			Platanus occidentalis				
wa	lnut			Juglans				
wil	low			Sa	Salix			
Pest Survey 1	Information:							
Pest Stage	From	<u>To</u>	<u> Plant Part</u>		<u>Plant Damage</u>	Surve	<u>y Method</u>	
nymph	Mar 01	Apr 15	bark		decline	visua	l inspection	
Control: Stag	ge(s) and Tin	ning						
Stage(s)	<b>Ideal Cont</b>	rol Dat	Degree Day	S	Treat HOST PLANT when the follo	wing		
nymph	Mar 01 -	Apr 10	0 -	41	None Offered			
<u>Chemical Control</u> Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the co				<u>Comments</u> orrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^		
horticultural oil	Damoil					С	4 hours	
		y Ultra-F	Fine SprayOil			C	4 hours	

\*restricted use pesticide

\*\*ESA approved common name

*Eulecanium caryae* Page 364 (Johnson & Lyon)

### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
apple	Malus
beech	Fagus
birch	Betula
cherry, black	Prunus serotina
cherry, flowering	Prunus
hackberry	Celtis occidentalis
hickory	Carya
honeylocust	Gleditsia triacanthos
mulberry	Morus
oak	Quercus
peach	Prunus persica
plum	Prunus cerasifera
sycamore	Platanus occidentalis
walnut	Juglans
willow	Salix

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph (crawler)	May 01	Jul 15	bark to foliage	decline	visual inspection, sticky
					tape
nymph	Aug 15	Oct31	foliage to bark	decline	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph, adult	Apr 20 - Apr 30	96 - 137	plants bloom: boxelder, star magnolia, periwinkle, Norway maple
nymph, adult	May 01 - May 10	144 - 228	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
crawler	Jun 20 - Jun 30	737 - 967	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
crawler	Jul 01 - Jul 10	989 - 1196	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata

**Comments** 

### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator)	Available commercially
Cryptolaemus montrouzieri (lady beetle predator)	Available commercially; occurs naturally
Chrysoperla sp. (green lacewing - predator)	Available commercially; occurs naturally
Chilocorus stigma (lady beetle - predator)	occurs naturally

# Chemical ControlCommentsSignalAgricultural<br/>Reference use only. NOT a label substitute.<br/>Select the appropriate insecticide/miticide for the correct life stage of the target pest.SignalAgricultural<br/>Restricted Entry<br/>UmdacephateAcephate 97 WDGBEE CAUTIONC24 hours

#### Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

**\*\*ESA approved common name** 206

### LARGE HICKORY LECANIUM

*Eulecanium caryae* Page 364 (Johnson & Lyon)

	e only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
Select the app	propriate insecticide/miticide for the correct Lepitect	Effective against immatures. Bee	С	24 hours
		caution. BEE CAUTION	C	241
	Orthene T,T & O WSP		C	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

207

\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Comm	1	Sc	ientific Name		
crabapple		M	alus		
rose Ro		osa			
Pest Survey Info	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u> Plant Part</u>	Plant Damage	Surve	y Method
nymph, adult	Jun 01 Sep 01	foliage	distortion, discoloration	visual inspection	
Control: Stage(s	and Timing				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follo	owing	
nymph, adult	Jun 10 - Jun 20	from - 618	plants bloom: mountain laurel, mock-orange, J tree lilac, Washington hawthorn	apanese	
nymph, adult	Jun 20 - Aug 10	to - 1544	<ul> <li>Remainder of season between the beginning and end</li> <li>phenology</li> </ul>		
nymph, adult	Aug 10 - Aug 20	to - 1544+	1 65	ush	
<b><u>Biological Control</u></b> Chrysoperla sp. (green lacewing - predator)			<u><b>Comments</b></u> Available commercially; occurs naturally		
<b>Chemical Contr</b>	ol		Comments	Signal	Agricultural Restricted Entry
Reference	use only. NOT a lab	el substitute.		<u>Word</u>	Interval (REI)^
Select the a	appropriate insecticid	e/miticide for the c	correct life stage of the target pest.		
acephate	Acephate 97 WI	DG	BEE CAUTION	С	24 hours
	Orthene T,T & O	O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	sional	BEE CAUTION	С	12 hours
buprofezin	Talus 70DF		Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G			С	12 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*dinotefuran	Safari 20 SG		BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC		BEE CAUTION	W	24 hours
fenpyroximate	Akari 5SC			W	12 hours
flonicamid	Aria			С	12 hours
horticultural oil	Damoil			С	4 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

208

\*\*ESA approved common name

Cicadellidae Page 412-418 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
indoxacarb	Provaunt	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
phosmet	Imidan 70W	BEE CAUTION	W	24 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours

\*restricted use pesticide

209

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

Host Plants: Common Name	Scientific Name
Azalea	Azalea
burning bush, winged euonymus	Euonymus alatus
chokecherry	Prunus virginiana
crabapple	Malus
elm	Ulmus
Ginkgo	Ginkgo biloba
honeylocust	Gleditsia triacanthos
larch	Larix
maple	Acer
smoketree	Cotinus
spirea	Spiraea
spruce	Picea

Chemical Control Reference us Select the ap	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^		
acephate	Lepitect	BEE CAUTION	С	24 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
indoxacarb	Provaunt	BEE CAUTION	С	
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours

# Additional information on biology and control

\*restricted use pesticide

See under specific leafroller: fruittree leafroller, obliquebanded leafroller, redbanded leafroller

210

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: STEM, TRUNK

Scientific Name
Malus
Fraxinus
Fagus
Prunus
Castanea
Ulmus
Syringa
Acer
Quercus
Pyrus calleryana
Prunus cerasifera
Populus
Chaenomeles
Amelanchier
Juglans
Salix

# **Pest Survey Information:**

Pest Stage exit hole(s), frass	<u>From</u> <u>To</u> May 01 Nov 0	Plant Part 1 trunk	Plant Damage dieback, tree death	Survey Method visual inspection		
Control: Stage(s	5	i titilik	dieback, nee deam	visual inspection		
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the following	ng		
larva, pupa	May 01 - May 10	144 - 228	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry			
larva, pupa	May 10 - May 20	228 - 311	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle	3		
larva	May 20 - Sep 30	311 - 2862	rest of season			
<mark>Biological Contr</mark> Steinernema feltiae Steinernema carpoc	(nematode)		<u>Comments</u> Available commercially Available commercially			
Non Chemical C	Non Chemical Control					
Remove and destro	Remove and destroy badly infested branch & tree parts.					
In specimen trees remove & destroy insect or use a borer paste.						

Chemical Cont Reference	<b>rol</b> ∋ use only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
Select the	appropriate insecticide/miticide for the	correct life stage of the target pest.		
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

211

\*\*ESA approved common name

Arborist

# **LEOPARD MOTH\*\***

Zeuzera pyrina Page 254 (Johnson & Lyon)

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: STEM

Host Plants: Common Name	Scientific Name
cherry, black	Prunus serotina
peach	Prunus persica
plum	Prunus cerasifera
serviceberry, shadbush	Amelanchier

#### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
adult (clearwing moth)	) May 20	Jun 30	bark, foliage		pheromone traps
larva (exit hole, frass	Jul 01	Sep 30	trunk	dieback, tree death	visual inspection
filled jelly)					

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
larva	Jun 01 - Jun 10	437 - 563	plants bloom: Kousa dogwood, cranberry bush, beautybush
larva	Jun 10 - Jul 20	563 - 1417	Remainder of season between the beginning and end phenology
larva	Jul 20 - Jul 31	1417 - 1673	plants bloom: butterfly bush, Clethra alnifolia, false spirea

Comments Available commercially

Available commercially

#### **Biological Control**

Steinernema feltiae (nematode) Steinernema carpocapsae (nematode)

\*restricted use pesticide

#### **Chemical Control**

<u>Chemical Control</u> <u>Comments</u>				Restricted Entry
Reference use only. NOT a label substitute.				Interval (REI)^
Select the ap	propriate insecticide/miticide for t	the correct life stage of the target pest.		Intervar (REI)
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours

Acelepryn Non-residential, BEE CAUTION W \*chlorpyrifos Chlorpyrifos 4E AG 24 hours BEE CAUTION W \*emamectin benzoate Tree-age BEE CAUTION С \*permethrin 12 hours Astro Perm-UP 3.2EC BEE CAUTION С 12 hours

> Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

213

\*\*ESA approved common name

Agricultural

Signal

# LILAC BORER / ASH BORER\*\*

Podosesia syringae Page 260 (Johnson & Lyon) Page 18 (Adams & Packauskas)

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: STEM, TRUNK

Iui	Turt of plant to dout. Dillin, income							
Host Plants: Common Name Se				Sci	ientific Name			
lilac	lilac Syringa					ringa		
mounta	nountain ash, European Sorbus aucuparia							
privet					Lig	gustrum		
Pest Survey Info	ormation:							
Pest Stage	From	<u>To</u>	Plan	t Par	<u>t</u>	<u>Plant Damage</u>	<u>Surve</u>	<u>y Method</u>
adult (clearwing mot	th) May 01 A	Aug 01	bark	, foli	age		phero	mone traps
exit hole(s), frass	Jun 01	Sep 30	trunl	k		dieback, tree death	visua	l inspection
Control: Stage(s	s) and Tin	ning						
Stage(s)	<b>Ideal Cont</b>	trol Dat	Degre	e Da	ays	Treat HOST PLANT when the follow	wing	
larva	May 01 -	May 10	from	-	148	plants bloom: Japanese quince, saucer magnolia bridalwreath, Japanese flowering cherry	,	
larva	May 10 -	Jun 10	-	-	-	Remainder of season between the beginning and phenology	lend	
larva	Jun 10 -	Jun 20	to	-	400+	plants bloom: mountain laurel, mock-orange, Ja tree lilac, Washington hawthorn	panese	
<b>Biological Cont</b>	<u>col</u>					<u>Comments</u>		
Steinernema feltiae (	(nematode)					Available commercially		
Steinernema carpoce	apsae (nema	itode)				Available commercially		
<u>Chemical Control</u>						<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. No appropriate i					orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
*bifenthrin	Onyx P	ro				BEE CAUTION	W	12 hours
	•	P Profess	ional			BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepr	ryn						4 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

#### Frequency with which pest occurs: COMMON

#### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
Deutzia	Deutzia
Euonymus	Euonymus
lilac	Syringa
privet	Ligustrum

#### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
adult (moth)	May 10	Aug 15	foliage		visual inspection
larva	Jun 15	Sep 01	foliage	discoloration (mining)	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
adult, egg	May 10 - May 20	from - 246	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
adult	May 20 - May 31	to - 363	plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
adult, larva	Jul 10 - Jul 20	from - 1388	plants bloom: Abelia, golden rain tree, sourwood
adult, larva	Jul 20 - Jul 31		plants bloom: butterfly bush, Clethra alnifolia, false spirea
adult, larva	Aug 01 - Aug 10	to - 1644+	plant bloom: Pee Gee Hydrangea blooms turn pink

#### Agricultural **Chemical Control** Signal **Comments Restricted Entry** Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. BEE CAUTION \*abamectin W Mauget Abacide 2 BEE CAUTION С 24 hours acephate Acephate 97 WDG BEE CAUTION С 24 hours Lepitect С 4 hours azadirachtin Aza-Direct С 4 hours AzaGuard BEE CAUTION W \*bifenthrin Onyx Pro 12 hours BEE CAUTION С Talstar P Professional 12 hours С \*diflubenzuron Dimilin 25W Effective against immatures. Bee 12 hours caution. \*dinotefuran Safari 20 SG BEE CAUTION С 12 hours BEE CAUTION W \*emamectin benzoate Tree-age BEE CAUTION С 12 hours Mallet 75 WSP \*imidacloprid BEE CAUTION С 12 hours Merit 75WSP BEE CAUTION С Xytect 2F BEE CAUTION С Demand CS lambda-cyhalothrin BEE CAUTION С \*lambda-cyhalothrin Scimitar GC 24 hours \*permethrin BEE CAUTION С 12 hours Astro BEE CAUTION С Perm-UP 3.2EC 12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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\*restricted use pesticide

\*\*ESA approved common name 215

Caloptilia syringella Page 196 (Johnson & Lyon)

Chemical Control       Comments         Reference use only. NOT a label substitute.       Comments			Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI) <sup>^</sup>
Select the appropriate insecticide/miticide for the correct life stage of the target pest.				Inter var (KEI)
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: <u>Comm</u>	on Name	Sc	cientific Name			
elm		U	lmus			
linden		Ti	lia			
maple		Ac	cer			
oak		Qi	uercus			
Pest Survey Info	ormation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	<u>y Method</u>	
larva	May 01 Jun 15	foliage	defoliation	visua	l inspection	
Control: Stage(s	and Timing					
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follo	wing		
larva	May 10 - May 20	from - 192	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ring		
larva	May 20 - May 31	to - 363		pinum,		
Biological Control       Comments         Podisus maculiventris (spined soldier bug - predator)       Available commercially; occurs naturally						
Chemical Contr	<mark>ol</mark> use only. NOT a labe	al substituto	Comments	Signal Word	Agricultural Restricted Entry	
	•		correct life stage of the target pest.	<u>Word</u>	Interval (REI)^	
acephate	Lepitect		BEE CAUTION	С	24 hours	
acetamiprid	TriStar 8.5 SL		BEE CAUTION	C C	12 hours	
azadirachtin	Aza-Direct			C C	4 hours	
uzuunuoniin	AzaGuard			C C	4 hours	
B. thuringiensis aizawai	XenTari		Most effective against young larvae.	C	4 hours	
B. thuringiensis kurstaki	Biobit HP		Most effective against young larvae.	С	4 hours	
	DiPel DF		Most effective against young larvae.	С	4 hours	
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours	
	Talstar P Profess	ional	BEE CAUTION	С	12 hours	
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours	
	Sevin SL		BEE CAUTION	С	12 hours	
chlorantraniliprole	Acelepryn				4 hours	
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours	
*deltamethrin	Suspend SC		BEE CAUTION	С		
indoxacarb	Provaunt		BEE CAUTION	С		
lambda-cyhalothrin	Demand CS		BEE CAUTION	С		
*lambda-cyhalothri	n Scimitar GC		BEE CAUTION	С	24 hours	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

## **LINDEN LOOPER\*\***

*Erannis tiliaria* Page 144 (Johnson & Lyon)

	e use only. NOT a label substitute.	<u>Comments</u> he correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: Commo	on Name		Sc	ientific Name		
beech			Fa	gus		
cherry, black			Pr	unus serotina		
lilac			Sy	ringa		
Pest Survey Info	rmation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant</u>	Part 1	Plant Damage	Surve	<u>y Method</u>
exit hole(s), frass	May 01 Nov 0	l trunk		dieback, tree death	visua	l inspection
adult (beetle)	Aug 20 Sep 30	bark,	foliage		visua	l inspection
<b>Control:</b> Stage(s	) and Timing					
Stage(s)	Ideal Control Dat	Degree	e Days	Treat HOST PLANT when the follo	owing	
adult	Aug 20 - Aug 31	from	- 2271	plant fruit in color: Viburnum dentatum		
adult	Sep 01 - Sep 10	-		plant fruit in color: sweet autumn clematis, Po aubertii	olygonum	
adult Sep 10 - Sep 20 to - 2805 plants bloom: Pee Gee Hydrangea, Sevin-son Flower				Flower		
Biological ControlCommentsSteinernema feltiae (nematode)Available commercially						
Steinernema carpoca	psae (nematode)			Available commercially		
Heterorhabditis bact	eriophora (nematod	e)		Available commercially		
Chemical Contro Reference	) Ise only. NOT a lab	el substit	tute	<u>Comments</u>	Signal Word	Agricultural Restricted Entry
				orrect life stage of the target pest.	word	Interval (REI)^
*abamectin	Mauget Abacide	2		BEE CAUTION	W	
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profes	sional		BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG		Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G				С	12 hours
*permethrin	Astro			BEE CAUTION	С	12 hours

**Signal words: C=Caution; W = Warning; DP = Danger Poison** Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

## LOCUST LEAFMINER\*\*

Odontota dorsalis Page 190 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Host Plants: Common Name	Scientific Name
beech	Fagus
birch	Betula
cherry, flowering	Prunus
elm	Ulmus
hawthorn	Crataegus
lilac	Syringa
oak	Quercus

# **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
adult (beetle)	May 01	Aug 01	foliage	defoliation	visual inspection
larva	Jun 01	Jul 20	foliage	discoloration (mining)	visual inspection

# **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	t Degree Days	Treat HOST PLANT when the following
adult	May 20 - May 31	from - 298	3 plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
adult, egg	Jun 01 - Jun 10	to - 533	3 plants bloom: Kousa dogwood, cranberry bush, beautybush
adult	Jul 01 - Jul 10	from - 1029	) plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata
adult	Jul 10 - Jul 20	to - 1388	plants bloom: Abelia, golden rain tree, sourwood

	<b>ol</b> use only. NOT a label substitute. appropriate insecticide/miticide for the co	<u>Comments</u> prrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct		С	4 hours

	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

#### LOCUST LEAFMINER\*\*

Odontota dorsalis Page 190 (Johnson & Lyon)

<u>Chemical Control</u> Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the corre		<u>Comments</u> e correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
pyrethrin	PyGanic	OMRI listed	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

#### **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: ONE AND TWO YEAR STEMS

Host Plants: Common Name Scientific Name				entific Name		
Magno	Magnolia Magnolia			ignolia		
Wister	ia		Wi	steria		
Pest Survey Info	ormation:					
Pest Stage	<u>From</u> <u>T</u>	<u>`o</u>	<u>Plant Part</u>	Plant Damage	Surve	<u>y Method</u>
nymph	Mar 01	Apr 15	twig bark	decline	visual	inspection
Control: Stage(s	and Timin	ng				
Stage(s)	<b>Ideal Contro</b>	<b>I Dat</b>	Degree Days	Treat HOST PLANT when th	efollowing	
nymph	Mar 01 - Ap	pr 10 (	0 - 41	None Offered		
<u>Chemical Contr</u>				<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT				Word	Interval (REI)^
Select the a	appropriate inse	ecticide/	miticide for the co	prrect life stage of the target pest		
horticultural oil	Damoil				С	4 hours
			ne SprayOil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

tape

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

#### Part of plant to treat: ONE AND TWO YEAR STEMS

Host Plants: Common Name				Scientific Name		
Magnol	lia			Magnolia		
Wisteri	a			Wisteria		
Pest Survey Info	rmation	<u>:</u>				
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method	
nymph (crawler)	Jul 01	Sep 30	twig bark	decline	visual inspection, stic	

# **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
crawler	Aug 10 - Aug 20	from - 2155	plant fruit in color: Mountain ash, cranberry bush
crawler	Aug 20 - Sep 10		Remainder of season between the beginning and end phenology
crawler	Sep 10 - Sep 20	to - 2800	plants bloom: Pee Gee Hydrangea, Sevin-son Flower

#### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) Cryptolaemus montrouzieri (lady beetle predator) Chilocorus stigma (lady beetle - predator)

#### **Comments**

Available commercially Available commercially; occurs naturally occurs naturally

ennecerns sugna (n		·		
Chemical Contro		<u>Comments</u>	Signal	Agricultural Restricted Entry
	ise only. NOT a label substitute. ppropriate insecticide/miticide for the co	prrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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\*restricted use pesticide

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#### **MAGNOLIA SCALE\*\***

Neolecanium cornuparvum Page 354, 356 (Johnson & Lyon)

Chemical Control	•	<u>Comments</u>	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute. propriate insecticide/miticide for the correc	t life stage of the target pest.	<u>Word</u>	Interval (REI)^
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Co Ma	mmon Name gnolia		cientific Name Aagnolia		
Pest Survey ]	nformation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method	
adult, larva	Apr 01 Jun 01	foliage	discoloration (mining), leaf- folding	visual inspection	
Control: Stag	<u>ge(s) and Timing</u>				
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the follow	ving	
adult (moth)	Apr 15 - May 15	44 - 235	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ng	
larva	Jun 10 - Jun 20	538 - 724	plants bloom: mountain laurel, mock-orange, Jap tree lilac, Washington hawthorn	banese	
larva	Jun 20 - Jun 30	724 - 940	plants bloom: mountain laurel, mock-orange, Jap tree lilac, Washington hawthorn	banese	

#### Non Chemical Control

Where feasible, remove and destroy leaves as they get mines.

<b>Chemical Contro</b>	l	Comments	Signal	Agricultural Restricted Entry
Reference us	<u>Word</u>	· Interval (REI)^		
Select the ap				
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	BEE CAUTION	С	24 hours
*imidacloprid	Xytect 2F	BEE CAUTION	С	
phosmet	Imidan 70W	BEE CAUTION	W	24 hours

#### Additional information on biology and control

\*restricted use pesticide

This micromoth is in the family, Gracillariidae. Dark colored, 2mm long, moths with fringed wings rest with wing tips touching the surface it is on and front legs fully extended so that the head is raised. Larvae feed within the leaves of many magnolia species separating the thin papery upper epidermis from the mesophyll layer. A dark line of frass can be seen in the clear topped mines which become evident in July. Larvae will feed in a circular pattern before becoming serpentine. When small they go out to the leaf edge to get across veins. The life cycle in Connecticut is unknown. A closely related species, the aspen leaf miner, spends the winter as a moth underground. Mature larvae may drop to the ground in fall and make a pupation cell where the puape and then adult can remain protected throughout the winter. Adult moths emerge in spring and lay eggs on young leaves. There is most likely one generation per year here. Heavily infested leaves will brown and drop early from the tree.

**\*\*ESA approved common name** 

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Periphyllus spp. Page 302 (Johnson & Lyon)

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: Common Name		Sci	ientific Name		
maple		Ac	er		
Pest Survey Info	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
nymph	Jun 01 Sep 30	foliage	discoloration, leaf drop	visua	l inspection
adult	Jun 15 Sep 30	foliage	discoloration, leaf drop	visua	l inspection
Control: Stage(s	s) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follo	wing	
nymph, adult	Jun 20 - Jun 30	737 - 967	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus	1	
nymph, adult	Jul 01 - Jul 10	989 - 1196	•		
nymph, adult	Jul 10 - Jul 20	1196 - 1417	plants bloom: Abelia, golden rain tree, sourwood	1	
<b>Biological Cont</b> Orius sp. (predator)	<u>rol</u>		<u><b>Comments</b></u> Available commercially; occurs naturally		
Hippodamia conver	gens (lady beetle - pr	edator)	Available commercially; occurs naturally		
Diaeretiella rapae (	wasp, aphid parasite	)	occurs naturally		
Deraeocoris nebulo.	sus (mirid bug - pred	ator)	occurs naturally		
Chrysoperla sp. (gre	en lacewing - preda	tor)	Available commercially; occurs naturally		
Aphidoletes aphidimyza (midge, aphid predator)			<i>ator)</i> Available commercially; occurs naturally		
Aphidius matricaria	e (wasp, aphid paras	rite)	Available commercially; occurs naturally		
<u>Chemical Control</u> Reference use only. NOT a label s			Comments		Agricultural Restricted Entrv
	•		orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
*abamectin	Mauget Abacide		BEE CAUTION	W	
acephate	Acephate 97 WI		BEE CAUTION	C	24 hours
acephate	Lepitect		BEE CAUTION	C C	24 hours
	Orthene T,T & (	) WSP	BEE CAUTION	C C	24 hours
acetamiprid	TriStar 8.5 SL	5 11 51	BEE CAUTION	C C	12 hours
azadirachtin	Aza-Direct			C	4 hours
	AzaGuard			C C	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	w	12 hours
	Talstar P Profess	sional	BEE CAUTION	C	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	C	12 hours
chlorantraniliprole	Acelepryn			-	4 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name

Periphyllus spp. Page 302 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> It life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*clothianidin	Arena 50 WDG		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

227

\*\*ESA approved common name

Vasates quadripedes Page 482 (Johnson & Lyon)

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: BUD, YOUNG FOLIAGE

Host Plants: Com	mon Name So			,	Sc	ientific Name		
maple					Ac	er		
Pest Survey Inf	ormation:							
Pest Stage	<u>From</u> <u>To</u>		Plan	t Part	t	Plant Damage	Surve	y Method
all stages	Apr 20 Se	ep 30	folia	ige		distortion	visua	l inspection
<b>Control: Stage</b> (	s) and Timing	g						
Stage(s)	Ideal Control	Dat	Degre	ee Dag	ys	Treat HOST PLANT when the follow	wing	
adult	Apr 20 - Apr	30	58	-	148	plants bloom: boxelder, star magnolia, periwink Norway maple	le,	
adult, immature	May 01 - May	/ 10	from	-	98	plants bloom: Japanese quince, saucer magnolia bridalwreath, Japanese flowering cherry	,	
adult, immature	May 10 - May	20	to	-	155	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ing	
Chemical Contr	ol					<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a						<u>Word</u>	Interval (REI)^
Select the	appropriate insec	cticide	e/miticio	de for	the c	orrect life stage of the target pest.		
carbaryl	Carbaryl 4L	,				BEE CAUTION	С	12 hours
	Sevin SL					BEE CAUTION	С	12 hours
fenazaquin	Magus					BEE CAUTION	W	12 hours
horticultural oil	Damoil						С	4 hours
spiromesifen	Forbid 4F					most effective against immature stages	С	

\*restricted use pesticide

\*\*ESA approved common name

С

С

С

С

С

С

С

С

^for agricultural applications only.

12 hours

12 hours

4 hours

24 hours

12 hours

12 hours

4 hours

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Fait of plant to treat. FOLIAGE					
Host Plants: Comn	non Name	Sc	cientific Name		
maple		Ad	cer		
Pest Survey Inf	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
larva	Jul 01 Sep 3	0 foliage	defoliation	visua	l inspection
Control: Stage(	<u>s) and Timing</u>				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follo	owing	
larva	Jul 10 - Jul 20	from - 1388	plants bloom: Abelia, golden rain tree, sourwo	od	
larva	Jul 20 - Jul 31		plants bloom: butterfly bush, Clethra alnifolia, spirea	false	
larva	Aug 01 - Aug 10	to - 2032	plant bloom: Pee Gee Hydrangea blooms turn	pink	
Chemical Control			<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a lak		and life at the of the terms to be t	<u>Word</u>	Interval (REI)^
Select the	appropriate insectici	<i>de/miticide for the c</i>	correct life stage of the target pest.		
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
<ul> <li>B. thuringiensis</li> <li>kurstaki</li> </ul>	DiPel DF		Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profe	ssional	BEE CAUTION	С	12 hours

BEE CAUTION

BEE CAUTION

BEE CAUTION

BEE CAUTION

BEE CAUTION

BEE CAUTION

spinosad	Conserve SC	Most effective against young larvae.
Additional inform	nation on biology and control	

Carbaryl 4L

Sevin SL

Acelepryn

Suspend SC

Demand CS

Scimitar GC

Pyrenone

\*restricted use pesticide

Perm-UP 3.2EC

This page may contain additional information in the future.

carbaryl

chlorantraniliprole

lambda-cyhalothrin

\*lambda-cyhalothrin

\*deltamethrin

\*permethrin

pyrethrin

229

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: BASE OF NEEDLES

Host Plants: Common Name	Scientific Name
arborvitae	Thuja
cryptomeria	Cryptomeria
falsecypress	Chamaecyparis
Juniper	Juniperus
pine	Pinus
spruce	Picea
umbrella pine	Sciadopitys verticillata
yew	Taxus

## **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Da	t Degree Days	Treat HOST PLANT when the following
crawler	Jun 01 - Jul 30	408 - 1659	
			Agricultural

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> t life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
*bifenthrin	Onyx Pro	Effective against immatures. Bee caution.	W	12 hours
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
flonicamid	Aria		С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours

#### Additional information on biology and control

\*restricted use pesticide

The life history of this scale is not well known. This scale is thought to overwinter as adult females. Eggs are laid in late March with crawlers present from July to November. Adults emerge in mid-August.

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

# Part of plant to treat: FOLIAGE-TWIGS

Part	of plant to treat	FOLIAGE-T	WIGS		
Host Plants: Common Name			ientific Name		
pine					
Pest Survey Info	rmation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	<u>y Method</u>
nymph	May 15 Jul 01	new growth	minor distortion and discoloration, spittle	visua	l inspection
<b>Control:</b> Stage(s)	and Timing				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follo	owing	
nymph	May 20 - May 31	311 - 423	plants bloom: ruby horsechestnut, Laburnum a black locust, ninebark	lpinum,	
nymph	Jun 01 - Aug 20	437 - 2173	Remainder of season between the beginning an phenology	nd end	
Chemical Contro	<u>1</u>		<u>Comments</u>	Signal	Agricultural Restricted Entry
	se only. NOT a labe			Word	Interval (REI)^
Select the ap	opropriate insecticid	e/miticide for the c	orrect life stage of the target pest.		
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
horticultural oil	Damoil			С	4 hours
*imidacloprid	Merit 75WSP		BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insectició	lal Soap Concentra	ate	W	12 hours
	M-Pede			W	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC		BEE CAUTION	С	24 hours
pyrethrin	Pyrenone			С	12 hours

BEE CAUTION

\*thiamethoxam

Meridian 0.33G

\*restricted use pesticide

\*\*ESA approved common name

С

^for agricultural applications only.

12 hours

Homadaula anisocentra Page p 180 (Johnson & Lyon)

## **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Common Name			cientific Name		
honeylo	ocust	G	Gleditsia triacanthos		
mimosa	L	Α	lbizia		
Pest Survey Info	rmation:				
Pest Stage	<u>From</u> <u>To</u>	<u> Plant Part</u>	Plant Damage	Surve	<u>y Method</u>
adult (moth)	May 30 Jun 30			visua	linspection
adult, egg	Jun 15 Jul 15	foliage		visua	l inspection
larva (caterpillar)	Jul 01 Sep 30	foliage	defoliation, webbing	visua	l inspection
Control: Stage(s	) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follo	owing	
larva (caterpillar)	Jul 01 - Sep 30	960 - 285	0		
Chemical Contro			Comments	Signal	Agricultural Restricted Entry
	ise only. NOT a labe			<u>Word</u>	Interval (REI)^
Select the a	ppropriate insecticide	miticide for the	correct life stage of the target pest.		
azadirachtin	Aza-Direct		Only effective against immatures.	С	4 hours
B. thuringiensis kurstaki	Biobit HP		Most effective against young larvae.	С	4 hours
*bifenthrin	Talstar P Professi	onal	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		Only effective against immatures.	С	12 hours
chlorantraniliprole	Acelepryn		Only effective against immatures.		4 hours
*chlorpyrifos	Chlorpyrifos 4E A	AG	Non-residential, BEE CAUTION	W	24 hours
*permethrin	Astro		BEE CAUTION	С	12 hours
	Perm-UP 3.2EC		BEE CAUTION	С	12 hours
pyrethrin	Pyrenone			С	12 hours

#### Additional information on biology and control

\*restricted use pesticide

The mimosa webworm overwinters as a pupa in cracks and crevices of bark and in debris on the ground. The thornless honeylocust cultivar 'Sunburst' is highly susceptible. There may be two generations per year in Connecticut.

232

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Common	n Name	Sc	cientific Name		
ash		Fi	raxinus		
mountain	ash, European	Sa	orbus aucuparia		
Pest Survey Infor	mation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method
larva	Jun 01 Jul 15	foliage	defoliation	visua	l inspection
<b>Control:</b> Stage(s)	and Timing				
Stage(s) Io	deal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follow	ving	
larva J	un 01 - Jun 10	from - 448	plants bloom: Kousa dogwood, cranberry bush, beautybush		
larva J	un 10 - Jun 20		plants bloom: mountain laurel, mock-orange, Jap tree lilac, Washington hawthorn	banese	
larva J	un 20 - Jun 30	to - 707+	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus	L	
<b>Chemical Control</b>	•		Comments	Signal	Agricultural Restricted Entry
	e only. NOT a labe			<u>Word</u>	Interval (REI)^
	-		correct life stage of the target pest.		
acephate	Acephate 97 WI	DG	BEE CAUTION	С	24 hours
	Lepitect		BEE CAUTION	С	24 hours
	Orthene T,T & C	O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Talstar P Profess	sional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*diflubenzuron	Dimilin 25W		Effective against immatures. Bee caution.	С	12 hours
*emamectin benzoate	Tree-age		BEE CAUTION	W	
horticultural oil	Damoil			С	4 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours
	Xytect 2F		BEE CAUTION	С	
insecticidal soap	Des-X Insecticid	lal Soap Concentra	ate	W	12 hours
	M-Pede		Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC		BEE CAUTION	С	24 hours
*permethrin	Perm-UP 3.2EC		BEE CAUTION	С	12 hours
spinosad	Conserve SC		Most effective against young larvae.	С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name 233

## **MOUNTAIN ASH SAWFLY\*\***

Pristiphora geniculata Page 128, 286 (Johnson & Lyon) Page 29 (Adams & Packauskas)

Reference	Chemical Control       Comments         Reference use only. NOT a label substitute.       Select the appropriate insecticide/miticide for the correct life stage of the target pest.				
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours	

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: NEW SHOOTS

	rt of plant to trea	II. INE	W 51				
Host Plants: Com	non Name				ientific Name		
pine				Pu	nus		
Pest Survey Inf	ormation:						
Pest Stage	<u>From</u> <u>To</u>	Pla	nt Pa	<u>rt</u>	Plant Damage	Surve	y Method
larva	May 01 Jun 2	0 nev	v shoc	ots	distortion, discoloration	visua	l inspection
adult	Jul 01 Sep	)1 foli	age			phero	omone traps
<b>Control: Stage</b> (	<u>s) and Timing</u>						
Stage(s)	Ideal Control Da	t Deg	ree Da	ays	Treat HOST PLANT when the fol	lowing	
larva	May 01 - May 10	) 144	-	228	plants bloom: Japanese quince, saucer magno bridalwreath, Japanese flowering cherry	lia,	
larva	May 10 - May 20	228	-	311	plants bloom: redbud, Sargent crabapple, flow almond, Tatarian honeysuckle	vering	
larva	May 20 - May 3	from	-	311	plants bloom: ruby horsechestnut, Laburnum black locust, ninebark	alpinum,	
larva	Jun 10 - Jun 20	to	-	737	plants bloom: mountain laurel, mock-orange, tree lilac, Washington hawthorn	Japanese	
adult	Jul 20 - Jul 31	from	-	1417	plants bloom: butterfly bush, Clethra alnifolia spirea	, false	
adult, larva	Aug 01 - Aug 10	to	-	1933	plant bloom: Pee Gee Hydrangea blooms tur	n pink	
Chemical Cont					<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a la					<u>Word</u>	Interval (REI)^
			iae to	r the c	orrect life stage of the target pest.		
*abamectin	Mauget Abaci				BEE CAUTION	W	
acephate	Acephate 97 V	/DG			BEE CAUTION	С	24 hours
	Lepitect				BEE CAUTION	С	24 hours
	Orthene T,T &	O WSF	)		BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct					С	4 hours
	AzaGuard					С	4 hours
*bifenthrin	Talstar P Profe	essional			BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L				BEE CAUTION	С	12 hours
	Sevin SL				BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4	E AG			Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC				BEE CAUTION	С	
*diflubenzuron	Dimilin 25W				Effective against immatures. Bee caution.	С	12 hours
*imidacloprid	Mallet 75 WS	2			BEE CAUTION	С	12 hours
	Merit 75WSP				BEE CAUTION	С	12 hours
lambda-cyhalothrii	Demand CS				BEE CAUTION	С	
*lambda-cyhalothri	n Scimitar GC				BEE CAUTION	С	24 hours
*permethrin	Astro				BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

BEE CAUTION

19-Mar-2019

\*restricted use pesticide

Perm-UP 3.2EC

^for agricultural applications only.

12 hours

С

## NANTUCKET PINE TIP MOTH\*\*

Rhyacionia frustrana Page 48, 50 (Johnson & Lyon)

Chemical Con	<b>trol</b> e use only. NOT a label substitute.	<u>Comments</u>	Signal Word	Agricultural Restricted Entry
Select the	<u>Word</u>	Interval (REI)^		
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

			•		
Host Plants: Commo holly	n Name	Sci Ile	ientific Name		
-		ne	Λ		
Pest Survey Info					
<u>Pest Stage</u>	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>		<u>y Method</u>
adult (fly)	May 01 Jun 15	foliage	small leaf holes	visua cards	l inspection, sticky
larva	Jul 01 Sep 30	foliage	discoloration (mining)	visua	l inspection
Control: Stage(s)	and Timing				
Stage(s)	deal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follo	wing	
adult	May 10 - May 20	192 - 298	plants bloom: redbud, Sargent crabapple, flowe almond, Tatarian honeysuckle	ering	
larva	Jul 01 - Jul 10	1029 - 1266	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata		
<u>Chemical Contro</u>	<u>1</u>		<u>Comments</u>	Signal	Agricultural Restricted Entry
	se only. NOT a labe			<u>Word</u>	Interval (REI)^
Select the ap	propriate insecticide	e/miticide for the c	orrect life stage of the target pest.		
*abamectin	Mauget Abacide	2	BEE CAUTION	W	
acephate	Acephate 97 WD	)G	BEE CAUTION	С	24 hours
	Lepitect		BEE CAUTION	С	24 hours
	Orthene T,T & C	) WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	ional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*emamectin benzoate	e Tree-age		BEE CAUTION	W	
*fenpropathrin	Tame 2.4EC		BEE CAUTION	W	24 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC		BEE CAUTION	С	24 hours
*permethrin	Astro		BEE CAUTION	С	12 hours
	Perm-UP 3.2EC		BEE CAUTION	С	12 hours
spinosad	Conserve SC		Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridian 0.33G		BEE CAUTION	С	12 hours

\*\*ESA approved common name

\*restricted use pesticide

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#### NORWAY SPRUCE SHOOT GALL MIDGE

Piceacecis abietiperda

<b>GROWING SEA</b>	ASON		Apply thorough treatment only when pest stag				
Host Plants: Common Name				ntific Name			
spruce, Norway				a abies			
Pest Survey Information:							
Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method		
	Jan 01	Dec 31	terminal shoots	distortion, gall	visual inspection		

#### Additional information on biology and control

The Norway spruce shoot gall midge, a formerly European species, was found in Fairfield County, Connecticut in 2011. Damaged specimens have been brought in from Tolland County as well. Lorraine Graney, Diagnostician, Bartlett Tree Service, reported getting damage specimens from throughout New England, New York and New Jersey. Larvae overwinter in galls. Adults emerge in early spring, mate and lay eggs on twigs or in bud scales. Chewing larvae burrow into stem tissue, causing a bending of the stem or swelling of the base of the bud. Galls, while communal, contain only one larva. Tip dieback over several years can cause severe injury and even tree death. Research is needed on effective management. It is possible that insecticide sprays timed for application during adult activity could lessen the effect of this pest.

\*restricted use pesticide

**\*\*ESA approved common name** 

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Part	of plant to treat	FOLIA	AGE			
Host Plants: Common	n Name		Sc	ientific Name		
oak			Qu	iercus		
<b>Pest Survey Infor</b>	mation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant P</u>	Part	Plant Damage	<u>Surve</u>	y Method
larva	Jun 01 Jul 01	foliage	<b>,</b>	discoloration (mining)	visua	l inspection
<b>Control:</b> Stage(s)	and Timing					
_	deal Control Dat	Degree	Davs	Treat HOST PLANT when the follo	owing	
	un 01 - Jun 10		- 533		-	
	10 1 00			beautybush		
larva, ?adult J	Jun 10 - Jun 20		-	plants bloom: mountain laurel, mock-orange, J tree lilac, Washington hawthorn	apanese	
larva, ?adult J	un 20 - Jun 30	to -	- 912	plants bloom: Rhododendron maximum, Spirad bumalda, Philadelphus	ea	
<b>Chemical Control</b>	L			<u>Comments</u>	Signal	Agricultural
	e only. NOT a lab	el substitu	te.	comments	Word	Restricted Entry Interval (REI)^
Select the ap	propriate insecticid	e/miticide	for the c	orrect life stage of the target pest.		Interval (KEI)
*abamectin	Mauget Abacide	2		BEE CAUTION	W	
acephate	Acephate 97 WI	DG		BEE CAUTION	С	24 hours
	Lepitect			BEE CAUTION	С	24 hours
	Orthene T,T & O	O WSP		BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	$\mathbf{W}$	12 hours
	Talstar P Profes	sional		BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
*diflubenzuron	Dimilin 25W			Effective against immatures. Bee caution.	С	12 hours
*dinotefuran	Safari 20 SG			BEE CAUTION	С	12 hours
*emamectin benzoate	Tree-age			BEE CAUTION	W	
*fenpropathrin	Tame 2.4EC			BEE CAUTION	W	24 hours
*imidacloprid	Mallet 75 WSP			BEE CAUTION	С	12 hours
	Merit 75WSP			BEE CAUTION	С	12 hours
	Xytect 2F			BEE CAUTION	С	
lambda-cyhalothrin	Demand CS			BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC			BEE CAUTION	С	24 hours
*permethrin	Astro			BEE CAUTION	С	12 hours
	Perm-UP 3.2EC			BEE CAUTION	C	12 hours
pyrethrin	PyGanic			OMRI listed	C	12 hours
spinosad	Conserve SC			Most effective against young larvae.	С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

## **OAK BLOTCH LEAFMINERS**

*Cameraria spp.* Page 192, 196 (Johnson & Lyon)

Chemical Contr Reference	<b>col</b> use only. NOT a label substitut	<u>Comments</u> e.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI) <sup>^</sup>
Select the		Inter var (KEI)		
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

# Part of plant to treat: FOLIAGE

Par	t of plant to treat	FOLIAGE			
Host Plants: Comm	on Name	Sc	ientific Name		
oak		$Q\iota$	iercus		
Pest Survey Info	prmation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
adult	May 15 Sep 30	foliage	discoloration (brownish spots)	visua	l inspection
nymph	May 20 Sep 30	foliage	discoloration (brownish spots)	visua	l inspection
<b>Control: Stage(s</b>	and Timing				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follow	ving	
adult	May 10 - May 20	from - 239	plants bloom: redbud, Sargent crabapple, floweri almond, Tatarian honeysuckle	ing	
egg, nymph	May 20 - May 31	to - 363	plants bloom: ruby horsechestnut, Laburnum alp black locust, ninebark	inum,	
Chemical Contro Reference	<mark>ol</mark> use only. NOT a lab	al substituta	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
	•		orrect life stage of the target pest.	<u>woru</u>	Interval (REI)^
acephate	Acephate 97 WI		BEE CAUTION	С	24 hours
deephate	Lepitect		BEE CAUTION	C C	24 hours
	Orthene T,T & (	O WSP	BEE CAUTION	C C	24 hours
azadirachtin	Aza-Direct			C	4 hours
	AzaGuard			C	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profes	sional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn				4 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*dinotefuran	Safari 20 SG		BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC		BEE CAUTION	W	24 hours
horticultural oil	Damoil			С	4 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours
	Xytect 2F		BEE CAUTION	С	
insecticidal soap	Des-X Insecticio	lal Soap Concentra	ate	W	12 hours
	M-Pede			W	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrii	n Scimitar GC		BEE CAUTION	С	24 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

Corythuca arcuata Page 426 (Johnson & Lyon)

	<b>]</b> se only. NOT a label substitute. ppropriate insecticide/miticide for the com	<u>Comments</u> rect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

# Additional information on biology and control

The oak lace bug overwinters as an adult on or near its host. Eggs are laid on the undersides of foliage in the spring. Spikey, wingless nymphs use their piercing-sucking mouthparts to withdraw cell contents leaving yellow patches on the upper leaf surface. Shed skins and shiny, black fecal spots on the lower leaf surface can also be used to diagnose this insect. There may be multiple generations per year in Connecticut.

\*restricted use pesticide

\*\*ESA approved common name

# **DELAYED DORMANT**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Common Name Scientific Name						
oak						
Pest Survey Info	ormation:					
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	<u>y Method</u>
larva	Apr 01	Apr 30	opening buds, new leaves	chewed buds, small leafholes	visua	l inspection
larva	May 01	May 10	opening buds, new leaves	chewed buds, small leafholes	visua	l inspection
Control: Stage(s	s) and Tin	ning				
Stage(s)         Ideal Control Dat         Degree Days         Treat HOST PLANT when the following						
larva Apr 01 - Apr 20 28 - 96 plants bloom: silver maple, Cornelian cherry, pussy willow						
Chemical Contr				<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference use only.       NOT a label substitute.       Word       Interval (REI)^         Select the appropriate insecticide/miticide for the correct life stage of the target pest.       Interval (REI)^						
carbaryl	Carbary	14L		BEE CAUTION	С	12 hours
	Sevin S	L		BEE CAUTION	С	12 hours
spinosad	Conserv	e SC		Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

Parthenolecaium quercifex Page 364 (Johnson & Lyon)

**DORMANT SEASON** 

Host Plants: Com	mon Name	S	cientific Name			
birch		В	etula			
hicko	ry	С	Carya			
oak		Q	Quercus			
sycar	ycamore Platanus occidentalis					
Pest Survey Information:						
Pest Stage	<u>From</u> <u>To</u>	<u> Plant Part</u>	Plant Damage	Survey Method		
nymph, ?adult	, ?adult Nov 01 Mar 31 twigs & branches have twig death visual inspection most scale					
Control: Stage(s) and Timing						
Stage(s)	Ideal Control Dat	Degree Days	ays Treat HOST PLANT when the following			
nymph	Mar 01 - Apr 10	0 - 30	None Offered			

### Apply thorough treatment only when pest stage found.

#### Additional information on biology and control

This soft scale overwinters as a second instar on twigs. In heavy infestations twigs become dark and sticky with honeydew and the resulting sooty mold. Females are shades of brown with two humps toward one end of the body. Eggs hatch and crawlers are present in mid-July. Crawlers migrate to feed on leaves during the growing season. Second instar nymphs migrate back to twigs in the fall. There is thought to be only one generation per year in Connecticut.

**\*\*ESA approved common name** 

\*restricted use pesticide

Host I lunts. Com	mon i vanne		bei			
birch			Be	tula		
hicko	ory		Ca	rya		
oak			Qu	ercus		
sycar	nore		Pla	atanus occidentalis		
Pest Survey In	formation:					
Pest Stage	From	To	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
crawler	Jun 15	Aug 01	stems(bark), fol	iage discoloration, yellowing	visua	l inspection
Control: Stage	e(s) and Tin	ning				
Stage(s)	Ideal Cont	trol Dat	Degree Days	Treat HOST PLANT when the fol	lowing	
crawler	Jul 15 -	Aug 15	1272 - 2038	plants bloom: butterfly bush, Clethra alnifolia spirea	a, false	
Chemical Cont	t <u>rol</u>			<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference	e use only. N	OT a labe	l substitute.		<u>Word</u>	Interval (REI)
Select the	e appropriate i	insecticide	e/miticide for the co	orrect life stage of the target pest.		
acephate	Lepitec	t		Effective against immatures. Bee caution.	С	24 hours
*clothianidin + bifenthrin	Aloft G	C G		BEE CAUTION	С	12 hours
*dinotefuran	Safari 2	20 SG		BEE CAUTION	С	12 hours
*imidacloprid	Mallet 7	75 WSP		BEE CAUTION	С	12 hours
	Xytect 2	2F		BEE CAUTION	С	
*thiamethoxam	Meridia	an 0.33G		BEE CAUTION	С	12 hours

**Scientific Name** 

#### Apply thorough treatment only when pest stage found.

\*restricted use pesticide

GROWING SEASON Host Plants: Common Name

245

\*\*ESA approved common name

#### **OAK SKELETONIZER\*\***

Bucculatrix ainsliella Page 220 (Johnson & Lyon) Page 30 (Adams & Packauskas)

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Common Name			I UL			ientific Name		
oak						uercus		
Pest Survey Info	ormation:							
Pest Stage	<u>From</u> <u>To</u>		<u>Plan</u> t	t Par	<u>.t</u>	Plant Damage		y Method
larva	Jun 01 Jul		folia	ge		skeletonized leaf, defoliation	visua	l inspection
larva	Aug 01 Sep	01	folia	ge		skeletonized leaf, defoliation	visua	l inspection
Control: Stage(s	and Timing							
Stage(s)	Ideal Control D	at	Degre	e Da	ays	Treat HOST PLANT when the follo	wing	
adult, egg	Jun 01 - Jun 10	)	from	-	448	plants bloom: Kousa dogwood, cranberry bush, beautybush		
larva	Jun 10 - Jun 20	)	to	-	707	plants bloom: mountain laurel, mock-orange, Ja tree lilac, Washington hawthorn	apanese	
larva	Aug 01 - Aug 1	0	from	-	1798	plant bloom: Pee Gee Hydrangea blooms turn p	oink	
larva	Aug 10 - Aug 2	0	to	-	2155	plant fruit in color: Mountain ash, cranberry bu	ısh	
Chemical Contro						<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a l						<u>Word</u>	Interval (REI)^
		cide	e/miticio	de to	r the c	orrect life stage of the target pest.		
azadirachtin	Aza-Direct						С	4 hours
	AzaGuard						С	4 hours
B. thuringiensis kurstaki	DiPel DF					Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro					BEE CAUTION	W	12 hours
	Talstar P Prot	fess	ional			BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L					BEE CAUTION	С	12 hours
	Sevin SL					BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn							4 hours
*deltamethrin	Suspend SC					BEE CAUTION	С	
indoxacarb	Provaunt					BEE CAUTION	С	
lambda-cyhalothrin	Demand CS					BEE CAUTION	С	
*lambda-cyhalothri	n Scimitar GC					BEE CAUTION	С	24 hours
*permethrin	Perm-UP 3.2	EC				BEE CAUTION	С	12 hours
pyrethrin	Pyrenone						С	12 hours
spinosad	Conserve SC					Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: <u>Cor</u>	nmon Name				Sc	ientific Name	
oak					Qu	iercus	
Pest Survey I	nformation						
Pest Stage	From	<u>To</u>	<u>Plant</u>	t Par	<u>•t</u>	<u>Plant Damage</u>	Survey Method
all stages	Jun 01	Sep 30	folia	ge		discoloration (stippling)	visual inspection, plant tapping
Control: Stag	e(s) and Tir	ning					
Stage(s)	Ideal Con	trol Dat	Degre	e Da	ays	Treat HOST PLANT when the follo	owing
nymph	Jun 20 -	Jun 30	from	-	802	plants bloom: Rhododendron maximum, Spira bumalda, Philadelphus	ea
nymph, adult	Jul 01 -	Jul 20	-	-	-	Remainder of season between the beginning as phenology	nd end
nymph, adult	Jul 20 -	Jul 31	to	-	2000	plants bloom: butterfly bush, Clethra alnifolia,	false

spirea

**Comments** 

available commercially

Available commercially; occurs naturally

#### **Biological Control**

Feltiella acarisuga (midge - spider mite predator) Stethorus punctillum (lady beetle - predator) Phytoseiulus persimilis (predatory mite) Orius sp. (predator) *Neoseiulus cucumeris (predatory mite)* Chrysoperla sp. (green lacewing - predator)

\*restricted use pesticide

#### **Chemical Control**

Comments Reference use only. NOT a label substitute. Word Select the appropriate insecticide/miticide for the correct life stage of the target pest.

abamectin	Avid 0.15 EC		W	12 hours
acephate	Lepitect	BEE CAUTION	С	24 hours
bifenazate	Floramite SC	BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
etoxazole	Tetrasan 5 WDG		С	12 hours
fenazaquin	Magus	BEE CAUTION	W	12 hours
hexythiazox	Hexygon DF	most effective against immature stages	С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
spiromesifen	Forbid 4F	most effective against immature stages	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

# Additional information on biology and control

This mite feeds on upper leaf surfaces. There are multiple generations per year.

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

		Sci	entific Name			
		Co	tinus			
spirea			Spi	raea		
Pest Survey Info	<u>rmation:</u>					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>		<u>Plant Damage</u>	Surve	<u>y Method</u>
larva	May 01 Jun 10	foliage		distortion, defoliation	visua	l inspection
adult	Jun 01 Jul 01	foliage			phero	mone traps
Control: Stage(s)	) and Timing					
Stage(s)	Ideal Control Dat	Degree Day	/ <b>S</b>	Treat HOST PLANT when the follow	wing	
larva	May 01 - May 10	144 -	228	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry	,	
larva	May 10 - Jun 10	228 -	563	Remainder of season between the beginning and phenology	lend	
larva	Jun 01 - Jun 10	437 -	563	plants bloom: Kousa dogwood, cranberry bush, beautybush		
Chemical Contro		1 1 22 2		<u>Comments</u>	Signal	Agricultural Restricted Entry
	ise only. NOT a labe		the co	prrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
	Acephate 97 WI			BEE CAUTION	С	24 hours
acephate	Lepitect			BEE CAUTION	c c	24 hours 24 hours
	Orthene T,T & C	WSP		BEE CAUTION	c c	24 hours 24 hours
azadirachtin	Aza-Direct	) w 51			C C	4 hours
azadıracıttır	AzaGuard				C C	4 hours
B. thuringiensis aizawai	XenTari			Most effective against young larvae.	C	4 hours
B. thuringiensis kurstaki	Biobit HP			Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profess	sional		BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn					4 hours
*deltamethrin	Suspend SC			BEE CAUTION	С	
*diflubenzuron	Dimilin 25W			Effective against immatures. Bee caution.	С	12 hours
lambda-cyhalothrin	Demand CS			BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC			BEE CAUTION	С	24 hours
*permethrin	Perm-UP 3.2EC			BEE CAUTION	С	12 hours
pyrethrin	Pyrenone				С	12 hours
spinosad	Conserve SC			Most effective against young larvae.	С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: STEMS(BARK), FOLIAGE

Host Plants: Commo	on Name		Sci	ientific Name		
butterfly bush Bud		ddleia				
Daphne Dap			phne			
privet			Lig	gustrum		
redbud			Ce	rcis canadensis		
St. John	swort		Hy	pericum calycinum		
yucca			Yu	сса		
Pest Survey Info	<u>rmation</u> :					
Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
all stages	Jan 01	Dec 31	bark, foliage	decline	visua	l inspection
Control: Stage(s)	) and Tir	ning				
Stage(s)	Ideal Con	trol Dat	<b>Degree Days</b>	Treat HOST PLANT when the follow	ving	
immature, adult	Jan 01 -	Dec 30	NA - NA	Not applicable		
<b>Biological Contr</b> Lindorus lophanthae		le - scale p	oredator)	Comments Available commercially		
Cryptolaemus montro	ouzieri (lad	ly beetle p	redator)	Available commercially; occurs naturally		
Chilocorus stigma (la	ady beetle -	predator)	)	occurs naturally		
<u>Chemical Contro</u> <i>Reference u</i>		'OT a labe	l substitute	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
	-			orrect life stage of the target pest.	woru	Interval (REI)^
acephate		te 97 WD		BEE CAUTION	С	24 hours
-	Lepitec	t		Effective against immatures. Bee caution.	С	24 hours
	Orthene	e T,T & O	WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar	8.5 SL		BEE CAUTION	С	12 hours
buprofezin	Talus 7	0DF		Only effective against immatures.	W	12 hours
carbaryl	Carbary	yl 4L		Effective against immatures. Bee caution.	С	12 hours
	Sevin S	SL		BEE CAUTION	С	12 hours
*deltamethrin	Suspen	d SC		Effective against immatures. Bee caution.	С	
flonicamid	Aria				С	12 hours
horticultural oil	Damoil				С	4 hours
insecticidal soap	Des-X	Insecticida	al Soap Concentra	te	W	12 hours
	M-Pede	e		Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Deman			Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimita	ur GC		Effective against immatures. Bee caution.	С	24 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name 250

#### **OLEANDER SCALE\*\***

Aspidiotus nerii Page 374 (Johnson & Lyon)

	<b>rol</b> use only. NOT a label substitute. appropriate insecticide/miticide for the co	<u>Comments</u> prrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

Anisota senatoria Page p. 156 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

#### Part of plant to treat: FOLIAGE

Host Plants: Commo	n Name		5	Scientific Name		
birch			1	Betula		
hickory			(	Carya		
maple			1	Acer		
oak			ļ	Quercus		
Pest Survey Info	rmation:					
Pest Stage	From 7	<u>Го</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	<u>y Method</u>
adult (moth)	May 30	Jun 30			visua	linspection
egg	Jun 15	Jul 15			visua	linspection
larva (caterpillar)	Jul 15	Aug 15	foliage	defoliation	visua	l inspection
<b>Control:</b> Stage(s)	and Timi	ng				
Stage(s)	[deal Contro	ol Dat	Degree Days	Treat HOST PLANT when the follo	owing	
larva (caterpillar)	Jun 30 - A	ug 30	940 - 236	50		
Chemical Contro			aubatituta	<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference us	-			correct life stage of the target pest.	<u>Word</u>	Interval (REI)^
					G	241
acephate	Orthene T		WSP	BEE CAUTION	C	24 hours
azadirachtin	Aza-Direc			Only effective against immatures.	С	4 hours
B. thuringiensis kurstaki	Biobit HP	)		Most effective against young larvae.	С	4 hours
*bifenthrin	Talstar P	Professi	onal	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryr	n		Only effective against immatures.		4 hours
*chlorpyrifos	Chlorpyri	ifos 4E A	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC	G		BEE CAUTION	С	12 hours
*deltamethrin	Suspend S	SC		BEE CAUTION	С	
*emamectin benzoate	e Tree-age			BEE CAUTION	W	
*permethrin	Astro			BEE CAUTION	С	12 hours
pyrethrin	Pyrenone				С	12 hours
spinosad	Conserve	SC		Most effective against young larvae.	С	4 hours

### Additional information on biology and control

\*restricted use pesticide

The orangestriped oakworm prefers red, pin, black and scarlet oak but will feed on white oak, hickory, birch and maple. In late summer mature, 2" long, orange and black longitudionally striped, horned larvae crawl down from the trees and pupate in the soil where they pass the winter. Rust colored moths emerge from the soil in early summer. Females can lay up to 600 bright yellow eggs on the undersides of lower leaves. This pest has been a problem in New London and Windham Counties. Stressed trees on poor soils suffer the most damage from this insect. (Jeff Page, personal communication).

#### Signal words: C=Caution; W = Warning; DP = Danger Poison

#### Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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**\*\*ESA approved common name** 

#### **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: STEM, TRUNK

Host Plants: Common Name	Scientific Name	
apple	Malus	
beech	Fagus	
birch	Betula	
Cotoneaster	Cotoneaster	
crabapple	Malus	
dogwood	Cornus	
elm	Ulmus	
filbert or hazelnut	Corylus	
heath	Erica	
heather	Calluna	
holly	Ilex	
horsechestnut	Aesculus hippocastanum	
Hydrangea	Hydrangea	
lilac	Syringa	
linden	Tilia	
maple	Acer	
mountain ash, European	Sorbus aucuparia	
pear	Pyrus calleryana	
plum	Prunus cerasifera	
poplar or aspen	Populus	
serviceberry, shadbush	Amelanchier	
spirea	Spiraea	
sycamore	Platanus occidentalis	
tuliptree, yellow poplar	Liriodendron tulipifera	
viburnum	Viburnum	
walnut	Juglans	
Pest Survey Information:		
Pest Stage From To	Plant Part Plant Damage	<b>Survey Method</b>

visual inspection

Control: Stage(s) and Timing

Mar 01 Apr 15 stem, trunk

Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the fo	llowing	
egg	Mar 01 - Apr 10	0 - 30	None Offered		
	e use only. NOT a labe		<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
horticultural oil	Damoil		orrect life stage of the target pest.	С	4 hours
	Sunspray Ultra-I	Fine SprayOil		С	4 hours

# Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide \*\*ESA approved common name ^for agricultural applications only.

19-Mar-2019

## **OYSTERSHELL SCALE\*\***

Lepidosaphes ulmi Page 370 (Johnson & Lyon)

\*\*ESA approved common name

\*restricted use pesticide

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: STEM, TRUNK

Host Plants: Common Name	Scientific Name
apple	Malus
beech	Fagus
birch	Betula
Cotoneaster	Cotoneaster
crabapple	Malus
dogwood	Cornus
elm	Ulmus
filbert or hazelnut	Corylus
heath	Erica
heather	Calluna
holly	Ilex
horsechestnut	Aesculus hippocastanum
Hydrangea	Hydrangea
lilac	Syringa
linden	Tilia
maple	Acer
mountain ash, European	Sorbus aucuparia
pear	Pyrus calleryana
plum	Prunus cerasifera
poplar or aspen	Populus
serviceberry, shadbush	Amelanchier
spirea	Spiraea
sycamore	Platanus occidentalis
tuliptree, yellow poplar	Liriodendron tulipifera
viburnum	Viburnum
walnut	Juglans
willow	Salix

# **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph (crawler)	May 15	Jun 30	stem, trunk	decline	visual inspection, sticky
					tape

# **Control: Stage(s) and Timing**

\*restricted use pesticide

Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the following
crawler	May 20 - May 31	from - 280	plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
crawler	Jun 01 - Jun 10		plants bloom: Kousa dogwood, cranberry bush, beautybush
crawler	Jun 10 - Jun 20	to - 725	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*\*ESA approved common name 255

Lepidosaphes ulmi Page 370 (Johnson & Lyon)

#### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator) Aphytis melinus (wasp, scale parasite)

#### ~ . .... . .

#### **Comments**

Available commercially

Available commercially; occurs naturally Available commercially; occurs naturally occurs naturally

Available commercially; occurs naturally

<b>Chemical Control</b>		<u>Comments</u>	Signal	Restricted Entry
	e only. NOT a label substitute.		<u>Word</u>	Interval (REI)^
Select the app	propriate insecticide/miticide for the correct	ct life stage of the target pest.		
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro	Effective against immatures. Bee caution.	W	12 hours
	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours

\*restricted use pesticide

256

\*\*ESA approved common name

^for agricultural applications only.

Agricultural

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# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: STEM, TRUNK

Host Plants: Common Name	Scientific Name
almond, dwarf flowering	Prunus glandulosa
cherry, black	Prunus serotina
cherry, flowering	Prunus
cherry, purple leaf sand	Prunus cistena
peach	Prunus persica

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
adult (clearwing moth	) Jun 01	Aug 01	foliage, trunk		pheromone traps
larva (exit hole, frass	Jul 01	Sep 01	lower trunk	discoloration, dieback	visual inspection
filled jelly)					

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the following
larva	Jun 20 - Jun 30	737 - 967	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
larva	Aug 01 - Aug 10	1500 - 1933	plant bloom: Pee Gee Hydrangea blooms turn pink
larva	Aug 10 - Aug 20	1933 - 2173	plant fruit in color: Mountain ash, cranberry bush

**Comments** 

**Comments** 

#### **Biological Control**

Steinernema feltiae (nematode)	Available commercially
Steinernema carpocapsae (nematode)	Available commercially
Heterorhabditis bacteriophora(nematode)	Available commercially

### **Chemical Control**

Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.

*abamectin	Mauget Abacide 2	BEE CAUTION	W	
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone		С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name

\*restricted use pesticide

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Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

Word

#### **DORMANT SEASON**

Annual cover sprays are suggested.

Frequency with which pest occurs: ANNUAL

# Part of plant to treat: BUD, STEM

Host Plants: Com	mon Name		Se	eientific Name		
pear			Py	vrus calleryana		
Pest Survey In	formation:					
Pest Stage	From	<u>To</u>	<u> Plant Part</u>	Plant Damage	Surve	y Method
adult, egg	Mar 01	Apr 15	bud, stem		visua	l inspection
Control: Stage	(s) and Tin	ning				
Stage(s)	Ideal Cont	rol Dat	<b>Degree Days</b>	Treat HOST PLANT when the	ollowing	
adult, egg	Mar 01 -	Apr 10	0 - 41	None Offered		
	e use only. NO			<u>Comments</u> correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
horticultural oil	Damoil				С	4 hours
	Sunspra	y Ultra-F	ine SprayOil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

#### Annual cover sprays are suggested.

Frequency with which pest occurs: ANNUAL

M-Pede

Pyrenone

\*restricted use pesticide

# Part of plant to treat: FOLIAGE

Pa	art of plant to treat:	FOLIAGE			
Host Plants: Com	mon Name	S	cientific Name		
pear		P	yrus calleryana		
Pest Survey In	formation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
nymph, adult	May 01 Sep 30	foliage, seeds	discoloration, distortion	visual inspection, plant tapping, sticky cards	
Control: Stage	(s) and Timing				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follow	wing	
nymph, adult	Mar 01 - May 10	0 - 228	bridalwreath, Japanese flowering cherry	l,	
nymph, adult	May 10 - Sep 15	228 - 2672	2 rest of season		
Chemical Cont	e <mark>rol</mark> ouse only. NOT a labe		<u>Comments</u>	Signal	Agricultural Restricted Entry
	· · · · · · · · · · · · · · · · · · ·		correct life stage of the target pest.	<u>Word</u>	Interval (REI)^
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Talstar P Profess	ional	BEE CAUTION	С	12 hours
buprofezin	Talus 70DF		Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-F	Fine Spray Oil		С	4 hours
*imidacloprid	Merit 75WSP		BEE CAUTION	С	12 hours
	Xytect 2F		BEE CAUTION	С	
insecticidal soap	Des-X Insecticid	al Soap Concenti	rate	W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

pyrethrin

\*\*ESA approved common name

W

С

^for agricultural applications only.

12 hours

12 hours

#### **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: BUD

Host Plants	s: Common Name		Scientific Name		
	Cotoneaster		Cotoneaster		
pear			Pyrus calleryana		
serviceberry, shadbush		Amelanchier			
Pest Survey Information:					
Pest Stage	<u>From</u> <u>To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	Survey Method	
adult	Mar 01 Apr 15	bud		visual inspection (magnification), plant tapping	
<b>Control:</b>	Stage(s) and Timing				
Stage(s)	<b>Ideal Control Dat</b>	Degree Days	s Treat HOST PLANT when the follow	ing	

		•		8
adult	Mar 01 - Apr 10	0 -	41 as host plant buds swell	
	use only. NOT a labe		Comments	Signal Agricultural Restricted Entry <u>Word</u> Interval (REI)^ St.
horticultural oil	Damoil			<b>C</b> 4 hours
	Sunspray Ultra-H	Fine Spray Oil		C 4 hours

\*restricted use pesticide

\*\*ESA approved common name

tapping

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants:	Common Name		Scientific Name		
	Cotoneaster		Cotoneaster		
	pear		Pyrus calleryana		
	serviceberry, shadbush		Amelanchier		
Pest Surve	v Information:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method	
all stages	May 15 Sep	30 foliage	distortion, discoloration	visual inspection (magnification), plan	

## **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
immature, adult	Jul 20 - Jul 31	1417 - 1673	plants bloom: butterfly bush, Clethra alnifolia, false spirea
immature, adult	Aug 01 - Sep 10	1700 - 2576	Remainder of season between the beginning and end phenology
immature, adult	Sep 10 - Sep 20	2576 - 2719	plants bloom: Pee Gee Hydrangea, Sevin-son Flower

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
abamectin	Avid 0.15 EC		W	12 hours
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
fenazaquin	Magus	BEE CAUTION	W	12 hours
fenpyroximate	Akari 5SC		W	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
spiromesifen	Forbid 4F	most effective against immature stages	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

Pineus strobi Page 76, 78 (Johnson & Lyon) Page 36 (Adams & Packauskas)

# **DORMANT SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: STEM, TRUNK

Host Plants: Comm	on Name		Sci	ientific Name		
pine		Pinus				
Pest Survey Info	ormation:					
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	<u>y Method</u>
nymph	Mar 01	Apr 15	trunk	decline, unsightly	visua	l inspection
Control: Stage(s	s) and Tin	ning				
Stage(s)	Ideal Cont	rol Dat	<b>Degree Days</b>	Treat HOST PLANT when the fo	llowing	
immature	Mar 01 -	Apr 10	0 - 41	None Offered		
	use only. No			<u>Comments</u> orrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
horticultural oil	Damoil	1000010100			С	4 hours
		ıy Ultra-F	ine SprayOil		C C	4 hours

\*restricted use pesticide

\*\*ESA approved common name

# DELAYED DORMANT

#### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: STEM, TRUNK

Host Plants: Com	non Name		Scientific Name		
pine			Pinus		
Pest Survey Inf	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method
nymph	Apr 01 Apr	r 20 trunk	decline, unsightly	visua	l inspection
Control: Stage	s) and Timing				
Stage(s)	Ideal Control D	at Degree Days	s Treat HOST PLANT when the follow	wing	
immature	Apr 01 - Apr 2	20 28 -	96 plants bloom: silver maple, Cornelian cherry, pus willow	sy	
Chemical Cont			<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a			<u>Word</u>	Interval (REI)^
Select the	appropriate insect	icide/miticide for ti	he correct life stage of the target pest.		
horticultural oil	Damoil			С	4 hours
	Sunspray Ult	ra-Fine SprayOil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

#### PINE BARK ADELGID\*\*

Pineus strobi Page 76, 78 (Johnson & Lyon) Page 36 (Adams & Packauskas)

# **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: STEM, TRUNK

Host Plants: Commo	on Name	Sci	ientific Name		
pine		Pir	ius		
pine, ea	stern white	Pir	ius strobus		
Pest Survey Info	rmation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
nymph	Apr 20 Jun 01	trunk	decline, unsightly	visua	l inspection
<b>Control:</b> Stage(s	) and Timing				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follo	wing	
immature	Apr 20 - Apr 30	from - 58	plants bloom: boxelder, star magnolia, periwink Norway maple	cle,	
immature	May 10 - May 20		plants bloom: redbud, Sargent crabapple, flowe almond, Tatarian honeysuckle	ring	
immature	May 20 - May 31	to - 618	plants bloom: ruby horsechestnut, Laburnum al black locust, ninebark	pinum,	
<b><u>Chemical Control</u></b>	<u>ol</u>		Comments	Signal	Agricultural Restricted Entry
Reference L	ise only. NOT a labe	el substitute.		<u>Word</u>	Interval (REI)^
Select the a	ppropriate insecticide	e/miticide for the c	orrect life stage of the target pest.		
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Profess	ional	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G			С	12 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-F	Fine Spray Oil	WARNING: use of oil on blue colored conifers will cause color to change.	С	4 hours
*imidacloprid	Merit 75WSP		BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticid	al Soap Concentra	te	W	12 hours
	M-Pede			W	12 hours
*thiamethoxam	Meridian 0.33G		BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

#### Part of plant to treat: FOLIAGE

Host Plants: Common Name			Scientific Name Pinus				
pine		Г	mus				
Pest Survey In	iormation:						
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method			
immature, adult	May 15 Jun 15	foliage	distortion	visual inspection (magnification)			
<b>Control: Stage</b>	(s) and Timing						
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following the second seco	lowing			
immature	May 20 - May 31	from - 298	3 plants bloom: ruby horsechestnut, Laburnum black locust, ninebark	alpinum,			
immature	Jun 01 - Jun 10	to - 533	3 plants bloom: Kousa dogwood, cranberry bus beautybush	h,			
<b>Biological Con</b>			Comments				
Stethorus punctillu	m (lady beetle - preda	tor)	Available commercially; occurs natural	ly A grigultural			

#### Agricultural **Chemical Control** Signal **Comments Restricted Entry** Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. abamectin Avid 0.15 EC W 12 hours \*abamectin Mauget Abacide 2 BEE CAUTION W BEE CAUTION Carbaryl 4L С 12 hours carbaryl Sevin SL BEE CAUTION С 12 hours fenazaquin Magus BEE CAUTION W 12 hours horticultural oil Damoil С 4 hours **PyGanic** OMRI listed С pyrethrin 12 hours spiromesifen Forbid 4F most effective against immature stages С

\*\*ESA approved common name

\*restricted use pesticide

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Chionaspis pinifoliae Page 108 (Johnson & Lyon) Page 47 (Adams & Packauskas)

# **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: Com	s: Common Name		Scientific Name			
pine		P	Pinus			
spruce	2	$P_{i}$	icea			
Pest Survey Inf	ormation:					
Pest Stage egg	From To Mar 01 Apr	Plant Part5foliage	<u>Plant Damage</u>	visua	y Method l inspection nification)	
Control: Stage	(s) and Timing					
Stage(s)	Ideal Control Da	t Degree Days	Treat HOST PLANT when the f	ollowing		
egg	Mar 01 - Apr 10	0 - 41	None Offered			
	use only. NOT a la		<u>Comments</u> correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^	
horticultural oil	Damoil			С	4 hours	
	Sunspray Ultra	-Fine SprayOil		С	4 hours	

\*restricted use pesticide

\*\*ESA approved common name

## Apply thorough treatment only when pest stage found.

#### Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: <u>Comm</u>	on Name	Sc	ientific Name		
pine		Pi	nus		
spruce		Pi	cea		
Pest Survey Info	rmation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	<u>y Method</u>
nymph (crawler)	May 01 Jun 15	foliage	decline	visua	l inspection
nymph	Jul 15 Aug 01	foliage	decline	visua	l inspection
<b>Control:</b> Stage(s	) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the foll	owing	
crawler	May 20 - May 31	from - 298	plants bloom: ruby horsechestnut, Laburnum black locust, ninebark	alpinum,	
crawler, immature	Jun 01 - Jun 10	to - 448	plants bloom: Kousa dogwood, cranberry bus beautybush	h,	
crawler	Jul 20 - Jul 31	1290 - 1917	plants bloom: butterfly bush, Clethra alnifolia spirea	ı, false	
<b>Biological Contr</b>			<u>Comments</u> Available commercially		
Lindorus lophanthae			Available commercially; occurs natural	l.	
Cryptolaemus montre		,	occurs naturally	iy	
Chilocorus stigma (le	•	)	occurs naturally		Agricultural
Chemical Contro		- 1	Comments	Signal	Restricted Entry
	ise only. NOT a labe		orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
	Acephate 97 WE		BEE CAUTION	С	24 hours
acephate	Lepitect		Effective against immatures. Bee caution.	C C	24 hours 24 hours
	Orthene T,T & C	O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	sional	BEE CAUTION	С	12 hours
	Talstar P Profess	sional	Effective against immatures. Bee caution.	С	12 hours
carbaryl	Carbaryl 4L		Effective against immatures. Bee caution.	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC		Effective against immatures. Bee caution.	С	
*dinotefuran	Safari 20 SG		BEE CAUTION	С	12 hours
*emamectin benzoat	e Tree-age		BEE CAUTION	W	
flonicamid	Aria			С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

horticultural oil

Damoil

\*restricted use pesticide

\*\*ESA approved common name

^for agricultural applications only.

С

4 hours

#### **PINE NEEDLE SCALE\*\***

Chionaspis pinifoliae Page 108 (Johnson & Lyon) Page 47 (Adams & Packauskas)

Chemical Control		<u>Comments</u>	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute. propriate insecticide/miticide for the correc	t life stage of the target pest.	<u>Word</u>	Interval (REI)^
	Sunspray Ultra-Fine Spray Oil	WARNING: use of oil on blue colored conifers will cause color to change.	С	4 hours
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: NEEDLES

Host Plants: Comm	on Nomo	to nout				ientific Name		
pine								
L.	mation							
Pest Survey Info		-	DI				G	
Pest Stage	<u>From</u>	<u>To</u>	Plant		<u>t</u>	<u>Plant Damage</u>		y Method
adult	Jun 01	Jul 01	folia	0				l inspection?
larva	Jul 01	Sep 30	folia	ige		discoloration (mining)	visua	l inspection
Control: Stage(s								
Stage(s)	Ideal Cont	trol Dat	Degre	ee Da	iys	Treat HOST PLANT when the follow	ving	
adult, egg	Jun 10 -	Jun 20	from	-	448	plants bloom: mountain laurel, mock-orange, Jap tree lilac, Washington hawthorn	panese	
adult, egg	Jun 20 -	Jun 30	-	-	-	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus	ı	
larva	Jul 01 -	Jul 10	to	-	802+	_		
Chemical Control						Comments	Signal	Agricultural Restricted Entry
Reference u	-						<u>Word</u>	Interval (REI)^
Select the a	appropriate i	insecticide	e/miticio	de for	r the c	orrect life stage of the target pest.		
*abamectin	Mauget	Abacide	2			BEE CAUTION	W	
acephate	Acepha	te 97 WD	G			BEE CAUTION	С	24 hours
	Orthene	e T,T & C	WSP			BEE CAUTION	С	24 hours
azadirachtin	Aza-Di	rect					С	4 hours
	AzaGua	ard					С	4 hours
*bifenthrin	Onyx P	ro				BEE CAUTION	W	12 hours
	Talstar	P Profess	ional			BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpy	yrifos 4E	AG			Non-residential, BEE CAUTION	W	24 hours
*diflubenzuron	Dimilin	a 25W				Effective against immatures. Bee caution.	С	12 hours
*dinotefuran	Safari 2	20 SG				BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2	.4EC				BEE CAUTION	W	24 hours
*imidacloprid	Merit 7	5WSP				BEE CAUTION	С	12 hours
lambda-cyhalothrin	Deman	d CS				BEE CAUTION	С	
*lambda-cyhalothrir	n Scimita	ır GC				BEE CAUTION	С	24 hours

### Additional information on biology and control

\*restricted use pesticide

This page may contain additional information in the future.

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\*\*ESA approved common name

Lepidosaphes pini

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

Part of plant to treat:

Host Plants: Common Name	Scientific Name
fir	Abies
pine	Pinus
yew	Taxus

<b>Chemical Control</b>		<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference us	e only. NOT a label substitute.		Word	Interval (REI)^
Select the ap		Inter var (KEI)		
acephate	Lepitect	Effective against immatures. Bee caution.	С	24 hours
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours

#### Additional information on biology and control

Not much is known about the biology of this scale. It is thought to overwinter as adult females. Two generations may occur in Connecticut with crawlers present in June and September.

\*restricted use pesticide

\*\*ESA approved common name

С

^for agricultural applications only.

24 hours

#### **GROWING SEASON**

\*lambda-cyhalothrin

#### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

Scimitar GC

\*restricted use pesticide

# Part of plant to treat: **ROOT COLLAR**

1 41	t of plant to treat.	KOOT COL			
Host Plants: Comm	on Name	Sc	ientific Name		
pine		Pi	nus		
Pest Survey Info	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method
adult	May 15 Sep 30	root collar	decline, girdling		l inspection, check s at base of tree
Control: Stage(s) and Timing					
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follo	wing	
adult	Jun 10 - Jun 20	from - 618	plants bloom: mountain laurel, mock-orange, Ja tree lilac, Washington hawthorn	panese	
adult	Jun 20 - Jun 30	to - 912	plants bloom: Rhododendron maximum, Spirae bumalda, Philadelphus	a	
<b>Chemical Contr</b>	<u>ol</u>		<b>Comments</b>	Signal	Agricultural Restricted Entry
	use only. NOT a labe			<u>Word</u>	Interval (REI)^
Select the a	appropriate insecticide	e/miticide for the c	correct life stage of the target pest.		
acephate	Acephate 97 WD	)G	BEE CAUTION	С	24 hours
	Orthene T,T & C	O WSP	BEE CAUTION	С	24 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	ional	BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	

BEE CAUTION

\*\*ESA approved common name

#### PINE SAWFLIES

Diprion, Neodiprion Page 16, 18 (Johnson & Lyon) Page 31 (Adams & Packauskas)

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: Comm	on Name		ientific Name		
pine	astarn white		nus nus strobus		
-	astern white	Pu	nus sirodus		
Pest Survey Info					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage		y Method
larva	May 01 Sep 30	foliage	defoliation	visua	l inspection
Control: Stage(s	s) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the foll	owing	
larva	May 10 - May 20	from - 246	plants bloom: redbud, Sargent crabapple, flow almond, Tatarian honeysuckle	vering	
larva	May 20 - Jul 10		Remainder of season between the beginning a phenology	and end	
larva	Jul 10 - Jul 20	to - 1388	plants bloom: Abelia, golden rain tree, sourwe	bod	
Chemical Contr			<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a label			<u>Word</u>	Interval (REI)^
Select the a	appropriate insecticide	/miticide for the c	orrect life stage of the target pest.		
*abamectin	Mauget Abacide	2	BEE CAUTION	W	
acephate	Acephate 97 WD	G	BEE CAUTION	С	24 hours
	Lepitect		BEE CAUTION	С	24 hours
	Orthene T,T & O	WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Talstar P Professi	onal	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E A	AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*diflubenzuron	Dimilin 25W		Effective against immatures. Bee caution.	С	12 hours
*dinotefuran	Safari 20 SG		Effective against immatures. Bee caution.	С	12 hours
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-Fi	ine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours
indoxacarb	Provaunt		BEE CAUTION	С	
insecticidal soap	Des-X Insecticida	al SoapConcentra	te Only effective against immatures.	W	12 hours
	M-Pede		Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

Diprion, Neodiprion Page 16, 18 (Johnson & Lyon) Page 31 (Adams & Packauskas)

Chemical Control       Comments         Reference use only. NOT a label substitute.       Select the appropriate insecticide/miticide for the correct life stage of the target pest.			Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

#### Additional information on biology and control

Among the many pine sawflies in Connecticut, a common one is the white pine sawfly, Neodiprion pinetum. Cream colored larvae with rows of black spots and a black head capsule feed from July through August on white, red, mugo and other short needle pines. Mature larvae drop to the ground in fall and pupate in soil or plant debris through the winter. Adults emerge in spring, mate and lay eggs in pine needles.

\*restricted use pesticide

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\*\*ESA approved common name

*Tomicus piniperda* Page 64 (Johnson & Lyon)

GROWING SEASON			Арр	oly thorough treatment only wh	en pest stage found.	
Host Plants: Common Name		Sc	ientific Name			
pine				Pi	nus	
Pest Survey Info	ormation	:				
Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Pa</u>	<u>rt</u>	<u>Plant Damage</u>	Survey Method
hole, frass from larva	a May 01	Jun 30	trunk		borer tunnels	visual inspection
adult	Jul 01	Oct 01	stem, tru	nk	borer tunnels	visual inspection
Control: Stage(s) and Timing						
Stage(s)	Ideal Con	trol Dat	Degree D	ays	Treat HOST PLANT when the follo	wing
adult (beetle)	May 01	May 10	133 -	187	plants bloom: Japanese quince, saucer magnolia bridalwreath, Japanese flowering cherry	,
adult (beetle)	May 10	May 20	187 -	278	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ing
adult (beetle)	Jul 10 -	Jul 20	1162 -	1393	plants bloom: Abelia, golden rain tree, sourwood	d
adult (beetle)	Jul 20 -	Sep 10	1393 -	2560	Remainder of season between the beginning and phenology	l end
adult (beetle)	Sep 10 -	Sep 20	2560 -	2810	plants bloom: Pee Gee Hydrangea, Sevin-son Fl	ower
Chemical Contro Reference	use only. N				Comments	SignalAgricultural Restricted EntryWordInterval (REI)^
Select the appropriate insecticide/miticide for the correct life stage of the target pest.						

\*clothianidin

Arena 50 WDG

Do not apply to blooming plants when bees are foraging

С

12 hours

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: STEMS AND BASE OF BUDS

Host Plants: Common Name	Scientific Name	
douglas fir	Pseudotsuga menziesii	
fir	Abies	
hemlock	Tsuga	
pine	Pinus	
spruce	Picea	

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
nymph	May 01	Jun 01	stems and base of buds	discoloration, distortion, spittle	visual inspection, spittle highly visible
adult	Jun 01	Sep 30	stem, foliage	discoloration, distortion	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph	May 01 - May 10	from - 148	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
nymph	May 10 - May 20	to - 386	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> t life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

*Toumeyella parvicornis* Page 96 (Johnson & Lyon)

# **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: **STEM**

Host Plants: Comm	ion Name			ientific Name		
pine			1 11	lus		
Pest Survey Information:						
Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
nymph	Apr 15	May 01	stem	decline	visua	l inspection
Control: Stage(s	Control: Stage(s) and Timing					
Stage(s)	Ideal Cont	rol Dat	<b>Degree Days</b>	Treat HOST PLANT when the follow	ving	
nymph	Apr 20 -	Apr 30	96 - 137	plants bloom: boxelder, star magnolia, periwink Norway maple	le,	
Chemical Contr				Comments	Signal	Agricultural Restricted Entry
Reference	use only. No	OT a labe	el substitute.		<u>Word</u>	Interval (REI)^
Select the a	appropriate i	nsecticide	e/miticide for the c	orrect life stage of the target pest.		
horticultural oil	Damoil				С	4 hours
	Sunspra	ıy Ultra-F	Fine SprayOil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

**Survey Method** 

visual inspection

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

#### Part of plant to treat: STEM Host Plants: Common Name **Scientific Name** pine Pinus **Pest Survey Information:** Pest Stage From То **Plant Part Plant Damage** decline nymph (crawler) Jun 20 Jul 15 stem **Control: Stage(s) and Timing Ideal Control Dat** Stage(s) **Degree Days** Treat HOST PLANT when the following Jun 20 - Jun 30 618 crawler 1050 plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator)

#### **Comments**

Available commercially Available commercially; occurs naturally Available commercially; occurs naturally

occurs naturally

Childeonus sugnia (laa	y beene predatory	,		
<u>Chemical Control</u> <u>Comments</u>				Agricultural Restricted Entry
Reference us	e only. NOT a label substitute.		<u>Word</u>	Interval (REI)^
Select the app	propriate insecticide/miticide for the correc	t life stage of the target pest.		
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil	WARNING: use of oil on blue colored conifers will cause color to change.	С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name 277

#### **PINE TORTOISE SCALE\*\***

*Toumeyella parvicornis* Page 96 (Johnson & Lyon)

Chemical Contro		<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference use only. NOT a label substitute.			Word	Interval (REI)^
Select the a				
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

278

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

	FULIAG		iontific Nome						
Host Plants: Common Name pine		Scientific Name Pinus							
Pest Survey Info									
Pest Stage	<u>From</u> <u>To</u>	Plant Par	<u>rt</u>	Plant Damage		y Method			
larva	May 15 Jun 15	foliage		distortion, defoliation	visua	l inspection			
Control: Stage(s	) and Timing								
Stage(s)	Ideal Control Dat	<b>Degree Days</b>		Treat HOST PLANT when the follow	ving				
larva	Apr 20 - Apr 30	from -	91	plants bloom: boxelder, star magnolia, periwinkl Norway maple	le,				
larva	May 01 - May 10	to -	246	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry	,				
larva	Jul 01 - Jul 10	from -	1151	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata					
larva	Jul 10 - Jul 20	to -	1514	plants bloom: Abelia, golden rain tree, sourwood	1				
Chemical Contro				Comments	Signal	Agricultural Restricted Entry			
Reference use only. NOT a label substitute. <u>Word</u> Interval (REI)^									
					C	241			
acephate	Acephate 97 WI			BEE CAUTION	C	24 hours			
1. 1	Orthene T,T & C	) wsp		BEE CAUTION	C	24 hours			
azadirachtin	Aza-Direct				C	4 hours			
D d initiali	AzaGuard			Most offerting against normalizing	C	4 hours			
B. thuringiensis aizawai	XenTari			Most effective against young larvae.	С	4 hours			
B. thuringiensis kurstaki	DiPel DF			Most effective against young larvae.	С	4 hours			
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours			
	Talstar P Profess	sional		BEE CAUTION	С	12 hours			
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours			
	Sevin SL			BEE CAUTION	С	12 hours			
*deltamethrin	Suspend SC			BEE CAUTION	С				
*diflubenzuron	Dimilin 25W			Effective against immatures. Bee caution.	С	12 hours			
lambda-cyhalothrin	Demand CS			BEE CAUTION	С				
*lambda-cyhalothrin	Scimitar GC			BEE CAUTION	С	24 hours			
pyrethrin	Pyrenone				С	12 hours			
spinosad	Conserve SC			Most effective against young larvae.	С	4 hours			

\*\*ESA approved common name

\*restricted use pesticide

Acantholyda, Cephalcia, Tetralopha spp. Page 18, 22 (Johnson & Lyon)

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: <u>Comm</u>	on Name	So	cientific Name		
pine		inus			
Pest Survey Info	rmation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method	
larva	May 01 Aug 01	foliage	defoliation	visual inspection	
Control: Stage(s	) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follo	owing	
larva	May 01 - Aug 01		all season (when webbing found)		
	use only. NOT a labe		<u>Comments</u> correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*abamectin	Mauget Abacide		BEE CAUTION	W	
acephate	Acephate 97 WD		BEE CAUTION	C	24 hours
acephate	Lepitect		BEE CAUTION	C	24 hours
	Orthene T,T & C	) WSP	BEE CAUTION	C	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
·	Sevin SL		BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*diflubenzuron	Dimilin 25W		Effective against immatures. Bee caution.	С	12 hours
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-F	ine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours
	Xytect 2F		BEE CAUTION	С	
insecticidal soap	Des-X Insecticid	al SoapConcentra	ate	W	12 hours
	M-Pede		Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC		BEE CAUTION	С	24 hours
*permethrin	Astro		BEE CAUTION	С	12 hours
spinosad	Conserve SC		Most effective against young larvae.	С	4 hours

#### Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide \*\*ESA approved common name ^for agricultural applications only.

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

-	are or prairie	io ireat.	IULI					
Host Plants: Common Name					Sci	ientific Name		
pine					Pir	ius		
Pest Survey I	nformation:							
Pest Stage	From	<u>To</u>	<u>Plant</u>	t Par	<u>t</u>	<u>Plant Damage</u>	Surve	<u>y Method</u>
larva	Jun 15	Sep 30	folia	ge		defoliation	visua	l inspection
Control: Stag	e(s) and Tin	ning						
Stage(s)	Ideal Cont	rol Dat	Degre	e Da	ys	Treat HOST PLANT when the follo	wing	
larva	Jun 20 -	Jun 30	from	-	802	plants bloom: Rhododendron maximum, Spirae bumalda, Philadelphus	ea	
larva	Jul 01 -	Jul 31	-	-	-	Remainder of season between the beginning an phenology	d end	
larva	Aug 01 -	Aug 10	to	-	2000	plant bloom: Pee Gee Hydrangea blooms turn	pink	
Chemical Con						<u>Comments</u>	Signal	Agricultural Restricted Entry
	ce use only. No						<u>Word</u>	Interval (REI)^
Select th	he appropriate i	nsecticide	e/miticia	le for	the co	orrect life stage of the target pest.		
acephate	Acepha	te 97 WD	G			BEE CAUTION	С	24 hours
	Lepitect	t				BEE CAUTION	С	24 hours
azadirachtin	Aza-Dii	rect					С	4 hours

	Lepitect	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
horticultural oil	Sunspray Ultra-Fine Spray Oil		С	4 hours
indoxacarb	Provaunt	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours
	eonserve be	57 0 5 0	-	

**Signal words: C=Caution; W = Warning; DP = Danger Poison** Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

Petrova comstockiana Page 72 (Johnson & Lyon)

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

# Part of plant to treat: STEM

Host Plants: Common Name			Scientific Name					
pine				Pir	nus			
Pest Survey Information:								
Pest Stage	From	<u>To</u>	<u>Plant Part</u>		Plant Damage	Survey Method		
adult	May 1	5 Jul 01	stem			visual inspection?		
larva	Aug 0	l Nov01	foliage, ste	ems	distortion, discoloration	visual inspection		
Control: Stage(s) and Timing								
Stage(s)	Ideal Cor	trol Dat	Degree Day	7 <b>S</b>	Treat HOST PLANT when the follow	ving		
adult	May 20	May 31	198 -	707	plants bloom: ruby horsechestnut, Laburnum alpi black locust, ninebark	num,		
adult, egg	Jun 01	Jun 10	198 -	707	plants bloom: Kousa dogwood, cranberry bush, beautybush			
adult, egg	Jun 10	Jun 20	198 -	707	plants bloom: mountain laurel, mock-orange, Jap tree lilac, Washington hawthorn	anese		

### **Non Chemical Control**

Where feasible, cut & destroy twigs that have the pitch mass.

	e only. NOT a label substitute. propriate insecticide/miticide for the corr	<u>Comments</u> rect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	

\*\*ESA approved common name

\*restricted use pesticide

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# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: STEMS 4-12 MM

Host Plants: Common Name	Scientific Name
Azalea	Azalea
dogwood	Cornus
filbert or hazelnut	Corylus
hornbeam	Carpinus caroliniana
Rhododendron	Rhododendron

#### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
adult	May 15	Sep 30	trunk near ground level	discoloration, dieback, tree death	visual inspection
adult (entrance hole), frass	Jun 01	Sep 30	trunk near ground level	discoloration, dieback, tree death	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
adult	Jun 01 - Jun 10	437 - 563	plants bloom: Kousa dogwood, cranberry bush, beautybush
adult	Jun 10 - Aug 10	563 - 1933	Remainder of season between the beginning and end phenology
adult	Aug 10 - Aug 20	1933 - 2173	plant fruit in color: Mountain ash, cranberry bush

#### . . .

	e only. NOT a label substitute. propriate insecticide/miticide for the c	Comments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
Ocicol life app		orreet me stage of the target pest.		
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
pyrethrin	Pyrenone		С	12 hours

### Additional information on biology and control

\*restricted use pesticide

Ambrosia beetles do not eat wood or bark. Males carry a fungus that they innoculate into the tunnels, where it grows on the walls darkening them. Both larvae and adults feed on the fungus.

\*\*ESA approved common name

^for agricultural applications only.

Agricultural

Cryptorhynchus lapathi Page 268 (Johnson & Lyon)

### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: TRUNK

Host Plants: Common Name	Scientific Name
alder	Alnus
birch	Betula
poplar or aspen	Populus
pussywillow	Salix discolor
willow	Salix

### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
exit hole(s), frass	May 01	Sep 30	trunk	discoloration, dieback	visual inspection
adult (beetle)	Jun 15	Sep 30	foliage, trunk		visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
larva	Aug 20 - Aug 31	from - 2150	plant fruit in color: Viburnum dentatum
larva	Sep 01 - Sep 10		plant fruit in color: sweet autumn clematis, Polygonum aubertii
larva	Sep 10 - Sep 20	to - 2710	plants bloom: Pee Gee Hydrangea, Sevin-son Flower

	only. NOT a label substitute. ropriate insecticide/miticide for the correct	Comments t life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

### **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

Part of plant	t to treat: STEM				
Host Plants: Common Name		<b>Scientific</b>	Name		
Cotoneaster		Cotoneaste	er		
rose		Rosa			
<b>Pest Survey Information</b>	<u>ı:</u>				
Pest Stage From	<u>To</u> <u>Plant P</u>	<u>art</u>	<u>Plant Damage</u>	Surve	y Method
egg Mar 01	1 Apr 15 stem			visua	l inspection
Control: Stage(s) and Ti	ming				
Stage(s) Ideal Con	ntrol Dat Degree I	Days Treat	HOST PLANT when the fol	lowing	
egg Mar 01 -	- Apr 10 0 -	41 None Of	fered		
<u>Chemical Control</u> Reference use only. N	NOT a label substitut		<u>omments</u>	Signal	Agricultural Restricted Entry
			e stage of the target pest.	<u>Word</u>	Interval (REI)^
horticultural oil Damoi	il			С	4 hours
Sunspr	ray Ultra-Fine Spray	Oil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

Macrosiphum euphorbiae Page 300 (Johnson & Lyon)

### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: BUDS AND NEW GROWTH

#### Host Plants: Common Name

Plants	: Common Name	Scientific Name
	burning bush, winged euonymus	Euonymus alatus
	Cotoneaster	Cotoneaster
	crabapple	Malus
	dogwood	Cornus
	honeysuckle	Lonicera
	rose	Rosa

### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph	May 15	Sep 30	foliage, new growth	distortion, discoloration	visual inspection
adult	May 20	Sep 30	foliage, new growth	distortion, discoloration	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the following
nymph, adult	Jun 20 - Jun 30	737 - 967	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
nymph, adult	Jul 01 - Jul 31	989 - 1673	Remainder of season between the beginning and end phenology
nymph, adult	Aug 01 - Aug 10	1700 - 1933	plant bloom: Pee Gee Hydrangea blooms turn pink

### <u> Biological Control</u>

Orius sp. (predator)
Hippodamia convergens (lady beetle - predator)
Diaeretiella rapae (wasp, aphid parasite)
Deraeocoris nebulosus (mirid bug - predator)
Chrysoperla sp. (green lacewing - predator)
Aphidoletes aphidimyza (midge, aphid predator)
Aphidius matricariae (wasp, aphid parasite)

\*restricted use pesticide

#### Comments Available commercially; occurs naturally

Available commercially; occurs naturally occurs naturally occurs naturally Available commercially; occurs naturally Available commercially; occurs naturally Available commercially; occurs naturally

^for agricultural applications only.

Agricultural **Chemical Control Comments** Signal **Restricted Entry** Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. BEE CAUTION W \*abamectin Mauget Abacide 2 BEE CAUTION acephate Acephate 97 WDG С 24 hours BEE CAUTION Lepitect С 24 hours BEE CAUTION Orthene T,T & O WSP С 24 hours TriStar 8.5 SL BEE CAUTION С 12 hours acetamiprid azadirachtin Aza-Direct С 4 hours AzaGuard С 4 hours \*bifenthrin BEE CAUTION Onyx Pro W 12 hours BEE CAUTION Talstar P Professional С 12 hours BEE CAUTION carbaryl Carbaryl 4L С 12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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\*\*ESA approved common name

### **POTATO APHID\*\***

Macrosiphum euphorbiae Page 300 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn		-	4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	w	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena 50 WDG		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

287

\*\*ESA approved common name

### **POTATO LEAFHOPPER\*\***

Empoasca fabae Page 414 (Johnson & Lyon) Page 38 (Adams & Packauskas)

### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: BUDS AND NEW GROWTH

Host Plants: Common Name	Scientific Name
birch	Betula
maple	Acer
Wisteria	Wisteria
witchhazel	Hamamelis

### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
adult	Jun 01	Sep 30	foliage, new growth	distortion, discoloration	visual inspection, sticky cards
nymph	Jun 15	Sep 30	foliage, new growth	distortion, discoloration	visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph, adult	Jun 01 - Jun 20	from - 420	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn
nymph, adult	Jun 20 - Aug 10		Remainder of season between the beginning and end phenology
nymph, adult	Aug 10 - Aug 20	to - 2155	plant fruit in color: Mountain ash, cranberry bush

### **Biological Control**

**Comments** Available commercially; occurs naturally

Chrysoperla sp. (green lacewing - predator)

#### **Chemical Control**

# **Comments**

<b>Chemical Control</b>	<u>l</u>	<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference us	e only. NOT a label substitute.		<b>Word</b>	Interval (REI)^
Select the ap	propriate insecticide/miticide for the corr	rect life stage of the target pest.		
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
fenpyroximate	Akari 5SC		W	12 hours
flonicamid	Aria		С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

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\*\*ESA approved common name

^for agricultural applications only.

Agricultural

# **POTATO LEAFHOPPER\*\***

*Empoasca fabae* Page 414 (Johnson & Lyon) Page 38 (Adams & Packauskas)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
horticultural oil	Damoil		С	4 hours
*imidacloprid	Merit 75WSP	BEE CAUTION	C	12 hours
indoxacarb	Provaunt	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
phosmet	Imidan 70W	BEE CAUTION	W	24 hours
pyrethrin	Pyrenone		С	12 hours

\*restricted use pesticide

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\*\*ESA approved common name

### Apply thorough treatment only when pest stage found.

^for agricultural applications only.

	ripply thorough treatment only when pest suger to				stage Iouna.
Host Plants: Co	mmon Name	S	cientific Name		
priv	vet	L	igustrum		
Pest Survey J	Information:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
adult	May 01 Nov	01 foliage	rusty discoloration, downward leaf cupping		l inspection nification)
immature	May 20 Oct	15 foliage	rusty discoloration, downward leaf cupping		l inspection nification)
Control: Stag	ge(s) and Timing				
Stage(s)	Ideal Control Da	t Degree Days	Treat HOST PLANT when the follow	ving	
all stages	May 20 - May 3	from - 29	8 plants bloom: ruby horsechestnut, Laburnum alp black locust, ninebark	inum,	
all stages	Jun 01 - Jun 10	to - 802	2 plants bloom: Kousa dogwood, cranberry bush, beautybush		
all stages	Jul 10 - Jul 20	1266 - 1513	5 plants bloom: Abelia, golden rain tree, sourwood		
Chemical Co			<u>Comments</u>	Signal	Agricultural Restricted Entry
	nce use only. NOT a la the appropriate insection		correct life stage of the target pest.	<u>Word</u>	Interval (REI)^
abamectin	Avid 0.15 EC			W	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
fenazaquin	Magus		BEE CAUTION	W	12 hours
pyrethrin	PyGanic		OMRI listed	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name	
lilac	Syringa	
privet	Ligustrum	
Pest Survey Information:		

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
adult	May 15	Sep 30	foliage	discoloration, distortion	visual inspection, plant tapping
nymph	Jun 01	Sep 30	foliage	discoloration, distortion	visual inspection, plant tapping

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	Degree	Days	Treat HOST PLANT when the following
nymph, adult	May 10 - May 20	192 -	- 618	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
nymph, adult	May 20 - May 31	192 -	- 618	plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
nymph, adult	Jun 01 - Jun 10	192 -	- 618	plants bloom: Kousa dogwood, cranberry bush, beautybush
nymph, adult	Jul 01 - Jul 10	1029	- 1266	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata

Comments

Available commercially; occurs naturally

### **Biological Control**

Chrysoperla sp. (green lacewing - predator)

#### **Chemical Control**

**Comments** Reference use only. NOT a label substitute. Word Select the appropriate insecticide/miticide for the correct life stage of the target pest.

acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
I	Orthene T,T & O WSP	BEE CAUTION	C	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
·	Sevin SL	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria	Supression	С	12 hours
*imidacloprid	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

### **PRIVET THRIPS\*\***

Dendrothrips ornatus Page 432 (Johnson & Lyon)

	t <b>rol</b> e use only. NOT a label substitute. e appropriate insecticide/miticide for the co	<u>Comments</u> rrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

### **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: UNCOMMON

# Part of plant to treat: BARK, STEM

Host Plants: Common Name	Scientific Name
apple	Malus
birch	Betula
blueberry	Vaccinium
Cotoneaster	Cotoneaster
dogwood	Cornus
elm	Ulmus
hemlock	Tsuga
linden	Tilia
Magnolia	Magnolia
maple	Acer
oak	Quercus
plum	Prunus cerasifera
Rhododendron	Rhododendron
rose	Rosa
willow	Salix
Pest Survey Information:	
Pest Stage From To	Plant Part Plant Damage Survey Method

<u>Pest Stage</u>	<u>From To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	<u>Surve</u>	ey Method
nymph	Mar 01 Apr	15 bark, stem	discoloration, twig dieback	visua	l inspection
Control: Stage(s	s) and Timing				
Stage(s)	Ideal Control D	at Degree Days	Treat HOST PLANT when the follo	owing	
nymph	Mar 15 - Apr 1	5 5 - 41	None Offered		
<u>Chemical Contr</u>	<u>ol</u>		<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference	use only. NOT a	abel substitute.		<u>Word</u>	Interval (REI)^
Select the a	appropriate insect	cide/miticide for the c	correct life stage of the target pest.		
horticultural oil	Damoil			С	4 hours

# Additional information on biology and control

\*restricted use pesticide

Putnam/Rhododendron scale is believed to be a complex of species. A bark form and a leaf form, possibly two different species, are present. Two generations are possible in Connecticut. This scale overwinters as a second instar nymph on twig bark. Adults occur in May followed by first generation crawlers in early June. These crawlers settle on bark. Second generation crawlers peak in late August. A small percentage of these settle on undersides of leaves (leaf form). The remainder settle on bark and overwinter.

**\*\*ESA approved common name** 

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### PUTNAM/RHODODENDRON SCALE

Diaspidiotus ancylus

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: UNCOMMON

# Part of plant to treat: BARK TO FOLIAGE

Host Plants: Common Name	Scientific Name
apple	Malus
birch	Betula
blueberry	Vaccinium
Cotoneaster	Cotoneaster
dogwood	Cornus
elm	Ulmus
hemlock	Tsuga
linden	Tilia
Magnolia	Magnolia
maple	Acer
oak	Quercus
plum	Prunus cerasifera
Rhododendron	Rhododendron
rose	Rosa
willow	Salix

# **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u> Plant Part</u>	Plant Damage	Survey Method		
crawler	May 01	Jun 30	bark, stem	branch dieback	visual inspection		
crawler	Aug 01	Sep 30	bark, foliage	branch dieback	visual inspection		
Control: Stage(s) and Timing							

S	stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the following
	crawler	May 15 - Jun 30	235 - 940	plants bloom: Kousa dogwood, cranberry bush, beautybush
	crawler	Aug 15 - Sep 30	2038 - 2850	plant bloom: Pee Gee Hydrangea blooms turn pink

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> of life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
flonicamid	Aria		С	12 hours
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

294

\*\*ESA approved common name

### PUTNAM/RHODODENDRON SCALE

Diaspidiotus ancylus

Chemical Cont Reference	<mark>rol</mark> ≆ use only. NOT a label sub:		Agricultural Restricted Entry Interval (REI)^
Select the	appropriate insecticide/mitic	cide for the correct life stage of the target pest.	Interval (KEI)"
pyriproxyfen	Distance IGR	Only effective against immatures.	12 hours

### Additional information on biology and control

Putnam/Rhododendron scale is believed to be a complex of species. A bark form and a leaf form, possibly two different species, are present. Two generations are possible in Connecticut. This scale overwinters as a second instar nymph on twig bark. Adults occur in May followed by first generation crawlers in early June. These crawlers settle on bark. Second generation crawlers peak in late August. A small percentage of these settle on undersides of leaves (leaf form). The remainder settle on bark and overwinter.

\*restricted use pesticide

295

\*\*ESA approved common name

Argyrotaenia velutinana Page 214 (Johnson & Lyon)

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: Commo				ïc Name		
crabappl	le		Malus			
larch			Larix			
spruce			Picea			
Pest Survey Info	rmation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>		Plant Damage	<u>Surve</u>	y Method
adult	May 01 Jun 15	foliage			phero	omone traps
larva	May 15 Jul 15	foliage		defoliation	visua	l inspection
Control: Stage(s)	and Timing					
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Tre	at HOST PLANT when the follo	wing	
egg, larva	May 20 - May 31	from -	-	s bloom: ruby horsechestnut, Laburnum al	pinum,	
larva	Jun 01 - Jun 10	to - 0	618 plant	s bloom: Kousa dogwood, cranberry bush, ybush		
Chemical Contro				Comments	Signal	Agricultural Restricted Entry
	se only. NOT a labe			t life stars of the target post	<u>Word</u>	Interval (REI)^
			e correc	t life stage of the target pest.		
acephate	Acephate 97 WD			BEE CAUTION	С	24 hours
	Orthene T,T & C	) WSP		BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
B. thuringiensis aizawai	XenTari			Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	Biobit HP			Most effective against young larvae.	С	4 hours
	DiPel DF			Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profess	sional		BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn					4 hours
*deltamethrin	Suspend SC			BEE CAUTION	С	
*diflubenzuron	Dimilin 25W			Effective against immatures. Bee caution.	С	12 hours
*fenpropathrin	Tame 2.4EC			BEE CAUTION	W	24 hours
indoxacarb	Provaunt			BEE CAUTION	С	
lambda-cyhalothrin	Demand CS			BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC			BEE CAUTION	С	24 hours
*permethrin	Astro			BEE CAUTION	С	12 hours
	Perm-UP 3.2EC			BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name 296

### **REDBANDED LEAFROLLER\*\***

Argyrotaenia velutinana Page 214 (Johnson & Lyon)

Chemical Cor	<b><u>itrol</u></b> ce use only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
Select th	ne appropriate insecticide/miticide for the c	orrect life stage of the target pest.		Interval (REI)^
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

### **REDHEADED ASH BORER**

Neoclytus acuminatus Page 278 (Johnson & Lyon)

### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
ash	Fraxinus
beech	Fagus
birch	Betula
crabapple	Malus
dogwood	Cornus
elm	Ulmus
elm	Ulmus
hickory	Carya
honeylocust	Gleditsia triacanthos
linden	Tilia
maple	Acer
oak	Quercus

### **Pest Survey Information:**

Pest Stage	<u>From</u> <u>To</u>	Plant Part	Plant Damage	Survey Method
adult (beetle)	Mar 01 Oct	31 trunk, branch	borer tunnels	visual inspection
Control: Stage(	s) and Timing			
Stage(s)	Ideal Control D	at Degree Days	Treat HOST PLANT when the fo	ollowing
exit hole(s), frass	Apr 15 - May 3	31 44 - 395	plants bloom: boxelder, star magnolia, peri Norway maple	winkle,
Chemical Contr			<u>Comments</u>	Agricultural Restricted Entry
	use only. NOT a l			Word Interval (REI)^
Select the	appropriate insecti	cide/miticide for the c	orrect life stage of the target pest.	
*abamectin	Mauget Abac	ide 2	BEE CAUTION	W
*bifenthrin	Talstar P Prof	essional	BEE CAUTION	C 12 hours

### Additional information on biology and control

\*restricted use pesticide

Females of this <sup>1</sup>/2" long, longhorned borer lay eggs on bark of weakened or recently planted trees. Reddish antennae are darker and thickened distally. The body darkens posteriorly with four yellow lateral stripes. As the common name indicates, the rounded pronotum and head are a rusty red. Larva hatch and eat through the inner bark into the summerwood cutting off nutrient and water flow in the tree. No contact is maintained with the outside so frass piles are not seen. After overwintering in the tree adults emerge in spring when red maple blooms. Young nursery stock can be attacked.

298

**\*\*ESA approved common name** 

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Part	of plant	to treat:	FOL	IAG	Ε			
Host Plants: Commo	n Name				Sci	ientific Name		
pine					Pir	านร		
Pest Survey Info	rmation:							
Pest Stage	<u>From</u>	<u>To</u>	Plan	t Par	<u>'t</u>	<u>Plant Damage</u>	<u>Surve</u>	y Method
larva	Jun 01	Sep 01	folia	.ge		defoliation	visua	l inspection
Control: Stage(s)	and Tin	ning						
_	Ideal Cont	-	Degre	e Da	avs	Treat HOST PLANT when the follow	wing	
0.00		Jun 10	437	-	563	plants bloom: Kousa dogwood, cranberry bush,		
						beautybush		
larva	Jun 10 -	Aug 20	563	-	2173	Remainder of season between the beginning and phenology	end	
larva	Aug 20 -	Aug 31	2173	-	2399	plant fruit in color: Viburnum dentatum		
Chamical Cantus						<b>~</b>	Signal	Agricultural
Chemical Contro Reference us	_	OT a labe	l subst	itute		Comments	<u>Word</u>	<b>Restricted Entry</b>
						orrect life stage of the target pest.	woru	Interval (REI)^
*abamectin		Abacide				BEE CAUTION	W	
acephate		te 97 WD				BEE CAUTION	C	24 hours
ucephate	Lepitec		<b>U</b>			BEE CAUTION	c	24 hours
	-	e T,T & C	) WSP			BEE CAUTION	c	24 hours
acetamiprid	TriStar					BEE CAUTION	C	12 hours
azadirachtin	Aza-Di						C	4 hours
	AzaGua	ard					С	4 hours
*bifenthrin	Talstar	P Profess	ional			BEE CAUTION	С	12 hours
carbaryl	Carbary					BEE CAUTION	С	12 hours
,	Sevin S					BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpy	vrifos 4E	AG			Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspen	d SC				BEE CAUTION	С	
*diflubenzuron	Dimilin	25W				Effective against immatures. Bee caution.	С	12 hours
*dinotefuran	Safari 2	20 SG				Effective against immatures. Bee caution.	С	12 hours
*emamectin benzoate	e Tree-ag	ge				BEE CAUTION	W	
horticultural oil	Damoil						С	4 hours
*imidacloprid	Mallet '	75 WSP				BEE CAUTION	С	12 hours
	Merit 7	5WSP				BEE CAUTION	С	12 hours
	Xytect 2	2F				BEE CAUTION	С	
insecticidal soap	Des-X	Insecticid	al Soap	Con	centra	te Only effective against immatures.	W	12 hours
	M-Pede	e				Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Deman					BEE CAUTION	С	
*lambda-cyhalothrin	Scimita	r GC				BEE CAUTION	С	24 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

### **REDHEADED PINE SAWFLY\*\***

Neodiprion lecontei Page 16, 18 (Johnson & Lyon)

	<mark>ol</mark> use only. NOT a label substitute. ppropriate insecticide/miticide for the co	<u>Comments</u> prrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Commo			_			ientific Name		
bayberr	у				•	vrica pensylvanica		
poplar o	or aspen				Po	pulus		
redbud					Ce	rcis canadensis		
Pest Survey Info	rmation:							
Pest Stage	<b>From</b>	<u>To</u>	Plant	Par	<u>'t</u>	<u>Plant Damage</u>	Surve	<u>y Method</u>
larva	Jul 01	Sep 01	foliag	ge		defoliation	visua	l inspection
<b>Control: Stage(s)</b>	and Tim	ning						
Stage(s)	Ideal Conti	rol Dat	Degree	e Da	nys	Treat HOST PLANT when the follow	wing	
larva	Jul 01 - J	Jul 10	989	-	1196	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata		
larva	Jul 10 - A	Aug 20	1196	-	2173	Remainder of season between the beginning and phenology	end	
larva	Aug 20 - A	Aug 31	2173	-	2399	plant fruit in color: Viburnum dentatum		
Biological Contro Podisus maculiventri		ldier bug	g - preda	itor)	)	<u>Comments</u> Available commercially; occurs naturally		
<u>Chemical Contro</u> <i>Reference u</i>		)T a laba	leuheti	huto		Comments	Signal Word	Agricultural Restricted Entry
	-					orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
acephate	Acephate			• • • •		BEE CAUTION	С	24 hours
acephate	Orthene					BEE CAUTION	C C	24 hours
acetamiprid	TriStar 8		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			BEE CAUTION	C C	12 hours
azadirachtin	Aza-Dire						C C	4 hours
uzuunuonun	AzaGuai						C C	4 hours
B. thuringiensis aizawai	XenTari					Most effective against young larvae.	C	4 hours
B. thuringiensis kurstaki	Biobit H	IP				Most effective against young larvae.	С	4 hours
	DiPel Dl	F				Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pr	ю				BEE CAUTION	W	12 hours
	Talstar F	P Profess	ional			BEE CAUTION	С	12 hours
carbaryl	Carbaryl	l 4L				BEE CAUTION	С	12 hours
	Sevin SI	Ĺ				BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepry	yn						4 hours
*chlorpyrifos	Chlorpy	rifos 4E .	AG			Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend	SC				BEE CAUTION	С	
*diflubenzuron	Dimilin	25W				Effective against immatures. Bee caution.	С	12 hours
indoxacarb	Provaun	t				BEE CAUTION	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name 301

### **REDHUMPED CATERPILLAR\*\***

Schizura concinna Page 156 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
phosmet	Imidan 70W	BEE CAUTION	W	24 hours
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

Pa	rt of plant	to treat:	STE	M, TI	RUN	NK	
Host Plants: Com	non Name				Sci	ientific Name	
Azale	a				Aza	alea	
laurel,	, mountain				Ka	lmia latifolia	
Rhode	odendron				Rh	ododendron	
Pest Survey Inf	ormation	<u>.:</u>					
Pest Stage	<b>From</b>	<u>To</u>	<u>Plant</u>	t Part		<u>Plant Damage</u>	Survey Method
adult (clearwing mo	oth) May 01	Jul 01	folia	ge, tru	nk		pheromone traps
hole, frass from larv	a Jul 01	Oct 01	trunk, branch			discoloration, dieback	visual inspection
<b>Control: Stage</b>	s) and Ti	<u>ming</u>					
Stage(s)	Ideal Cor	ntrol Dat	Degre	e Day	S	Treat HOST PLANT when the follow	ing
larva, ?adult	May 10	- May 20	192	-	298	plants bloom: redbud, Sargent crabapple, floweri almond, Tatarian honeysuckle	ng
larva, ?adult	Jun 01 -	Jun 10	from	-	533	plants bloom: Kousa dogwood, cranberry bush, beautybush	
larva, ?adult	Jun 10 -	- Jun 20	to	-	707	plants bloom: mountain laurel, mock-orange, Jap tree lilac, Washington hawthorn	anese
Biological Cont Steinernema feltiae						<u>Comments</u> Available commercially	

Steinernema carpocapsae (nematode) *Heterorhabditis bacteriophora (nematode)* 

\*restricted use pesticide

#### **Chemical Control**

Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.

	· ·	0 0 1		
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours

Available commercially

Available commercially

**Comments** 

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

303

\*\*ESA approved common name

Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

Word

### **RHODODENDRON GALL MIDGE**

Clinodiplosis rhododendri Page 470 (Johnson & Lyon)

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: UPPER ROOT ZONE BEFORE BUDS EXPAND

Host Plants: Common Name Rhododendron						entific Name		
					Rh	ododendron		
Pest Survey Info	rmation:							
Pest Stage	From 7	<u>Го</u>	Plant	t Par	t	<u>Plant Damage</u>	Surve	<u>y Method</u>
larva			folia	ge		distortion		l inspection
1 11	<b>I</b> 01	G 01	c 1'				· U	nification)
larval damage		Sep 01	folia	ge		distortion, discoloration	visua	linspection
Control: Stage(s	) and Timi	ng						
Stage(s)	<b>Ideal Contro</b>	ol Dat	Degre	e Da	ys	Treat HOST PLANT when the follo	wing	
larva	May 10 - M	lay 20	from	-	192	plants bloom: redbud, Sargent crabapple, flowe almond, Tatarian honeysuckle	ring	
larva	May 20 - M	lay 31	to	-	363	plants bloom: ruby horsechestnut, Laburnum al black locust, ninebark	pinum,	
<b>Chemical Control</b>	<u>ol</u>					<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference ι	ise only. NO	T a labe	subst	itute.			<u>Word</u>	Interval (REI)^
Select the a	ppropriate ins	secticide	/miticio	de for	the co	prrect life stage of the target pest.		× /
acephate	Acephate	97 WD	G			BEE CAUTION	С	24 hours
	Orthene T	Г,T & O	WSP			BEE CAUTION	С	24 hours
carbaryl	Carbaryl 4	4L				BEE CAUTION	С	12 hours
	Sevin SL					BEE CAUTION	С	12 hours
*deltamethrin	Suspend S	SC				BEE CAUTION	С	
*imidacloprid	Xytect 2F	7				BEE CAUTION	С	
lambda-cyhalothrin	Demand (	CS				BEE CAUTION	С	
*lambda-cyhalothrii	n Scimitar (	GC				BEE CAUTION	С	24 hours
spinosad	Conserve	SC				Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: COMMON

# Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name	
Azalea	Azalea	
laurel, mountain	Kalmia latifolia	
Rhododendron	Rhododendron	
Pest Survey Information:		

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph	May 15	Sep 30	foliage	discoloration (brownish spots)	visual inspection, plant tapping
adult	Jun 01	Sep 30	foliage	discoloration (brownish spots)	visual inspection, plant tapping

# **Control: Stage(s) and Timing**

Stage(s)	Ideal C	ontrol Dat	Degr	ee Da	ays	Treat HOST PLANT when the following
egg, nymph	Jun 01	- Jun 10	from	-	448	plants bloom: Kousa dogwood, cranberry bush, beautybush
nymph	Jun 10	- Jun 20	-	-	-	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn
nymph, adult?	Jun 20	- Jun 30	to	-	1029	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name

### **RHODODENDRON LACE BUG\*\***

Stephanitis rhododendri Page 424 (Johnson & Lyon) Page 38 (Adams & Packauskas)

Chemical Control		<u>Comments</u>	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute. propriate insecticide/miticide for the correc	t life stage of the target pest.	<u>Word</u>	Interval (REI)^
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	C C	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

### Additional information on biology and control

The rhododendron lace bug overwinters as eggs glued along the lower midvein of foliage. Yellowish green, wingless nymphs feed from the undersides of leaves removing chlorophyll with their piercing-sucking mouthparts. Shed skins and dark, shiny fecal spots can be diagnostic for this pest. Rounded adults are very sculptured with two lacy wings. There are multiple generations per year.

\*restricted use pesticide

306

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: NEW FOLIAGE

Host Plants: <u>Commo</u>	on Name				ientific Name		
Azalea					alea		
Rhodod	endron			Rh	ododendron		
Pest Survey Info	rmation:						
Pest Stage	<u>From</u> <u>To</u>	<u>Plan</u>	t Pa	<u>rt</u>	<u>Plant Damage</u>	Surve	<u>y Method</u>
mined leaves (larva)	Jul 01 Sep 3	0 folia	age:	old, nev	w discoloration (mining)	visua	l inspection
Control: Stage(s)	) and Timing						
Stage(s)	Ideal Control Da	t Degr	ee D	ays	Treat HOST PLANT when the follo	owing	
adult	Aug 01 - Aug 10	1700	-	1933	plant bloom: Pee Gee Hydrangea blooms turn	pink	
adult, larva	Aug 10 - Sep 10	1933	-	2576	Remainder of season between the beginning ar phenology	nd end	
adult, larva	Sep 10 - Sep 20	2576	-	2719	plants bloom: Pee Gee Hydrangea, Sevin-son I	Flower	
Chemical Contro					<u>Comments</u>	Signal	Agricultural Restricted Entry
	se only. NOT a la				a waat life atoms of the tawart most	<u>Word</u>	Interval (REI)^
			ae ro	or the c	orrect life stage of the target pest.		
*abamectin	Mauget Abaci				BEE CAUTION	W	
acephate	Acephate 97 V	VDG			BEE CAUTION	С	24 hours
	Lepitect				BEE CAUTION	С	24 hours
	Orthene T,T &	O WSP			BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct					С	4 hours
	AzaGuard					С	4 hours
*bifenthrin	Onyx Pro				BEE CAUTION	W	12 hours
	Talstar P Profe	essional			BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G					С	12 hours
*diflubenzuron	Dimilin 25W				Effective against immatures. Bee caution.	С	12 hours
*emamectin benzoate	e Tree-age				BEE CAUTION	W	
*fenpropathrin	Tame 2.4EC				BEE CAUTION	W	24 hours
*imidacloprid	Mallet 75 WS	2			BEE CAUTION	С	12 hours
	Merit 75WSP				BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS				BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC				BEE CAUTION	С	24 hours
*permethrin	Astro				BEE CAUTION	С	12 hours
	Perm-UP 3.2E	С			BEE CAUTION	С	12 hours
*thiamethoxam	Meridian 0.33	G			BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

Oberea myops Page 288 (Johnson & Lyon)

# **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: COMMON

# Part of plant to treat: TRUNK, STEM

Host Plants: Common Name	Scientific Name
Azalea	Azalea
blueberry	Vaccinium
laurel, mountain	Kalmia latifolia
Rhododendron	Rhododendron
sourwood	Oxydendrum arboreum

### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
adult (beetle)	May 15	Jul 15	stem, foliage	minor leaf notching	visual inspection
hole, frass from larva	Jul 01	Sep 30	stem, trunk	discoloration, dieback	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the following
adult	May 20 - May 31	from - 298	plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
adult	Jun 01 - Jun 10		plants bloom: Kousa dogwood, cranberry bush, beautybush
adult	Jun 10 - Jun 20	to - 802	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn

	<b>]</b> se only. NOT a label substitute. ppropriate insecticide/miticide for the corr	<u>Comments</u> rect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G		С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

# Part of plant to treat: STEM, DEVELOPING BUD

Host Plants: Common Name         rose         Pest Survey Information:         Pest Stage       From       To       Plant Part	Scientific Name Rosa		
Pest Survey Information:Pest StageFromToPlant Part	Rosa		
Pest Stage         From         To         Plant Part			
	Plant Damage	Surve	y Method
nymph Jun 01 Sep 30 foliage, new	w growth discoloration, distortion	visua	l inspection
adult Jun 15 Sep 30 foliage, new	w growth discoloration, distortion	visua	l inspection
<b>Control: Stage(s) and Timing</b>			
Stage(s)         Ideal Control Dat         Degree Days	s Treat HOST PLANT when the follow	ving	
nymph, adult Jun 20 - Jun 30 737 -	967 plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus		
nymph, adult Jul 01 - Sep 30 989 - 2	1862 rest of season		
Biological Control Orius sp. (predator)	<u>Comments</u> Available commercially; occurs naturally		
Hippodamia convergens (lady beetle - predator)	Available commercially; occurs naturally		
Diaeretiella rapae (wasp, aphid parasite)	occurs naturally		
Deraeocoris nebulosus (mirid bug - predator)	occurs naturally		
Chrysoperla sp. (green lacewing - predator)	Available commercially; occurs naturally		
Aphidoletes aphidimyza (midge, aphid predator)	Available commercially; occurs naturally		
Aphidius matricariae (wasp, aphid parasite)	Available commercially; occurs naturally		
Chemical Control	Comments	Signal	Agricultural Restricted Entry
Reference use only. NOT a label substitute.		<u>Word</u>	· Interval (REI)^
Select the appropriate insecticide/miticide for the	he correct life stage of the target pest.		
acephate Acephate 97 WDG	BEE CAUTION	С	24 hours
Lepitect	BEE CAUTION	С	24 hours
Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin Aza-Direct		С	4 hours
AzaGuard		С	4 hours
*bifenthrin Onyx Pro	BEE CAUTION	W	12 hours
Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl Carbaryl 4L	BEE CAUTION	С	12 hours
Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole Acelepryn			4 hours
*chlorpyrifos Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
	BEE CAUTION	С	12 hours
*clothianidin + Aloft GC G bifenthrin		-	

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

BEE CAUTION

19-Mar-2019

\*deltamethrin

Suspend SC

\*restricted use pesticide

С

### **ROSE APHID\*\***

Macrosiphum rosae Page 308 (Johnson & Lyon)

Chemical Control		<u>Comments</u>	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute. propriate insecticide/miticide for the correc	t life stage of the target pest.	<u>Word</u>	Interval (REI)^
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Common Name			Sci	ientific Name		
Hydrangea			Ну	drangea		
rose			Ro	sa		
Pest Survey Info	ormation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant</u>	<u>Part</u>	Plant Damage	Surve	y Method
adult	Jun 01 Jul 0	1 foliag	ge	defoliation	visua	l inspection
Control: Stage(	<u>s) and Timing</u>					
Stage(s)	Ideal Control Da	t Degree	e Days	Treat HOST PLANT when the follo	owing	
adult	Jun 01 - Jun 10	from	- 488	plants bloom: Kousa dogwood, cranberry bush beautybush	l <b>,</b>	
adult	Jun 10 - Jun 20	to	- 802	plants bloom: mountain laurel, mock-orange, J tree lilac, Washington hawthorn	apanese	
Chemical Contr	ol			<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a la				<u>Word</u>	Interval (REI)^
Select the a	appropriate insectio	ide/miticid	e for the co	orrect life stage of the target pest.		
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours
	Talstar P Profe	essional		BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4	E AG		Non-residential, BEE CAUTION	W	24 hours
pyrethrin	Pyrenone				С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Common Name			Sc	ientific Name		
rose			Ro	osa		
Pest Survey Info	ormation:					
Pest Stage	<u>From</u> <u>To</u>	Plant Pa	<u>art</u>	Plant Damage	Surve	<u>y Method</u>
larva	May 15 Sep (	1 foliage		defoliation	visua	l inspection
Control: Stage(s	s) and Timing					
Stage(s)	Ideal Control Da	t Degree l	Days	Treat HOST PLANT when the follo	owing	
larva	May 20 - May 31	311 -	423	plants bloom: ruby horsechestnut, Laburnum a black locust, ninebark	lpinum,	
larva	Jun 01 - Jun 30					
larva	Aug 10 - Aug 20	1933 -	2173	plant fruit in color: Mountain ash, cranberry b	ısh	
Chemical Contr				<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a la				Word	Interval (REI)^
			for the c	orrect life stage of the target pest.		
acephate	Acephate 97 W	/DG		BEE CAUTION	С	24 hours
	Orthene T,T &	O WSP		BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC			BEE CAUTION	С	
horticultural oil	Damoil				С	4 hours
insecticidal soap	Des-X Insectio	idal Soap C	oncentra	ate	W	12 hours
Ĩ	M-Pede	*			W	12 hours
spinosad	Conserve SC			Most effective against young larvae.	С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FRUIT, BARK, FOLIAGE

Host	Plants:	Common	Name
ILUSU	I Iuno.	Common	1 June

st i faits.		Scientific I value
	almond, dwarf flowering	Prunus glandulosa
	apple	Malus
	cherry, black	Prunus serotina
	chokeberry	Aronia
	crabapple	Malus
	serviceberry, shadbush	Amelanchier

Scientific Name

### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
hole, frass from larva	May 01	Sep 30	trunk	discoloration, dieback	visual inspection
adult (beetle)	Jun 01	Sep 01	fruit, trunk, foliage		visual inspection

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Co	ontrol Dat	Degre	e Da	ys	Treat HOST PLANT when the following
adult	Jun 20	- Jun 30	from	-	802	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
adult	Jul 01	- Jul 10	-	-	-	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata
adult	Jul 20	- Jul 31	to	-	1798	plants bloom: butterfly bush, Clethra alnifolia, false spirea

**Comments** Available commercially

Available commercially

Available commercially

### **Biological Control**

Steinernema feltiae (nematode) Steinernema carpocapsae (nematode) Heterorhabditis bacteriophora (nematode)

\*restricted use pesticide

### **Chemical Control**

**Comments** Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.

*abamectin	Mauget Abacide 2	BEE CAUTION	W	
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G		С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
*chlorpyrifos *clothianidin	Talstar P Professional Chlorpyrifos 4E AG Arena .25 G	BEE CAUTION Non-residential, BEE CAUTION	C W	12 hours 24 hours 12 hours

313

\*\*ESA approved common name

Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

Word

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: TWIGS & BRANCHES HAVE MOST SCALE

Scientific Name
Malus
Cotoneaster
Morus
Populus
Ligustrum
Cotinus

### **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
nymph (crawler)	Jun 01	Sep 30	trunk	decline	visual inspection, sticky
					tape

## **Control: Stage(s) and Timing**

Stage(s)	Ideal C	ontrol Dat	Degre	e Da	ays	Treat HOST PLANT when the following
crawler, nymph, adult	Jun 01	- Jun 10	437	-	563	plants bloom: Kousa dogwood, cranberry bush, beautybush
crawler, nymph, adult	Jun 10	- Aug 31	563	-	2399	Remainder of season between the beginning and end phenology
crawler, nymph, adult	Sep 01	- Sep 10	2418	-	2576	plant fruit in color: sweet autumn clematis, Polygonum aubertii

### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator)	Avai
Cryptolaemus montrouzieri (lady beetle predator)	Avai
Chrysoperla sp. (green lacewing - predator)	Avai
Chilocorus stigma (lady beetle - predator)	осси
Aphytis melinus (wasp, scale parasite)	Avai
Amblyseius spp. (predatory mite)	Avai

### **Comments**

-	vailable commercially
A	vailable commercially; occurs naturally
A	vailable commercially; occurs naturally
00	ccurs naturally
A	vailable commercially; occurs naturally
$A_1$	vailable commercially

	<b>]</b> se only. NOT a label substitute. ppropriate insecticide/miticide for the correc	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entrv Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro	Effective against immatures. Bee caution.	W	12 hours
	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

314

\*\*ESA approved common name

### SAN JOSE SCALE\*\*

*Quadraspidiotus perniciosus* Page 386 (Johnson & Lyon)

Chemical Control	Signal Word	Agricultural Restricted Entry					
	Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.						
	Sevin SL	BEE CAUTION	С	12 hours			
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours			
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С				
flonicamid	Aria		С	12 hours			
horticultural oil	Damoil		С	4 hours			
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours			
	M-Pede	Only effective against immatures.	W	12 hours			
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С				
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours			
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours			
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours			
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours			
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours			

\*restricted use pesticide

315

\*\*ESA approved common name

Odontopus calceatus Page 210 (Johnson & Lyon)

# **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

# Frequency with which pest occurs: RARE

# Part of plant to treat: FOLIAGE

Host Plants: Common Name						Scientific Name						
Magnolia						Magnolia						
Sassafras						Sassafras						
tuliptree, yellow poplar					Liriodendron tulipifera							
Pest Survey Information:												
Pest Stage	From	<u>To</u>	Plant	t Part		<u>Plant Damage</u>	Surve	<u>y Method</u>				
adult	May 01	Jun 20	folia	ge		leaf notching	visua	l inspection				
larva	May 15	Jul 01	folia	ge		discoloration (mining)	visua	l inspection				
Control: Stage(s) and Timing												
Stage(s)	<b>Ideal Control Dat</b>		<b>Degree Days</b>		7 <b>S</b>	Treat HOST PLANT when the follow	ving					
adult, egg	May 20 -	May 31	from	-	363	plants bloom: ruby horsechestnut, Laburnum alp black locust, ninebark	oinum,					
adult, egg	Jun 01 -	Jun 10	-	-	-	plants bloom: Kousa dogwood, cranberry bush, beautybush						
adult, egg	adult, egg Jun 20 - Jun 30 to - 618 plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn											
<b>Chemical Contr</b>	ol					<u>Comments</u>	Signal	Agricultural Restricted Entry				
Reference use only. NOT a label substitute.								Interval (REI) <sup>^</sup>				
Select the a	appropriate il	nsecticide	e/miticio	de for	the co	orrect life stage of the target pest.		``´´				
azadirachtin	Aza-Dir	rect					С	4 hours				
	AzaGua	ırd					С	4 hours				
*bifenthrin	Onyx Pr	ro				BEE CAUTION	W	12 hours				
	Talstar 1	P Profess	ional			BEE CAUTION	С	12 hours				
carbaryl	Carbary	14L				BEE CAUTION	С	12 hours				
	Sevin S	L				BEE CAUTION	С	12 hours				
pyrethrin	Pyrenor	ne					С	12 hours				

\*restricted use pesticide

\*\*ESA approved common name

## **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

## Part of plant to treat: FOLIAGE

Host Plants: Comm		to treat.	TOL	IAC		ientific Name		
willow					Sa			
					~			
Pest Survey Info			Dlan	t Dor		Plant Damage	Commo	w Mothod
Pest Stage	From	<u>To</u>	Plan folia		<u>1</u>	Plant Damage defoliation		y Method l inspection
larva larva	Jun 01 Aug 01	Jul 01 Sep 30	folia	-		defoliation		l inspection
	-	-	10112	ige		defonation	visua	Inspection
Control: Stage(s			_	_				
Stage(s)	Ideal Cont		Degr	ee Da	-	Treat HOST PLANT when the follo		
larva	Jun 01 -	Jun 10	from	-	298	plants bloom: Kousa dogwood, cranberry bush beautybush	,	
larva	Jun 10 -	Jun 20	to	-	700	plants bloom: mountain laurel, mock-orange, Ja tree lilac, Washington hawthorn	apanese	
larva	Aug 01 -	Aug 10	from	-	1917	plant bloom: Pee Gee Hydrangea blooms turn p	pink	
larva	Aug 10 -	Aug 20	to	-	2271	plant fruit in color: Mountain ash, cranberry be	ush	
Chemical Contr	<u>ol</u>					<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. N						<u>Word</u>	Interval (REI)^
Select the a				de to	r the c	orrect life stage of the target pest.		
acephate	Acepha	ite 97 WD	G			BEE CAUTION	С	24 hours
	Orthene	Orthene T,T & O WSP				BEE CAUTION	С	24 hours
acetamiprid	TriStar	8.5 SL				BEE CAUTION	С	12 hours
azadirachtin	Aza-Di	rect					С	4 hours
	AzaGua	ard					С	4 hours
B. thuringiensis aizawai	XenTar	ri				Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	Biobit I	HP				Most effective against young larvae.	С	4 hours
	DiPel D	DF				Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx P	ro				BEE CAUTION	W	12 hours
	Talstar	P Profess	ional			BEE CAUTION	С	12 hours
carbaryl	Carbary	yl 4L				BEE CAUTION	С	12 hours
	Sevin S	L				BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepi	ryn						4 hours
*deltamethrin	Suspend	d SC				BEE CAUTION	С	
*permethrin	Astro					BEE CAUTION	С	12 hours
	Perm-U	JP 3.2EC				BEE CAUTION	С	12 hours
pyrethrin	Pyrenoi	ne					С	12 hours
spinosad	Conserv	ve SC				Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridia	an 0.33G				BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

## **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: RARE

## Part of plant to treat: FOLIAGE

Host Plants: Common	Name		Scientific Name			
Cotoneaster			Cotoneaster			
hawthorn	L		Crataegus			
mountain	ash, European		Sorbus aucuparia			
pear			Pyrus calleryana			
sycamore			Platanus occidentalis			
Pest Survey Infor	mation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method	
adult (beetle)	May 01 Jul (	)1 foliage		visua	l inspection?	
hole, frass from larva	Jul 01 Oct 0	01 trunk	discoloration, dieback	visua	l inspection	
Control: Stage(s)	and Timing					
Stage(s) Io	deal Control Da	at Degree Days	Treat HOST PLANT when the foll	lowing		
adult N	/lay 15 - Jun 30	) 270 - 9	67			
<b><u>Chemical Control</u></b>			<u>Comments</u>	Signal	Agricultural Restricted Entry	
	eonly.NOTal			Word	Interval (REI)^	
Select the app	propriate insecti	cide/miticide for the	e correct life stage of the target pest.			
*abamectin	Mauget Abac	ide 2	BEE CAUTION	W		
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours	
	Talstar P Prof	essional	BEE CAUTION	С	12 hours	
*chlorpyrifos	Chlorpyrifos 4	4E AG	Non-residential, BEE CAUTION	W	24 hours	
*emamectin benzoate	Tree-age		BEE CAUTION	W		
*permethrin			DEE CLUTION	C	101	
permetinin	Perm-UP 3.21	EC	BEE CAUTION	С	12 hours	

# Host Plants: Common NameScientific NamearborvitaeThujafalsecypressChamaecyparisJuniperJuniperus

## **<u>GROWING SEASON</u>** Apply thorough treatment only when pest stage found.

\*restricted use pesticide

\*\*ESA approved common name

#### SOUTHERN PINE BEETLE

Dendroctonus frontalis

## **GROWING SEASON**

Host Plants	: Common	Name			Scientific Name		
	pine				Pinus		
	pine, east	ern white			Pinus strobus		
spruce, Norway			Picea abies				
Pest Surv	ey Inform	mation:	ı				
Pest Stage		<u>From</u>	<u>To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	<u>Surve</u>	<u>y Method</u>
adult, larva		Jan 01	Dec 31	trunk	borer tunnels	visual	inspection
Chemical Rea	Control		OT a label	substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
Select the appropriate insecticide/miticide for the			he correct life stage of the target pest.		Interval (REI)^		
*abamectin		Mauget	Abacide	2	BEE CAUTION	W	

\*restricted use pesticide

\*\*ESA approved common name

## **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE

Host Plants: Common Name			ientific Name			
Azale	ea	Az	Azalea			
holly		Ile	x			
laure	l, mountain	Ka	ılmia latifolia			
Rhod	odendron	Rł	ododendron			
rose o	of sharon	Hi	biscus syriacus			
summ	nersweet	Cl	ethra alnifolia			
Pest Survey In	formation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	ey Method	
egg	Mar 01 Apr 15	foliage		visua	l inspection	
Control: Stage	(s) and Timing					
Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when th	efollowing		
egg	Mar 01 - Apr 10	0 - 41	None Offered			
Chemical Cont			Comments	Signal	Agricultural Restricted Entr	
	e use only. NOT a labe appropriate insecticide		orrect life stage of the target pest	<u>Word</u>	Interval (REI)	
	D '1			С	4 hours	
horticultural oil	Damoil			-		

\*restricted use pesticide

321

\*\*ESA approved common name

#### **GROWING SEASON**

Page 475, 476 (Johnson & Lyon)

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: COMMON

#### Part of plant to treat: FOLIAGE

Scientific Name	
Azalea	
Ilex	
Kalmia latifolia	
Rhododendron	
Hibiscus syriacus	
Clethra alnifolia	
-	Azalea Ilex Kalmia latifolia Rhododendron Hibiscus syriacus

#### **Pest Survey Information:**

Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
immature	May 01 Oct 1	5 foliage	discoloration (stippling)	visual inspection (magnification), plant tapping
adult	May 15 Oct 3	1 foliage	discoloration (stippling)	visual inspection (magnification), plant tapping

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the following
immature, adult	May 10 - May 20	from - 190	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
immature	May 20 - May 31		plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
immature, adult	Jun 10 - Jun 20	to - 725	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn

Comments

**Comments** 

Available commercially; occurs naturally Available commercially; occurs naturally Available commercially; occurs naturally Available commercially; occurs naturally Available commercially; occurs naturally

#### **Biological Control**

Stethorus punctillum (lady beetle - predator)
Phytoseiulus persimilis (predatory mite)
Orius sp. (predator)
Neoseiulus cucumeris (predatory mite)
Chrysoperla sp. (green lacewing - predator)

\*restricted use pesticide

#### **Chemical Control**

Reference use only. NOT a label substitute.
Select the appropriate insecticide/miticide for the correct life stage of the target pest.

abamectin	Avid 0.15 EC		W	12 hours
bifenazate	Floramite SC	BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
etoxazole	Tetrasan 5 WDG		С	12 hours
fenazaquin	Magus	BEE CAUTION	W	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
fenpyroximate	Akari 5SC		W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

322

\*\*ESA approved common name

Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

Word

#### **SOUTHERN RED MITE\*\***

*Oligonychus ilicis* Page 475, 476 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> of life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
hexythiazox	Hexygon DF	most effective against immature stages	С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
spiromesifen	Forbid 4F	most effective against immature stages	С	

\*restricted use pesticide

323

\*\*ESA approved common name

#### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE, STEMS

1	are of plane to trea	t. FOLIAGE,			
Host Plants: Cor	nmon Name	S	cientific Name		
spir	ea	SI	piraea		
Pest Survey I	nformation:				
Pest Stage	<u>From</u> <u>To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	Surve	ey Method
nymph	May 01 Jul 15	foliage, new gi	owth discoloration	visua	l inspection
adult	May 10 Jul 15	foliage, new gr	rowth discoloration	visua	l inspection
Control: Stag	e(s) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the fo	ollowing	
nymph, adult	Jun 10 - Jun 20	563 - 737	7 plants bloom: mountain laurel, mock-orange tree lilac, Washington hawthorn	e, Japanese	
nymph, adult	Jun 20 - Jun 30	737 - 967	· · ·	iraea	
nymph, adult	Jul 01 - Jul 10	989 - 1196	5 plants bloom: Ceanothus americanus, Clema jackmanii, Tilia cordata	atis	
<b>Biological Co</b>	<u>ntrol</u>		Comments		
Orius sp. (predat	or)		Available commercially; occurs nature	ally	
Hippodamia conv	vergens (lady beetle - p	predator)	Available commercially; occurs nature	ally	
Diaeretiella rapa	e (wasp, aphid parasit	e)	occurs naturally		
Deraeocoris nebulosus (mirid bug - predator)			occurs naturally		
Chrysoperla sp. (green lacewing - predator)			Available commercially; occurs nature	ally	
Aphidoletes aphidimyza (midge, aphid predator)			Available commercially; occurs nature	ally	
Aphidius matrica	riae (wasp, aphid para	site)	Available commercially; occurs nature	ally	
Chemical Cor			<u>Comments</u>	Signal	Agricultural Restricted Entr

**Restricted Entry** Reference use only. NOT a label substitute. Word Interval (REI)^ Select the appropriate insecticide/miticide for the correct life stage of the target pest. BEE CAUTION С 24 hours acephate Acephate 97 WDG BEE CAUTION С 24 hours Lepitect BEE CAUTION С Orthene T,T & O WSP 24 hours BEE CAUTION С acetamiprid TriStar 8.5 SL 12 hours azadirachtin С 4 hours Aza-Direct С AzaGuard 4 hours \*bifenthrin Onyx Pro BEE CAUTION W 12 hours BEE CAUTION Talstar P Professional С 12 hours BEE CAUTION carbaryl Carbaryl 4L С 12 hours BEE CAUTION С Sevin SL 12 hours chlorantraniliprole Acelepryn 4 hours Non-residential, BEE CAUTION Chlorpyrifos 4E AG \*chlorpyrifos W 24 hours BEE CAUTION \*clothianidin + Aloft GC G С 12 hours bifenthrin

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name ^for agricultural applications only. 324

\*restricted use pesticide

Aphis citricola Page 298 (Johnson & Lyon)

<b>Chemical Control</b>		<u>Comments</u>	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute.	not life store of the terrest post	<u>Word</u>	Interval (REI)^
Select the app	propriate insecticide/miticide for the corr	ect me stage of the target pest.		
*deltamethrin	Suspend SC	BEE CAUTION	С	
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

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\*\*ESA approved common name

Lycorma delicatula

#### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: RARE

## Part of plant to treat: STEM, TRUNK

Host Plants: Common Name	Scientific Name
cherry, flowering	Prunus
cherry, purple leaf sand	Prunus cistena
crabapple	Malus
maple	Acer
oak	Quercus
pine	Pinus
poplar or aspen	Populus
tree of heaven	Ailanthus altissima
walnut	Juglans
willow	Salix

#### **Pest Survey Information:**

<u>Pest Stage</u>	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
adult	Sep 15	Nov 15	trunk	weeping wounds ontrunk	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph, adult	May 15 - Sep 30	200 - 2500	all season

	se only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
Select the ap	propriate insecticide/miticide for the correc	t life stage of the target pest.		
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	BEE CAUTION	С	24 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*dinotefuran	Safari 20 SG	apply drench when soil is not frozen or waterlogged.	С	12 hours
flonicamid	Aria		С	12 hours
*imidacloprid	Xytect 2F	BEE CAUTION	С	
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours

#### Additional information on biology and control

\*restricted use pesticide

As of January 2019, the exotic spotted lanternfly, Lycorma delicatula (White), has spread throughout Southeastern Pennsylvania, with infestations in Delaware and New Jersey to the east as well. Adults are 1" long with cream to gray colored upper wings with black spots and under wings that are red, black and white. Wingless nymphs are initially black and white but older nymphs are red and black with white spots. It was thought to prefer jumping to flying between hosts such as fruit trees, hops, grapes, tree of heaven and deciduous trees. However, the spread of this insect from

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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**\*\*ESA approved common name** 

one to thirteen counties in the past three years may be indicative of the insect flying over long distances. With piercing-sucking mouthparts sap is removed from leaves, stems and trunks of host plants often leaving a weeping area of sap that attracts bees and wasps. In areas with high lanternfly populations, excretions of honeydew drip like rain from infested plants. Winter is passed as eggs in a gray mass on tree of heaven trunks or other objects nearby. Nymphs hatch in spring and will move off tree of heaven to other hosts where they feed on leaves and young stems before becoming adults by late July. (Tim Abbey, Penn State Extension, personal communication.) If you think you have seen the spotted lanternfly, please send digital photos to ReportSLF@ct.gov or contact the Information Offices in New Haven at 203-974-8600 or Windsor at 860-683-4977.

\*restricted use pesticide

**\*\*ESA approved common name** 

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DORMANT S	EASON	Арр	ply thorough treatment only when pest stage found.				
Host Plants: Com	nmon Name Scientific Name						
spruc	e	Pie	cea				
spruc	e, Norway	Pie	cea abies				
Control: Stage	(s) and Timing						
Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the follo	wing			
immature	Mar 01 - Apr 10	0 - 41	None Offered				
Chemical Cont		1 1 <i>1</i> 1 1	Comments	Signal	Agricultural Restricted Entry		
	e use only. NOT a lab e appropriate insecticid		orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^		
horticultural oil	Damoil		WARNING: use of oil on blue colored conifers will cause color to change.	С	4 hours		
	Sunspray Ultra-	Fine SprayOil	WARNING: use of oil on blue colored conifers will cause color to change.	С	4 hours		
Additional info	rmation on high	av and control					

## Additional information on biology and control

WARNING: use of oil on blue colored conifers will cause color to change. Norway spruce is particularly susceptible to this pest.

\*restricted use pesticide

\*\*ESA approved common name

## **DELAYED DORMANT**

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: BASE OF BUD

Host Plants: Comn	non Name		Scientific Name				
spruce	;		Picea				
spruce	, Colorado		Picea pungens				
spruce	, dwarf alberta		Picea glauca var. 'Conica'				
spruce	e, Norway		Picea abies				
Pest Survey Information:							
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	ey Method		
nymph	Apr 01 Apr 2	base of bud	decline	visua	l inspection		
Control: Stage(	<u>s) and Timing</u>						
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follo	wing			
immature	Apr 01 - Apr 20	28 -	96 plants bloom: silver maple, Cornelian cherry, pu willow	ssy			
Chemical Cont			<u>Comments</u>	Signal	Agricultural Restricted Entry		
	use only. NOT a lab appropriate insecticio		ne correct life stage of the target pest.	<u>Word</u>	Interval (REI)^		
horticultural oil	Damoil			С	4 hours		
	Sunspray Ultra-	Fine Spray Oil		С	4 hours		

\*restricted use pesticide

\*\*ESA approved common name

Physokermes piceae Page 96 (Johnson & Lyon)

#### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

#### Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: BASE OF BUD

Host Plants: Common Name	Scientific Name
spruce	Picea
spruce, Colorado	Picea pungens
spruce, dwarf alberta	Picea glauca var. 'Conica'
spruce, Norway	Picea abies

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
nymph (crawler)	Jun 01	Sep 30	twig	decline	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control I	at	Degre	e Da	ys	Treat HOST PLANT when the following
crawler	Jun 20 - Jun 3	)	from	-	912	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
crawler	Jul 01 - Jul 1		-	-	-	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata
crawler	Jul 10 - Jul 2		to	-	1388	plants bloom: Abelia, golden rain tree, sourwood

#### **Biological Control**

*Lindorus lophanthae (lady beetle - scale predator)* Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator)

\*restricted use pesticide

#### **Comments**

Available commercially Available commercially; occurs naturally Available commercially; occurs naturally occurs naturally

#### **Chemical Control**

**Comments** Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.

acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
flonicamid	Aria		С	12 hours
horticultural oil	Damoil	WARNING: use of oil on blue colored conifers will cause color to change.	С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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Agricultural

Restricted Entry

Interval (REI)^

Signal

Word

## **SPRUCE BUD SCALE\*\***

Physokermes piceae Page 96 (Johnson & Lyon)

Chemical Control	e onlv. NOT a label substitute.	<u>Comments</u>	Signal	Agricultural Restricted Entry
Select the ap	<u>Word</u>	Interval (REI)^		
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

## Additional information on biology and control

WARNING: use of oil on blue colored conifers will cause color to change.

\*restricted use pesticide

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\*\*ESA approved common name

Choristoneura fumiferana Page 28 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: BUD

Host Plants: Common Name	Scientific Name
fir	Abies
hemlock	Tsuga
pine	Pinus
spruce	Picea

#### **<u>Pest Survey Information:</u>**

<u>Pest Stage</u>	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
larva	Apr 15	Jul 01	bud	defoliation	visual inspection

## **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
larva	Apr 20 - Apr 30	96 - 137	plants bloom: boxelder, star magnolia, periwinkle, Norway maple
larva	May 01 - Jun 10	144 - 563	Remainder of season between the beginning and end phenology
larva	Jun 10 - Jun 20	563 - 737	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn

#### **Biological Control**

Podisus maculiventris (spined soldier bug - predator)

\*restricted use pesticide

Comments

Available commercially; occurs naturally

Chemical Control	e only. NOT a label substitute.	<u>Comments</u>	Signal Word	Agricultural Restricted Entry
	propriate insecticide/miticide for the corre	ct life stage of the target pest.	<u>Word</u>	Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
1	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
B. thuringiensis aizawai	XenTari	Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	Biobit HP	Most effective against young larvae.	С	4 hours
	DiPel DF	Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

**\*\*ESA approved common name** 332

^for agricultural applications only.

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#### **SPRUCE BUDWORM\*\***

Choristoneura fumiferana Page 28 (Johnson & Lyon)

	Chemical Control       Comments         Reference use only. NOT a label substitute.       Comments			
Select	the appropriate insecticide/miticide	e for the correct life stage of the target pest.		Interval (REI)^
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

Endothenia albolineana Page 32 (Johnson & Lyon)

## **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE

Host Plants: Commo			Scientific Name		
douglas	fir		Pseudotsuga menziesii		
spruce			Picea		
Pest Survey Info	rmation:				
Pest Stage	<u>From</u> <u>To</u>	Plant Part	Plant Damage	Surve	y Method
larva	Jun 01 Jun 2	0 foliage	discoloration (mining)	visua	l inspection
Control: Stage(s)	) and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follo	owing	
larva	Jun 01 - Jun 10	from - 44	48 plants bloom: Kousa dogwood, cranberry bush beautybush	,	
larva	Jun 10 - Jun 20	to - 80	02 plants bloom: mountain laurel, mock-orange, J tree lilac, Washington hawthorn	apanese	
Chemical Contro	<u>) </u>		Comments	Signal	Agricultural Restricted Entry
Reference u	se only. NOT a lai	oel substitute.		Word	Interval (REI)^
Select the ap	opropriate insectici	de/miticide for the	e correct life stage of the target pest.		
*abamectin	Mauget Abacic	le 2	BEE CAUTION	W	
acephate	Acephate 97 W	DG	BEE CAUTION	С	24 hours
	Orthene T,T &	O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profe	ssional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4	E AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*fenpropathrin	Tame 2.4EC		BEE CAUTION	W	24 hours
*imidacloprid	Merit 75WSP		BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC		BEE CAUTION	С	24 hours
spinosad	Conserve SC		Most effective against young larvae.	С	4 hours

\*\*ESA approved common name

\*restricted use pesticide

#### **DORMANT SEASON**

#### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

## Part of plant to treat: FOLIAGE, STEMS

Host Plants: Common Name	Scientific Name	
arborvitae	Thuja	
cedar	Cedrus	
douglas fir	Pseudotsuga menziesii	
fir	Abies	
hemlock	Tsuga	
Juniper	Juniperus	
pine	Pinus	
spruce	Picea	

#### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
egg	Mar 01	Apr 15	foliage		visual inspection (magnification)

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the	following	
egg	Mar 01 - Apr 10	0 - 30	None Offered		
	e use only. NOT a labe		<u>Comments</u> correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-I	Fine Spray Oil		С	4 hours

#### Additional information on biology and control

\*restricted use pesticide

WARNING: use of oil on blue colored conifers will cause color to change. The spruce spider mite overwinters as bright orange eggs, with a curved setae coming out of the middle, laid in bud scales or underwebbing on twigs and branches. Eggs hatch in early April and the six-legged larvae begin feeding on older needles. They molt to an eight-legged nymph which continues feeding on needles. Adults are dark green to brown in the rear of the body, while the head area is cream to reddish in color like the legs. All stages can be dispersed by wind to surrounding plants. Most activity occurs in spring and fall. During hot weather they cease feeding and go into a diapause.

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**\*\*ESA approved common name** 

#### **SPRUCE SPIDER MITE\*\***

Oligonychus ununquis Page 118, 120, 475 (Johnson & Lyon) Page 41 (Adams & Packauskas)

#### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: COMMON

## Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
arborvitae	Thuja
cedar	Cedrus
douglas fir	Pseudotsuga menziesii
fir	Abies
hemlock	Tsuga
Juniper	Juniperus
pine	Pinus
spruce	Picea

#### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
immature	Apr 15	Nov 01	foliage	discoloration (stippling), needle drop	visual inspection (magnification), plant
adult	May 10	Nov 01	foliage	discoloration (stippling), needle drop	tapping visual inspection (magnification), plant tapping

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	Degr	ee Da	ays	Treat HOST PLANT when the following
immature, adult	May 01 - May 20	from	-	130	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
immature, adult	May 20 - May 31	-	-	-	plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
immature, adult	Jun 01 - Jun 10	to	-	540	plants bloom: Kousa dogwood, cranberry bush, beautybush
immature, adult	Aug 20 - Aug 31	from	-	2150	plant fruit in color: Viburnum dentatum
immature, adult	Sep 01 - Sep 10	-	-	-	plant fruit in color: sweet autumn clematis, Polygonum aubertii
immature, adult	Sep 10 - Sep 20	to	-	2710	plants bloom: Pee Gee Hydrangea, Sevin-son Flower
<b>Biological Cont</b>	<b>Biological Control</b>				Comments
Feltiella acarisuga	(midge - spider mite p	oredato	r)		available commercially
Stethorus punctillum	s punctillum (lady beetle - predator)				Available commercially; occurs naturally
Phytoseiulus persim	iilis (predatory mite)				Available commercially; occurs naturally
Orius sp. (predator)	)				Available commercially; occurs naturally
Neoseiulus cucumer	ris (predatory mite)				Available commercially; occurs naturally

Chrysoperla sp. (green lacewing - predator)

Reference use only. NOT a label substitute.

\*restricted use pesticide

#### **Chemical Control**

#### Com

Available commercially; occurs naturally

nments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
slage of the larget pest.	W	12 hours

^for agricultural applications only.

Select the a	ppropriate insecticide/miticide for the correct life stage of the target pest.	
bamectin	Avid 0.15 EC	W

ab BEE CAUTION С acephate Lepitect 24 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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\*\*ESA approved common name

## **SPRUCE SPIDER MITE\*\***

Oligonychus ununquis Page 118, 120, 475 (Johnson & Lyon) Page 41 (Adams & Packauskas)

Chemical Control		Comments	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute. propriate insecticide/miticide for the correc	t life stage of the target pest.	<u>Word</u>	Interval (REI)^
bifenazate	Floramite SC	BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
etoxazole	Tetrasan 5 WDG		С	12 hours
fenazaquin	Magus	BEE CAUTION	W	12 hours
fenpyroximate	Akari 5SC		W	12 hours
hexythiazox	Hexygon DF	most effective against immature stages	С	12 hours
horticultural oil	Damoil	WARNING: use of oil on blue colored conifers will cause color to change.	С	4 hours
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
spiromesifen	Forbid 4F	most effective against immature stages	С	

## Additional information on biology and control

WARNING: use of oil on blue colored conifers will cause color to change.

\*restricted use pesticide

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\*\*ESA approved common name

Hemichroa crocea Page 136 (Johnson & Lyon)

## **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE

Host Plants: Commo	on Name			ientific Name		
alder				nus		
willow			Sa	lix		
Pest Survey Info	rmation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Pa</u>	<u>rt</u>	Plant Damage	Surve	<u>y Method</u>
larva	Jun 01 Sep 30	) foliage		defoliation	visua	l inspection
Control: Stage(s	) and Timing					
Stage(s)	<b>Ideal Control Dat</b>	Degree D	ays	Treat HOST PLANT when the follo	owing	
larva	Jun 01 - Jun 10	437 -	563	plants bloom: Kousa dogwood, cranberry bush beautybush	•	
larva	Jun 10 - Jun 20	563 -	737	plants bloom: mountain laurel, mock-orange, J tree lilac, Washington hawthorn	apanese	
larva	Jun 20 - Jun 30	737 -	967	bumalda, Philadelphus		
larva	Aug 01 - Aug 20	1700 -	2173		pink	
larva	Aug 20 - Sep 30	2173 -	2719	rest of season		
<b>Chemical Control</b>	ol			<b>Comments</b>	Signal	Agricultural Restricted Entry
	ise only. NOT a lab	el substitute		<u>comments</u>	Word	Interval (REI)^
Select the appropriate insecticide/miticide for the correct life stage of the target pest.						Intervar (ICEI)
acephate	Acephate 97 W	DG		BEE CAUTION	С	24 hours
	Lepitect			BEE CAUTION	С	24 hours
	Orthene T,T &	O WSP		BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct				С	4 hours
	AzaGuard				С	4 hours
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours
	Sevin SL			BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG		Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC			BEE CAUTION	С	
*diflubenzuron	Dimilin 25W			Effective against immatures. Bee caution.	С	12 hours
*emamectin benzoat	e Tree-age			BEE CAUTION	W	
horticultural oil	Damoil				С	4 hours
*imidacloprid	Mallet 75 WSP			BEE CAUTION	С	12 hours
	Merit 75WSP			BEE CAUTION	С	12 hours
	Xytect 2F			BEE CAUTION	С	
insecticidal soap	Des-X Insectici	dal SoapCo	ncentra	te	W	12 hours
	M-Pede			Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS			BEE CAUTION	С	
*lambda-cyhalothrir	n Scimitar GC			BEE CAUTION	С	24 hours
*permethrin	Perm-UP 3.2EC			BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

## STRIPED ALDER SAWFLY\*\*

Hemichroa crocea Page 136 (Johnson & Lyon)

	se only. NOT a label substitute.	<u>Comments</u> the correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

Glycobius speciosus Page 276, 278 (Johnson & Lyon)

## **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: TRUNK

Host Plants: Common Name		Se	cientific Name		
maple			cer		
maple,	sugar	A	cer saccharum		
Pest Survey Info	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
adult (beetle)	Jun 01 Sep 30	trunk		visual inspection	
Control: Stage(s	s) and Timing				
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the follo	owing	
adult	Aug 10 - Aug 20	from - 2032	plant fruit in color: Mountain ash, cranberry b	oush	
adult	Aug 20 - Aug 31	to - 2375	j plant fruit in color: Viburnum dentatum		
Biological Cont Steinernema feltiae			<u>Comments</u> Available commercially		
Steinernema carpoc	apsae (nematode)		Available commercially		
Heterorhabditis bac	teriophora (nematod	e)	Available commercially		
Chemical Contr	<u>ol</u>		<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a labe appropriate insecticid		correct life stage of the target pest.	<u>Word</u>	Interval (REI)^
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	sional	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G			С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

## **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: COMMON

## Part of plant to treat: FOLIAGE

Host Plants: Comm	on Name	S	cientific Name		
Cotoneaster Co		Cotoneaster			
sycamo	ore	$P_{i}$	latanus occidentalis		
Pest Survey Info	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method
adult	May 15 Sep 30	foliage	discoloration (brownish spots)	visua	l inspection
nymph	May 20 Sep 30	foliage	discoloration (brownish spots)	visua	l inspection
Control: Stage(s	and Timing				
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follow	ving	
adult	May 10 - May 20	from - 239		ing	
adult	May 20 - May 31	to - 363	almond, Tatarian honeysuckle g plants bloom: ruby horsechestnut, Laburnum alg black locust, ninebark	vinum,	
Chemical Contr			<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a labe			Word	Interval (REI)^
Select the a	appropriate insecticide	e/miticide for the o	correct life stage of the target pest.		
*abamectin	Mauget Abacide		BEE CAUTION	W	
acephate	Acephate 97 WD	G	BEE CAUTION	С	24 hours
	Lepitect		BEE CAUTION	С	24 hours
	Orthene T,T & C	0 WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	ional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn				4 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G			С	12 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*dinotefuran	Safari 20 SG		BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC		BEE CAUTION	W	24 hours
flonicamid	Aria			С	12 hours
horticultural oil	Damoil			С	4 hours
	Sunspray Ultra-F	ine Spray Oil		С	4 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

#### SYCAMORE LACE BUG\*\*

*Corythucha ciliata* Page 426, 428 (Johnson & Lyon)

Chemical Control       Comments         Reference use only.       NOT a label substitute.         Select the appropriate insecticide/miticide for the correct life stage of the target pest.				Agricultural Restricted Entry Interval (REI)^
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

#### Additional information on biology and control

The sycamore lace bug overwinters as an adult in the peeling bark of its host. As leaves emerge the adult becomes active and lays eggs on leaf undersides in pubescence near the veins. Two generations can occur in Connecticut if we have a long growing season. The spikey haired nymphs look nothing like the delicate lacy, winged adults.

\*restricted use pesticide

\*\*ESA approved common name

## **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

## Part of plant to treat: FOLIAGE

Host Plants: Comm	on Name		cientific Name		
sycamo		P	latanus occidentalis		
Pest Survey Info	ormation:				
Pest Stage	From <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	<u>y Method</u>
nymph, adult	Jun 01 Jul 3	1 foliage	distortion, discoloration		l inspection, plant
				tappi	ng
Control: Stage(s	and Timing				
Stage(s)	Ideal Control Da	t Degree Days	Treat HOST PLANT when the foll	lowing	
nymph, adult	Jun 01 - Jun 20	437 - 737	7 plants bloom: Kousa dogwood, cranberry bush beautybush	h,	
nymph, adult	Jun 20 - Jul 20	737 - 1417		nd end	
nymph, adult	Jul 20 - Jul 31	1417 - 1673	1 05	, false	
<b>Chemical Control</b>	ol		<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a la	bel substitute.	Comments	Word	Interval (REI)^
Select the a	appropriate insectio	ide/miticide for the o	correct life stage of the target pest.		
*abamectin	Mauget Abaci	de 2	BEE CAUTION	W	
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profe	essional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4	E AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
horticultural oil	Damoil			С	4 hours
*imidacloprid	Merit 75WSP		BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insection	cidal Soap Concenti	rate	W	12 hours
	M-Pede			W	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrii	n Scimitar GC		BEE CAUTION	С	24 hours
*permethrin	Astro		BEE CAUTION	С	12 hours
	Perm-UP 3.2E	С	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone			С	12 hours

\*\*ESA approved common name

\*restricted use pesticide

Lygus lineolaris Page 398 (Johnson & Lyon) Page 48 (Adams & Packauskas)

#### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: COMMON

## Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
Forsythia	Forsythia
viburnum	Viburnum

## **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
adult	Jun 01	Aug 01	foliage, new growth	distortion, discoloration	visual inspection, plant tapping
nymph	Jun 10	Aug 01	foliage	distortion, discoloration	visual inspection, plant tapping

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal C	ontrol Dat	Degre	ee Da	nys	Treat HOST PLANT when the following
nymph, adult	Jun 01	- Jun 10	437	-	563	plants bloom: Kousa dogwood, cranberry bush, beautybush
nymph, adult	Jun 10	- Jul 20	563	-	1417	Remainder of season between the beginning and end phenology
nymph, adult	Jul 20	- Jul 31	1417	-	1673	plants bloom: butterfly bush, Clethra alnifolia, false spirea

<b>Chemical Control</b>		Comments	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute.		<u>Word</u>	Interval (REI)^
Select the app	propriate insecticide/miticide for the correc	t life stage of the target pest.		
acephate	Lepitect	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name

^for agricultural applications only.

Agricultural

## **TARNISHED PLANT BUG\*\***

Lygus lineolaris Page 398 (Johnson & Lyon) Page 48 (Adams & Packauskas)

	e use only. NOT a label substitute.	<u>Comments</u> or the correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

## **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

## Part of plant to treat: **BUD**, **FOLIAGE**

1 d	n or plain	io iicai.	DUD	, <b>F</b> O		GE		
Host Plants: Comm	on Name				Sci	ientific Name		
yew					Ta	xus		
Pest Survey Info	ormation:	ı						
Pest Stage	<b>From</b>	<u>To</u>	Plan	t Part	t	<u>Plant Damage</u>	Surve	y Method
immature, adult	May 01	Jul 01	folia	ıge		distortion, discoloration		l inspection nification)
Control: Stage(s	s) and Tin	ning						
Stage(s)	<b>Ideal Cont</b>	rol Dat	Degre	ee Day	ys	Treat HOST PLANT when the follow	ving	
immature, adult	May 01 -	May 10	from	-	148	plants bloom: Japanese quince, saucer magnolia. bridalwreath, Japanese flowering cherry	,	
immature, adult	May 10 -	Jun 20	-	-	-	Remainder of season between the beginning and phenology	end	
immature, adult	Jun 20 -	Jun 30	to	-	912	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus	L	
Biological Contr Stethorus punctillun		e - predai	tor)			<u><b>Comments</b></u> Available commercially; occurs naturally		
Chemical Contr		~~				Comments	Signal	Agricultural Restricted Entry
	use only. No appropriate i				the c	orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
*bifenthrin	Onyx P	ro				BEE CAUTION	W	12 hours
	Talstar	P Profess	sional			BEE CAUTION	С	12 hours
carbaryl	Carbary	14L				BEE CAUTION	С	12 hours
	Sevin S	L				BEE CAUTION	С	12 hours
fenazaquin	Magus					BEE CAUTION	W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

## **DORMANT SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

## Part of plant to treat: TRUNK, STEM

	are of plane to treat			
Host Plants: Common Name Scientific I			ientific Name	
yew		Ta	xus	
Pest Survey In	formation:			
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph	Mar 01 Apr 1	5 trunk, stem	discoloration, decline	visual inspection
Control: Stage	(s) and Timing			
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the fo	ollowing
nymph	Mar 01 - Apr 10	0 - 41	None Offered	
Chemical Cont	<mark>rol</mark> e use only. NOT a lab	el substitute	<u>Comments</u>	Signal Agricultural Restricted Entry
			orrect life stage of the target pest.	Word Interval (REI)^
horticultural oil	Damoil			<b>C</b> 4 hours
	Sunspray Ultra-	Fine SprayOil		<b>C</b> 4 hours

\*restricted use pesticide

\*\*ESA approved common name

#### **TAXUS MEALYBUG**

Dysmicoccus wistariae Page 88 (Johnson & Lyon) Page 49 (Adams & Packauskas)

#### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Survey Method visual inspection visual inspection

Agricultural

## Frequency with which pest occurs: COMMON

## Part of plant to treat: TRUNK, STEM

Host Plants: Common Name	Scientific Name
dogwood	Cornus
maple	Acer
Rhododendron	Rhododendron
yew	Taxus

#### **Pest Survey Information:**

Pest Stage	<u>From</u>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>
nymph	May 01	Jun 01	trunk, stem	discoloration, decline
adult	Jun 01	Sep 01	trunk, stem	discoloration, decline

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph	May 10 - May 20	from - 246	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
nymph	May 20 - May 31		plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
nymph, adult	Jun 01 - Jun 10	to - 618	plants bloom: Kousa dogwood, cranberry bush, beautybush

#### **Biological Control**

Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator)

\*restricted use pesticide

#### . ntrol

Available commercially; occurs naturally

Comments

Available commercially; occurs naturally

<b>Chemical Control</b>		<u>Comments</u>	Signal	Agricultural Restricted Entry	
Reference use	e only. NOT a label substitute.		<u>Word</u>	Interval (REI)^	
Select the app	Select the appropriate insecticide/miticide for the correct life stage of the target pest.				
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours	
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours	
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours	
azadirachtin	Aza-Direct		С	4 hours	
	AzaGuard		С	4 hours	
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours	
	Talstar P Professional	BEE CAUTION	С	12 hours	
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours	
	Sevin SL	BEE CAUTION	С	12 hours	
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours	
*clothianidin +	Aloft GC G	BEE CAUTION	С	12 hours	
bifenthrin					
*clothianidin	Arena .25 G		С	12 hours	
	Arena 50 WDG		С	12 hours	
*deltamethrin	Suspend SC	BEE CAUTION	С		
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

## TAXUS MEALYBUG

Dysmicoccus wistariae Page 88 (Johnson & Lyon) Page 49 (Adams & Packauskas)

Chemical Control	e only. NOT a label substitute.	<u>Comments</u>	Signal	Agricultural Restricted Entry
	propriate insecticide/miticide for the correct	t life stage of the target pest.	<u>Word</u>	Interval (REI)^
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine Spray Oil		С	4 hours
*imidacloprid	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
phosmet	Imidan 70W	BEE CAUTION	W	24 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

## Additional information on biology and control

Occasionally on Rhododendron, dogwood, Prunus sp., maple

\*restricted use pesticide

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\*\*ESA approved common name

Phyllonorycter spp. Page 196 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
crabapple	Malus
hawthorn	Crataegus

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the following
adult, larva	May 10 - May 20	228 - 311	plants bloom: redbud, Sargent crabapple, flowering almond, Tatarian honeysuckle
adult, larva	May 20 - May 31	311 - 423	plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
adult, larva	Jun 01 - Jun 10	437 - 563	plants bloom: Kousa dogwood, cranberry bush, beautybush

## <u>C</u>

\*lambda-cyhalothrin

\*permethrin

pyrethrin

pyriproxyfen

\*thiamethoxam

Scimitar GC

Perm-UP 3.2EC

Astro

Pyrenone

Distance IGR

Meridian 0.33G

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> et life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
*emamectin benzoate	Tree-age	BEE CAUTION	W	
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	

BEE CAUTION

BEE CAUTION

BEE CAUTION

BEE CAUTION

Only effective against immatures.

\*\*ESA approved common name ^for agricultural applications only.

С

С

С

С

С

С

24 hours

12 hours

12 hours

12 hours

12 hours

12 hours

## **DORMANT SEASON**

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: STEM

Host Plants: Common Name			cientific Name					
almond, dwarf flowering			Prunus glandulosa					
birch			etula					
	cherry, black	Pr	Prunus serotina					
	hawthorn	Сг	Crataegus					
	linden	Ti	Tilia					
	mulberry	M	Morus					
poplar or aspen			Populus					
	redbud		ercis canadensis					
	sycamore	Pl	latanus occidentalis					
Pest Survey Information:								
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	<u>Surve</u>	y Method			
adult	Mar 01 Apr 15	stem	decline	visual	l inspection			
Control: Stage(s) and Timing								
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follow	wing				
adult	Mar 01 - Apr 10	0 - 41	None Offered					
	erence use only. NOT a labe		<u>Comments</u> correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^			
horticultural	oil Damoil			С	4 hours			
	Sunspray Ultra-F	Fine Spray Oil		С	4 hours			

\*restricted use pesticide

\*\*ESA approved common name

## **DELAYED DORMANT**

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: STEM

Host Plants: Common Name		Scientific Name							
almond, dwarf flowering		Prunus glandulosa							
birch		Betula							
cherry, black		Prunus serotina							
hawthorn		Crataegus							
linden		Tilia							
mulberry		Morus							
poplar or aspen		Populus							
redbud		Cercis canadensis							
sycamore		Platanus occidentalis							
Pest Survey Information:									
Pest Stage <u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method						
nymph Apr 01 May 0	1 foliage	discoloration	visual inspection						
Control: Stage(s) and Timing									
Stage(s) Ideal Control Dat	<b>Degree Days</b>	s Treat HOST PLANT when the follo	wing						
nymph Apr 01 - Apr 20	28 -	96 plants bloom: silver maple, Cornelian cherry, pu willow	ssy						
<u>Chemical Control</u>		<u>Comments</u>	Signal	Agricultural Restricted Entry					
Reference use only. NOT a lab Select the appropriate insecticion	<u>Word</u>	Interval (REI)^							
horticultural oil Damoil			С	4 hours					
Sunspray Ultra-	Fine Spray Oil		С	4 hours					

\*restricted use pesticide

\*\*ESA approved common name

### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
almond, dwarf flowering	Prunus glandulosa
birch	Betula
cherry, black	Prunus serotina
hawthorn	Crataegus
linden	Tilia
mulberry	Morus
poplar or aspen	Populus
redbud	Cercis canadensis
sycamore	Platanus occidentalis

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	Survey Method		
nymph	Jul 01	Sep 30	foliage	discoloration	visual inspection		
<b>Control:</b> Stage(s) and Timing							

Stage(s)	Ideal Control Da	t Degree Days	Treat HOST PLANT when the following
nymph, ?adult	Apr 20 - Apr 30	96 - 1	37 plants bloom: boxelder, star magnolia, periwinkle, Norway maple
adult	May 01 - May 10	) 144 - 2	28 plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
nymph	Jul 10 - Jul 20	1196 - 14	17 plants bloom: Abelia, golden rain tree, sourwood
nymph	Jul 20 - Jul 31	1417 - 16	73 plants bloom: butterfly bush, Clethra alnifolia, false spirea

#### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) *Cryptolaemus montrouzieri (lady beetle predator)* Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator)

TriStar 8.5 SL

Chlorpyrifos 4E AG

Carbaryl 4L

Sevin SL

\*restricted use pesticide

#### **Chemical Control**

occurs naturally Comments

BEE CAUTION

caution. BEE CAUTION

Effective against immatures. Bee

Non-residential, BEE CAUTION

**Comments** Available commercially

Available commercially; occurs naturally Available commercially; occurs naturally

<b>Chemical Control</b>		Comments	Signal	Restricted Entry
Reference use	Word	Interval (REI)^		
Select the app	propriate insecticide/miticide for the cor	rect life stage of the target pest.		Intervar (KEI)
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours

### \*chlorpyrifos

acetamiprid

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

353

\*\*ESA approved common name

Agricultural

12 hours

12 hours

12 hours

24 hours

Signal

С

С

С

W

#### **TERRAPIN SCALE\*\***

Mesolecanium nigrofasciatum Page 364 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> It life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Comm						ientific Name		
Magnol						ignolia		
tuliptre	e, yellow poplar				Lu	riodendron tulipifera		
Pest Survey Info	rmation:							
Pest Stage	<u>From</u> <u>To</u>		<u>Plant</u>	Par	<u>•t</u>	Plant Damage	Surve	y Method
nymph	Jun 01 Sej	30	folia	ge		discoloration		l inspection
adult	Jun 15 Sej	30	folia	ge		discoloration	visua	l inspection
Control: Stage(s	) and Timing							
Stage(s)	Ideal Control I	at	Degre	e Da	ays	Treat HOST PLANT when the follow	ving	
nymph, adult	Jul 10 - Jul 20	)	from	-	1151	plants bloom: Abelia, golden rain tree, sourwood	1	
nymph, adult	Jul 20 - Aug	20	-	-	-	Remainder of season between the beginning and phenology	end	
nymph, adult	Aug 20 - Aug	80	to	-	2033		sh	
Biological Contr Orius sp. (predator)	<u>ol</u>					<u>Comments</u> Available commercially; occurs naturally		
Hippodamia converg	ens (lady beetle	pre	dator)			Available commercially; occurs naturally		
Diaeretiella rapae (v	vasp, aphid para	site)				occurs naturally		
Deraeocoris nebulos	us (mirid bug - p	reda	tor)			occurs naturally		
Chrysoperla sp. (gre	en lacewing - pro	dato	or)			Available commercially; occurs naturally		
Aphidoletes aphidim	yza (midge, aphi	l pre	dator)			Available commercially; occurs naturally		
Aphidius matricariae	e (wasp, aphid po	rasit	te)			Available commercially; occurs naturally		
<b>Chemical Control</b>						<u>Comments</u>	Signal	Agricultural Restricted Entry
	ise only. NOT a ppropriate insect					orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
*abamectin	Mauget Aba	ide (	2			BEE CAUTION	W	
acephate	Acephate 97					BEE CAUTION	C	24 hours
<b>r</b>	Lepitect		-			BEE CAUTION	C	24 hours
	Orthene T,T	& 0	WSP			BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 S	L				BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct						С	4 hours
*bifenthrin	Onyx Pro					BEE CAUTION	W	12 hours
	Talstar P Pro	fessi	onal			BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L					BEE CAUTION	С	12 hours
	Sevin SL					BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn							4 hours
*chlorpyrifos	Chlorpyrifos	4E A	٩G			Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G					BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

#### **TULIPTREE APHID\*\***

Macrosiphum liriodendri Page 292 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*deltamethrin	Suspend SC	BEE CAUTION	С	
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

356

\*\*ESA approved common name

### **DORMANT SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

Part of plant to	treat: STEM
------------------	-------------

Host Plants: Common Name	Se	cientific Name		
linden	Ti	ilia		
Magnolia	М	lagnolia		
tuliptree, yellow poplar	Li	iriodendron tulipifera		
Pest Survey Information:				
Pest Stage <u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method
nymph Mar 01 Apr 1	5 stem	decline	visua	l inspection
Control: Stage(s) and Timing				
Stage(s) Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the	following	
nymph Mar 01 - Apr 10	0 - 41	None Offered		
<u>Chemical Control</u> Reference use only. NOT a lak	al substituta	<u>Comments</u>	Signal	Agricultural Restricted Entry
•		correct life stage of the target pest.	<u>Word</u>	Interval (REI)^
		correct me stage of the target pest.	C	4.1
horticultural oil Damoil			С	4 hours
Sunspray Ultra-	Fine SprayOil		С	4 hours

\*restricted use pesticide

\*\*ESA approved common name

#### **TULIPTREE SCALE\*\***

Toumeyella liriodendri Page 362 (Johnson & Lyon) Page 48 (Adams & Packauskas)

#### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

#### Frequency with which pest occurs: COMMON

### Part of plant to treat: STEM

Aug 01 Sep 30

Host Plants: Cor	mmon Name		Scie	entific Name			
linden			Tili	Tilia			
Magnolia			Ma	Magnolia			
tuliptree, yellow poplar			Liri	odendron tulipifera			
<u>Pest Survey I</u>	nformation:						
Pest Stage	From	<u>To</u>	<u> Plant Part</u>	Plant Damage	Survey Method		
adult	Jun 01	Jul 01	stem, branch	decline	visual inspection		

stem, branch

visual inspection visual inspection, sticky tape

Agricultural

Restricted Entry Interval (REI)^

Signal

^for agricultural applications only.

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
nymph	Aug 10 - Aug 20	from - 2032	plant fruit in color: Mountain ash, cranberry bush
crawler	Aug 20 - Sep 10		Remainder of season between the beginning and end phenology
crawler	Sep 10 - Sep 20	to - 2629	plants bloom: Pee Gee Hydrangea, Sevin-son Flower

#### **Biological Control**

nymph (crawler)

Lindorus lophanthae (lady beetle - scale predator) Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator)

\*restricted use pesticide

#### **Comments**

**Comments** 

decline

Available commercially Available commercially; occurs naturally Available commercially; occurs naturally occurs naturally

#### **Chemical Control**

F	Reference use only. NOT a label substitute.	Word
S	Select the appropriate insecticide/miticide for the correct life stage of the target pest.	

acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G	BEE CAUTION	С	12 hours
*clothianidin	Arena .25 G		С	12 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

**\*\*ESA approved common name** 358

### **TULIPTREE SCALE\*\***

Toumeyella liriodendri Page 362 (Johnson & Lyon) Page 48 (Adams & Packauskas)

Chemical Control	e only. NOT a label substitute.	<u>Comments</u>	Signal	Agricultural Restricted Entry
	propriate insecticide/miticide for the correct	t life stage of the target pest.	<u>Word</u>	Interval (REI)^
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

359

\*\*ESA approved common name

#### **DORMANT SEASON**

### Remove infested plant part when damaged observed.

Frequency with which pest occurs: COMMON

#### Part of plant to treat: FALLEN TWIG, STEM, SMALL BRANCH

#### Host Plants: Common Name Scientific Name

st Plants: Common Name	Scientific Name
chestnut, hybrids	Castanea
elder	Sambucus
hackberry	Celtis occidentalis
honeylocust	Gleditsia triacanthos
linden	Tilia
maple	Acer
oak	Quercus
quince, flowering	Chaenomeles
redbud	Cercis canadensis
Sassafras	Sassafras
sweetgum	Liquidambar
Wisteria	Wisteria

### **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
larva in stems	Jan 01	Apr 10	fallen twig, stem, small branch	fallen twig, stem, small branch	visual inspection
	1				

#### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the following
larva in stems	Jan 01 - Apr 10	0 - 41	Not applicable

### **Non Chemical Control**

Pick up and destroy affected twigs.

\*\*ESA approved common name

\*restricted use pesticide

#### **DELAYED DORMANT**

### Remove infested plant part when damaged observed.

Host Plants: Common Name	Scientific Name
chestnut, hybrids	Castanea
elm	Ulmus
hackberry	Celtis occidentalis
hickory	Carya
honeylocust	Gleditsia triacanthos
linden	Tilia
maple	Acer
oak	Quercus
quince, flowering	Chaenomeles
redbud	Cercis canadensis
Sassafras	Sassafras
sweetgum	Liquidambar
Wisteria	Wisteria
Pest Survey Information:	

Pest Stage	<b>From</b>	<u>To</u>	<u> Plant Part</u>	Plant Damage	Survey Method
larva in stems	Apr 20	Apr 30	fallen twig, sten small branch	h, fallen twig, stem, small branch	visual inspection
Control: Stage(s	s) and Tin	ning			
Stage(s)	<b>Ideal Cont</b>	rol Dat	Degree Days	Treat HOST PLANT when the follow	ing

#### Degree Days Stage(s) Ideal Control Dat

137 Not applicable larva in stems Apr 20 - Apr 30 96 -

### **Non Chemical Control**

Pick up and destroy affected twigs.

\*restricted use pesticide

361

\*\*ESA approved common name

#### **GROWING SEASON**

### Remove infested plant part when damaged observed.

Frequency with which pest occurs: COMMON

### Part of plant to treat: SMALL STEMS

Host Plants: Common Name	Scientific Name
chestnut, hybrids	Castanea
elm	Ulmus
hackberry	Celtis occidentalis
hickory	Carya
honeylocust	Gleditsia triacanthos
linden	Tilia
maple	Acer
oak	Quercus
quince, flowering	Chaenomeles
redbud	Cercis canadensis
Sassafras	Sassafras
sweetgum	Liquidambar
Wisteria	Wisteria

### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
larva in stems	May 01	Dec 31	in stem	dieback	visual inspection

#### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the following
adult in stem	May 01 - May 30	NA - NA	Not applicable
larva in stems	Jul 01 - Dec 31	NA - NA	Not applicable

### **Non Chemical Control**

Pick up and destroy affected twigs.

<u>Chemical Control</u> Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct		<u>Comments</u> correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G		С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

#### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
Abelia	Abelia
Azalea	Azalea
barberry	Berberis
Deutzia	Deutzia
Forsythia	Forsythia
laurel, mountain	Kalmia latifolia
lilac	Syringa
maple	Acer
privet	Ligustrum
Rhododendron	Rhododendron
Weigelia	Weigelia
yew	Taxus

### **Pest Survey Information:**

Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
adult	Jul 01	Sep 15	foliage	leaf notching	visual inspection, plant
					tapping

### **Control: Stage(s) and Timing**

Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>		Treat HOST PLANT when the following
adult	Jul 20 - Jul 31	from	- 1644	plants bloom: butterfly bush, Clethra alnifolia, false spirea
adult	Aug 01 - Aug 10	-		plant bloom: Pee Gee Hydrangea blooms turn pink
adult	Aug 10 - Aug 20	to	- 2271	plant fruit in color: Mountain ash, cranberry bush

	<b>ol</b> use only. NOT a label substitute. ppropriate insecticide/miticide for the co	<u>Comments</u> rrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone		С	12 hours

\*restricted use pesticide

363

\*\*ESA approved common name

Agrilus bilineatus Page 270 (Johnson & Lyon)

**GROWING SEASON** 

<b>GROWING SEA</b>		Apply morough treatment only when pest stage found						
Host Plants: Common Name				Scientific Name				
chestnut, hybrids				Castane	ea			
oak				Quercu	S			
Pest Survey Info	rmation	<u>.</u>						
Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>		<u>Plant Damage</u>	Surve	<u>y Method</u>	
adult exit holes, bark rippling	x Jan 01	Dec 31	trunk, ster	n, foliage	branch dieback	visua	l inspection	
adult (beetle)	Jun 01	Jun 30	trunk, ster	n, foliage	branch dieback	visua	l inspection	
<b>Control:</b> Stage(s	) and Ti	ming						
Stage(s)	Ideal Cor	ntrol Dat	Degree Day	ys Tre	eat HOST PLANT when the follow	wing		
adult (beetle)	Jun 01	- Jun 10	437 -	I	ts bloom: Kousa dogwood, cranberry bush, ttybush			
adult, larva	Jun 10	- Jun 20	563 -	· · · 1	ts bloom: mountain laurel, mock-orange, Jar lilac, Washington hawthorn	banese		
adult, larva	Jun 20	- Jun 30	737 -	· · 1	ts bloom: Rhododendron maximum, Spiraea alda, Philadelphus	L		
Chemical Contro					Comments	Signal	Agricultural Restricted Entry	
Reference u				the correct	t life stage of the target past	<u>Word</u>	Interval (REI)	
Select the a	ppropriate	Insecticide	e/miticide for	une correc	t life stage of the target pest.			
*clothianidin+	Aloft	GC G			BEE CAUTION	С	12 hours	

#### Apply thorough treatment only when pest stage found.

bifenthrin

### Additional information on biology and control

\*restricted use pesticide

The <sup>1</sup>/<sub>2</sub>' long, bronze colored twolined chestnut borer overwinters as larvae in tunnels. Pupation occurs in early June, with adults emerging from D-shaped holes. Beetles feed on foliage of many hardwood tree species before mating and laying eggs in trunk bark cracks and crevices. Cream colored, flatheaded larvae bore immediately into the trunk, feeding in phloem and filling their winding tunnels with frass. Attacks usually begin in the crown and proceed down the trunk. There is one generation per year in Connecticut. Red, white, black, and scarlet oak are hosts. Maintaining good tree health may prevent twolined chestnut borer attack. Systemics, such as acephate and imidacloprid, can be applied against larvae anytime during the growing season when the soil is not waterlogged.

**\*\*ESA approved common name** 

364

tapping

#### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

#### Frequency with which pest occurs: COMMON

### Part of plant to treat: FOLIAGE

Host Plants: Common Name	Scientific Name
almond, dwarf flowering	Prunus glandulosa
butterfly bush	Buddleia
cherry, black	Prunus serotina
elm	Ulmus
Euonymus	Euonymus
hawthorn	Crataegus
heather	Calluna
Hydrangea	Hydrangea
redbud	Cercis canadensis
rose	Rosa
spruce, dwarf alberta	Picea glauca var. 'Conica'

#### **Pest Survey Information:**

Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
all stages	May 15 Sep 30	foliage	discoloration (stippling), leaf	visual inspection
			drop	(magnification), plant

### **Control: Stage(s) and Timing**

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
immature, adult	May 20 - May 31	300 - 400	plants bloom: ruby horsechestnut, Laburnum alpinum, black locust, ninebark
immature, adult	Jun 01 - Jun 10	400 - 540	plants bloom: Kousa dogwood, cranberry bush, beautybush
immature, adult	Jun 10 - Jun 20	540 - 725	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn
immature, adult	Jul 10 - Jul 20	1160 - 1390	plants bloom: Abelia, golden rain tree, sourwood
immature, adult	Jul 20 - Aug 10	1390 - 1920	Remainder of season between the beginning and end phenology
immature, adult	Aug 10 - Aug 20	1920 - 2150	plant fruit in color: Mountain ash, cranberry bush

#### **Biological Control**

Feltiella acarisuga (midge - spider mite predator) Stethorus punctillum (lady beetle - predator) Phytoseiulus persimilis (predatory mite) Orius sp. (predator) Neoseiulus cucumeris (predatory mite) Chrysoperla sp. (green lacewing - predator)

\*restricted use pesticide

#### **Comments**

available commercially Available commercially; occurs naturally Available commercially; occurs naturally Available commercially; occurs naturally Available commercially; occurs naturally

Available commercially; occurs naturally

^for agricultural applications only.

	Word	Agricultural Restricted Entry Interval (REI)^
Select the appropriate insecticide/miticide for the correct life stage of the target pest. abamectin Avid 0.15 EC	st. W	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

#### Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

**\*\*ESA approved common name** 365

### **TWOSPOTTED SPIDER MITE\*\***

*Tetranychus urticae* Page 476 (Johnson & Lyon) Page 41 (Adams & Packauskas)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	Comments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Lepitect	BEE CAUTION	С	24 hours
bifenazate	Floramite SC	BEE CAUTION	C	12 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
etoxazole	Tetrasan 5 WDG		С	12 hours
fenazaquin	Magus	BEE CAUTION	W	12 hours
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
fenpyroximate	Akari 5SC		W	12 hours
hexythiazox	Hexygon DF	most effective against immature stages	С	12 hours
horticultural oil	Damoil		С	4 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		w	12 hours
1	M-Pede		w	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
spiromesifen	Forbid 4F	most effective against immature stages	С	

\*restricted use pesticide

\*\*ESA approved common name

### **DORMANT SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: TWIG, SMALL BRANCH

Host Plants: Common Name Sci				entific Name			
viburnum				Viburnum			
Pest Survey Inf	ormation:						
Pest Stage	<u>From</u>	<u>To</u>	Plant Part Plant Damage Survey Me				
egg	Nov 01	Feb 28	twig, sr	nall bran	ch capped egg slits in twigs	visual inspection	
Control: Stage(s) and Timing							
Stage(s)	Ideal Control Dat Degree Days Treat HOST PLANT when the following					owing	
egg	Nov 01 - Feb 28 NA - NA			NA	Not applicable		

### Non Chemical Control

Prune off and destroy the affected stems.

### Additional information on biology and control

This leaf-feeding beetle was first found in Connecticut in 2004. Yellow to brown adults are approximately <sup>1</sup>/<sub>4</sub>" long and feed on foliage of thin-leaved viburnums from July to September (Figures 1, 2). During the summer and fall, mature females make straight rows of cavities on the undersides of terminal twigs. They lay multiple eggs in the cavities and cover them with a mixture of feces and shredded bark (Figure 4). Flattened brown-spotted yellowish larvae hatch mid-May the following year and feed on the emerging leaves (Figure 3). As a group they skeletonize leaves beginning on the undersides, but as larvae increase in size, they begin to eat through the entire leaf, leaving only the veins. Approximately a month later, they crawl to the ground to pupate in the top 1 - 2 inches of soil. Adults emerge in three to four weeks (July), feed, mate and begin laying eggs in the twigs. Initial feeding by adults results in oval holes in leaves that can progress to total defoliation. There is one generation each year.

When noticed, larvae and adults can be handpicked. Twigs with eggs can be pruned off during the winter months when they are most visible. Azadirachtin, which is among the compounds registered for use against this pest in Connecticut, will control small larvae and repel adults. Bifenthrin, permethrin, spinosad and rotenone can also be used. Multiple applications are often necessary. Imidacloprid applied as a systemic to be taken up by the roots may provide season-long control. Consult the label for dosage rates and safety precautions.

Probably the most important control measure for viburnum leaf beetle will be to plant species that are resistant to feeding by this pest. Ratings of plant tolerances to viburnum leaf beetles were done by Dr. Paul Weston. Highly susceptible and susceptible species will die following approximately three successive years of defoliation. For further information go to http://www.hort.cornell.edu/vlb/index.html

Highly susceptible V. dentatum, Arrowwood viburnum

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.
\*restricted use pesticide \*\*ESA approved common name ^for agricultural applications only.

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Pyrrhalta viburni

- V. nudum, Smooth Witherod
- V. opulus, European cranberrybush viburnum
- V. opulus var. americana (formerly V. trilobum),
- American cranberrybush viburnum
- V. rafinesquianum, Rafinesque viburnum

Susceptible

- V. acerifolium, Mapleleaf viburnum
- V. lantana, Wayfaringtree viburnum
- V. rufidulum, Rusty blackhaw viburnum
- V. sargentii, Sargent viburnum
- V. wrightii, Wright viburnum

Moderately susceptible

- V. alnifolium (syn. V. lantanoides) Hobblebush
- V. x burkwoodii, Burkwood viburnum
- V. cassinoides, Witherod viburnum
- V. x carlcephalum, Carlcephalum viburnum
- V. dilatatum, Linden viburnum
- V. farreri ('Nanum' is highly susceptible) Fragrant viburnum
- V. lentago, Nannyberry viburnum
- V. macrocephalum, Chinese snowball viburnum
- V. x pragense, Prague viburnum
- V. prunifolium, Blackhaw viburnum
- V. rhytidophylloides,Lantanaphyllum viburnum

Resistant

- V. bodnantense
- V. carlesi, Koreanspice viburnum
- V. x juddii, Judd viburnum
- V. plicatum, Japanese snowball viburnum
- V. plicatum f. tomentosum, Doublefile viburnum
- V. rhytidophyllum, Leatherleaf viburnum
- V. setigerum, Tea viburnum
- V. sieboldi, Siebold viburnum

\*restricted use pesticide

**\*\*ESA approved common name** 

### **DELAYED DORMANT**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: TWIG, SMALL BRANCH

Host Plants: Com	mon Name	Scie	entific Name			
vibur	num	Vibi	Viburnum			
<u>Pest Survey In</u>	<u>formation:</u>					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method		
egg	Mar 01 Apr 20	twig, small branc	ch capped egg slits in twigs	visual inspection		
Control: Stage(s) and Timing						
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the fol	llowing		
egg	Mar 01 - Apr 20	0 - 96	Not applicable			

### **Non Chemical Control**

Prune off and destroy the affected stems.

### Additional information on biology and control

Additional information on pest biology can be found on the Dormant Season page.

\*restricted use pesticide

\*\*ESA approved common name

Pyrrhalta viburni

#### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common Name				Sc	ientific Name	
viburnum				Vil	burnum	
Pest Survey Inf	<u>formation:</u>					
Pest Stage	From	<u>To</u>	Plant Pa	<u>rt</u>	<u>Plant Damage</u>	Survey Method
larva	May 15	Jun 30	foliage		defoliation	visual inspection
adult (beetle)	Jun 15	Sep 30	foliage		defoliation	visual inspection
Control: Stage(s) and Timing						
Stage(s)	Ideal Contr	rol Dat	Degree D	ays	Treat HOST PLANT when the follo	wing
larva	May 20 - J	Jun 15	278 -	632	plants bloom: Kousa dogwood, cranberry bush, beautybush	
adult	Jul 01 - S	Sep 20	960 -	2712	plants bloom: butterfly bush, Clethra alnifolia, spirea	false
Non Chemical Control						

Where feasible, mechanically remove pest.

	<b>]</b> se only. NOT a label substitute. ppropriate insecticide/miticide for the con	<u>Comments</u> rect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin	Arena .25 G		С	12 hours
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

### Additional information on biology and control

\*restricted use pesticide

Additional information on pest biology can be found on the Dormant Season page.

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\*\*ESA approved common name

W

^for agricultural applications only.

12 hours

### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

M-Pede

\*restricted use pesticide

### Part of plant to treat: EXPANDING FOLIAGE

Fait of plait to treat. EAFAINDING FOLIAGE								
Host Plants: Common Name Scientific Name								
walnut	t	Jug	glans					
Pest Survey Inf	ormation:							
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	y Method			
adult, immature	May 01 Jul 01	new foliage	distortion		l inspection nification)			
<b>Control: Stage</b> (	s) and Timing			X U	,			
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the follo	wing				
immature	May 20 - May 31	from - 363	plants bloom: ruby horsechestnut, Laburnum al black locust, ninebark	pinum,				
immature, adult	Jun 01 - Jun 10		plants bloom: Kousa dogwood, cranberry bush, beautybush					
immature, adult	Jun 10 - Jun 20	to - 707	plants bloom: mountain laurel, mock-orange, Ja tree lilac, Washington hawthorn	apanese				
<b>Biological Cont</b> Stethorus punctillur	<mark>rol</mark> n (lady beetle - preda	tor)	<u><b>Comments</b></u> Available commercially; occurs naturally					
Chemical Contr			<u>Comments</u>	Signal	Agricultural Restricted Entry			
	use only. NOT a lab appropriate insecticid		orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^			
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours			
	Sevin SL		BEE CAUTION	С	12 hours			
fenazaquin	Magus		BEE CAUTION	W	12 hours			
horticultural oil	Damoil			С	4 hours			
insecticidal soap	Des-X Insecticio	lal Soap Concentra	te	W	12 hours			

\*\*ESA approved common name

Datana integerrima Page 150, 154 (Johnson & Lyon)

### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

10	ar or prant	to treat.	FUL	IAU				
Host Plants: Common Name					Sc	ientific Name		
walnu	ıt				$Ju_{d}$	glans		
Pest Survey In	formation:							
Pest Stage	<b>From</b>	<u>To</u>	Plan	t Par	<u>·t</u>	Plant Damage	Surve	y Method
larva	Jul 01	Sep 30	folia	age		defoliation	visua	l inspection
Control: Stage	(s) and Tin	ning						
Stage(s)	Ideal Cont	-	Degr	ee Da	ays	Treat HOST PLANT when the follow	ving	
larva	Jul 01 -	Jul 10	from	-	1029	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata		
larva	Jul 10 -	Jul 20	to	-	1514	plants bloom: Abelia, golden rain tree, sourwood	l	
<b>Biological Con</b> Podisus maculiven		oldier bug	- prea	lator)	)	<u><b>Comments</b></u> Available commercially; occurs naturally		Agricultural
Chemical Cont	rol					<u>Comments</u>	Signal	Agricultural Restricted Entry
	e use only. N						<u>Word</u>	Interval (REI)^
Select the	appropriate i	insecticide	e/mitici	de fo	r the c	orrect life stage of the target pest.		
acephate	Acepha	te 97 WD	G			BEE CAUTION	С	24 hours
	Orthene	e T,T & C	WSP			BEE CAUTION	С	24 hours
acetamiprid	TriStar	8.5 SL				BEE CAUTION	С	12 hours
azadirachtin	Aza-Di	rect					С	4 hours
	AzaGua	ard					С	4 hours
B. thuringiensis aizawai	XenTar	i				Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	DiPel D	DF				Most effective against young larvae.	С	4 hours

aizawai				
B. thuringiensis kurstaki	DiPel DF	Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
indoxacarb	Provaunt	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

#### WALNUT CATERPILLAR\*\*

Datana integerrima Page 150, 154 (Johnson & Lyon)

\*restricted use pesticide

\*\*ESA approved common name

Corythucha juglandis Page 426 (Johnson & Lyon)

### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Commo	n Name	S	cientific Name		
linden			ïlia		
walnut		$J_{i}$	uglans		
Pest Survey Info	rmation:				
Pest Stage	From To	Plant Part	Plant Damage	Surve	y Method
adult	May 15 Sep 30	foliage	discoloration (brownish spots)		l inspection
nymph	May 20 Sep 30	foliage	discoloration (brownish spots)		l inspection
Control: Stage(s)	and Timing				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follow	ving	
nymph, ?adult	May 10 - May 20	from - 239	<ul> <li>plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle</li> </ul>	ing	
adult, egg	May 20 - May 31	to - 363	·	oinum,	
Chemical Contro		1 1 22 4	<u>Comments</u>	Signal	Agricultural Restricted Entry
	se only. NOT a labe		correct life stage of the target pest.	<u>Word</u>	Interval (REI)^
			BEE CAUTION	C	241
acephate	Acephate 97 WD	UG	BEE CAUTION BEE CAUTION	C	24 hours
	Lepitect	WCD	BEE CAUTION BEE CAUTION	C	24 hours
ana dina ahain	Orthene T,T & C	0 WSP	BEE CAUTION	C	24 hours
azadirachtin	Aza-Direct			C	4 hours
¥1.'C	AzaGuard		BEE CAUTION	C	4 hours
*bifenthrin	Onyx Pro	• 1		W	12 hours
1 1	Talstar P Profess	ional	BEE CAUTION	C	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	C	12 hours
11 . 11 1	Sevin SL		BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn				4 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*dinotefuran	Safari 20 SG		BEE CAUTION	С	12 hours
*fenpropathrin	Tame 2.4EC		BEE CAUTION	W	24 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours
	Xytect 2F		BEE CAUTION	С	
insecticidal soap	Des-X Insecticid	al Soap Concent	rate	W	12 hours
	M-Pede			W	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC		BEE CAUTION	С	24 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*\*ESA approved common name 374

<u>Chemical Contro</u> Reference u Select the a	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^		
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

### Additional information on biology and control

The walnut lace bug overwinters as an adult on or near its host in a protected spot. Eggs are laid on foliage in the spring. Wingless nymphs withdraw cell contents leaving yellow patches on the upper leaf surface. Dark, shiny fecal spots and shed skins on lower leaf surfaces can be diagnostic for this insect. Adults look nothing like the nymphs, having two sculptured but delicate lacywings.

\*restricted use pesticide

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\*\*ESA approved common name

### **DORMANT SEASON**

## Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: **STEM**

Host Plants: Con	nmon Name			Scientific Name			
birch	birch			Betula			
dog	wood			Cornus			
elm				Ulmus			
hack	cberry			Celtis occidentalis			
holl	у			Ilex			
hone	eylocust			Gleditsia triacanthos			
hors	echestnut			Aesculus hippocastanum			
kent	ucky coffee tree	e		Gymnocladius dioicus			
linde	en			Tilia			
map	maple			Acer			
mou	mountain ash, European		Sorbus aucuparia				
pop	lar or aspen			Populus			
priv	et			Ligustrum			
swe	etgum			Liquidambar			
witc	hhazel			Hamamelis			
Pest Survey In	nformation:						
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method		
adult, nymph	Mar 01	Apr 15	stem	decline	visual inspection		
<b>Control: Stag</b>	e(s) and Tim	ning					
Stage(s)	Ideal Cont	rol Dat	<b>Degree Days</b>	5 Treat HOST PLANT when the follo	owing		
nymph	Mar 01 -	Apr 10	0 -	41 None Offered			
					Agricultu		

Chemical Contro	<u>1</u>	<u>Comments</u>	Signal	Agricultural Restricted Entry
Reference u	se only. NOT a label substitute.		<u>Word</u>	Interval (REI) <sup>^</sup>
Select the a		Inter var (KEI)		
horticultural oil	Damoil		С	4 hours
	Sunspray Ultra-Fine SprayOil		С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

#### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: **STEM**

Host Plants: Common Name	Scientific Name
birch	Betula
dogwood	Cornus
elm	Ulmus
hackberry	Celtis occidentalis
holly	Ilex
honeylocust	Gleditsia triacanthos
horsechestnut	Aesculus hippocastanum
kentucky coffee tree	Gymnocladius dioicus
linden	Tilia
maple	Acer
mountain ash, European	Sorbus aucuparia
poplar or aspen	Populus
privet	Ligustrum
sweetgum	Liquidambar
walnut	Juglans
witchhazel	Hamamelis

### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	Plant Part	<u>Plant Damage</u>	Survey Method
nymph (crawler)	Jun 15	Sep 30	stem	decline	visual inspection, sticky
					tape

### **Control: Stage(s) and Timing**

Stage(s)	Ideal C	ontrol Dat	Degree	e Da	nys	Treat HOST PLANT when the following
crawler, ?nymph	Jun 20	- Jun 30	737	-	967	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus
crawler, ?nymph	Jun 30	- Sep 20	967	-	2719	Remainder of season between the beginning and end phenology
crawler, ?nymph	Sep 20	- Sep 30	2719	-	2862	None Offered

#### **Biological Control**

Lindorus lophanthae (lady beetle - scale predator) Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator) Aphytis melinus (wasp, scale parasite)

\*restricted use pesticide

#### **Comments**

Available commercially

Available commercially; occurs naturally

Available commercially; occurs naturally

occurs naturally

Available commercially; occurs naturally

^for agricultural applications only.

Chemica Re	L Control eference use only. NOT a label substitute. elect the appropriate insecticide/miticide for th	<u>Comments</u> he correct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

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\*\*ESA approved common name

### WALNUT SCALE\*\*

*Quadraspidiotus juglansregiae* Page 386 (Johnson & Lyon)

Chemical Control	e only. NOT a label substitute.	Comments	Signal Word	Agricultural Restricted Entry Interval (REI)^				
	Select the appropriate insecticide/miticide for the correct life stage of the target pest.							
	Lepitect	Effective against immatures. Bee caution.	С	24 hours				
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours				
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours				
*bifenthrin	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours				
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours				
	Sevin SL	BEE CAUTION	С	12 hours				
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С					
flonicamid	Aria		С	12 hours				
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours				
	M-Pede	Only effective against immatures.	W	12 hours				
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С					
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours				
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours				
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours				
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours				
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours				

\*restricted use pesticide

\*\*ESA approved common name

### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: STEM, TRUNK

		io iteat.	SIL	<b>v1</b> , 1				
Host Plants: Comm	on Name				Sci Pir	ientific Name		
1					1 11	1115		
Pest Survey Info	ormation:							
Pest Stage	<b>From</b>	<u>To</u>	Plant			Plant Damage		y Method
nymph	•	Sep 30	stem,			decline		l inspection
adult	May 15	Sep 30	stem,	, trui	nk	decline	visua	l inspection
Control: Stage(s	and Tin	ning						
Stage(s)	<b>Ideal Cont</b>	rol Dat	Degree	e Da	ays	Treat HOST PLANT when the follow	ving	
nymph, (?adult)	May 01 -	May 10	121	-	246	plants bloom: redbud, Sargent crabapple, floweri almond, Tatarian honeysuckle	ng	
nymph, (?adult)	May 01 -	May 10	121	-	246			
nymph, (?adult)	Aug 10 -	Aug 31	1917	-	2271	bridalwreath, Japanese flowering cherry		
Biological Contr Orius sp. (predator)	<u>ol</u>					Comments Available commercially; occurs naturally		
Hippodamia converg	gens (lady be	eetle - pre	edator)			Available commercially; occurs naturally		
Diaeretiella rapae (v	wasp, aphid	parasite)				occurs naturally		
Deraeocoris nebulos	sus (mirid bu	ıg - preda	tor)			occurs naturally		
Chrysoperla sp. (gre	en lacewing	- predate	or)			Available commercially; occurs naturally		
Aphidoletes aphidimyza (midge, aphid predator)       Available commercially; occurs naturally								
Aphidius matricaria	e (wasp, aph	id parasi	te)			Available commercially; occurs naturally		
Chemical Control Reference use only. NOT a labe		Louboti	tuto		<u>Comments</u>	Signal	Agricultural Restricted Entrv	
	-					orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
*abamectin		Abacide				BEE CAUTION	W	
acephate	-	te 97 WD				BEE CAUTION	c	24 hours
acephac	Lepitect		U			BEE CAUTION	c c	24 hours 24 hours
	-	T,T & O	WCD			BEE CAUTION	c c	24 hours 24 hours
acetamiprid	TriStar		10.01			BEE CAUTION	C C	12 hours
azadirachtin	Aza-Dir						C C	4 hours
azadıracının	AzaGua						C C	4 hours
*bifenthrin	Onyx Pr					BEE CAUTION	w	12 hours
onentinini	•	P Profess	ional			BEE CAUTION	C	12 hours
carbaryl	Carbary		ionai			BEE CAUTION	C C	12 hours
carbaryi	Sevin Sl					BEE CAUTION	c c	12 hours
chlorantraniliprole	Acelepr						U	4 hours
*chlorpyrifos	1	yn rifos 4E .	۸G			Non-residential, BEE CAUTION	W	4 hours 24 hours
*clothianidin +	Aloft G					BEE CAUTION	C VV	12 hours
bifenthrin	AUILU						C	12 110018

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

### WHITE PINE APHID\*\*

Cinara strobi Page 84 (Johnson & Lyon)

Chemical Control		<u>Comments</u>	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute. propriate insecticide/miticide for the corred	ct life stage of the target pest.	<u>Word</u>	Interval (REI)^
*clothianidin	Arena 50 WDG	5 5 1	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
	Xytect 2F	BEE CAUTION	С	
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

#### **DELAYED DORMANT**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: ANNUAL

### Part of plant to treat: LEADER AND LATERAL STEMS

<b>TT</b> ( <b>D</b> ) (	F-						
Host Plants	s: <u>Common Nam</u>	e			Scientific Name		
	pine, eastern w	nite			Pinus strobus		
	spruce				Picea		
	spruce, Colorad	lo			Picea pungens		
Pest Surv	<u>ev Informati</u>	<u>on:</u>					
Pest Stage	From	<u>n 7</u>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
adult	Apr	01	Apr 20	leader and l	lateral stems some notching		l inspection: tree branch, bud
<b>Control:</b>	Stage(s) and '	Гimi	ing				
Stage(s)	Ideal C	ontro	ol Dat	Degree Days	s Treat HOST PLANT when the follow	wing	
adult	Apr 01	- A	Apr 20	28 -	96 plants bloom: silver maple, Cornelian cherry, pus willow	sy	
	<u>Chemical Control</u> <u>Comments</u>			Signal	Agricultural Restricted Entry		
Re	ference use only	NO	T a labe	l substitute.		<u>Word</u>	Interval (REI)^
Se	lect the appropria	nte ins	secticide	/miticide for th	he correct life stage of the target pest.		
*bifenthrin	Ony	x Pro	)		BEE CAUTION	W	12 hours
	Tals	tar P	Professi	onal	BEE CAUTION	С	12 hours
*diflubenzu	ron Din	ilin 2	25W		Effective against immatures. Bee	С	12 hours

caution.

\*restricted use pesticide

\*\*ESA approved common name

Pissodes strobi Page 54 (Johnson & Lyon) Page 21 (Adams & Packauskas)

### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: ANNUAL

### Part of plant to treat: LEADER AND LATERAL STEMS

Tart of plant to treat. <b>LEADER AND LATERAL STEMS</b>						
Host Plants: Cor	nmon Name		Sci	ientific Name		
pine	e, eastern white		Pin	nus strobus		
spru	ice, Colorado		Pie	cea pungens		
Pest Survey Information:						
Pest Stage	From	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method	
adult	Apr 20	Jun 01	leader and later	al stems some notching	visual inspection: tree	
					base, branch, bud	
larva	Jun 15	Aug 01	leader and later	al stems dieback	visual inspection	
Control: Stage(s) and Timing						
Stage(s)	Ideal Cont	rol Dat	Degree Days	Treat HOST PLANT when t	hefollowing	
adult	Apr 20 -	Apr 30	7 - 58	plants bloom: boxelder, star magnolia Norway maple	, periwinkle,	

#### Non Chemical Control

Remove and destroy infested plant parts.

	only. NOT a label substitute. ropriate insecticide/miticide for the correct	Comments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
Select the app		ine stage of the target pest.		
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
*imidacloprid	Xytect 2F	BEE CAUTION	С	
pyrethrin	Pyrenone		С	12 hours

### Additional information on biology and control

\*restricted use pesticide

White pine weevils emerge from hibernation the first warm day in spring. They fly to the leaders of susceptible trees and mate. Females dig a hole into the bark and lay multiple eggs. Larvae then feed on the cambium, killing all plant parts above the feeding site. A pupal chamber filled with shredded wood and bark is made in the wood. Mechanical removal and destruction of plant material must occur BEFORE the adults emerge in late summer.

382

**\*\*ESA approved common name** 

### **DORMANT SEASON**

### Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: COMMON

### Part of plant to treat: WHOLE PLANT

ſ	Part of plant to treat.	WHOLE PLA				
Host Plants: Con	nmon Name	Sc	Scientific Name			
almo	ond, dwarf flowering	Pr	unus glandulosa			
cher	rry, black	Pr	unus serotina			
cher	ry, flowering	Pr	unus			
gold	len raintree	Ka	elreuteria paniculata			
lilac	:	Sy	ringa			
priv	et	Li	gustrum			
Pest Survey In	nformation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	Surve	<u>y Method</u>	
adult	Apr 01 May 01	trunk, stem	decline	visua	l inspection	
Control: Stag	e(s) and Timing					
Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the fe	ollowing		
adult	Mar 01 - Apr 10	0 - 41	None Offered			
	ce use only. NOT a labe		Comments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^	
horticultural oil	Damoil			С	4 hours	
	Sunspray Ultra-F	Fine SprayOil		С	4 hours	

\*restricted use pesticide

383

\*\*ESA approved common name

### WHITE PRUNICOLA SCALE

Pseudaulacaspis prunicola Page 392 (Johnson & Lyon)

#### **GROWING SEASON**

### Apply thorough treatment only when pest stage found.

#### Frequency with which pest occurs: COMMON

#### Part of plant to treat: WHOLE PLANT

Host Plants: Common Name	Scientific Name
almond, dwarf flowering	Prunus glandulosa
cherry, black	Prunus serotina
cherry, flowering	Prunus
golden raintree	Koelreuteria paniculata
lilac	Syringa
privet	Ligustrum

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Survey Method
nymph (crawler)	Jun 01	Sep 01	trunk, stem	decline	visual inspection

#### Control: Stage(s) and Timing

Stage(s)	Ideal Control Da	Degree Days	Treat HOST PLANT when the following
egg	Apr 20 - Apr 30	from - 35	plants bloom: boxelder, star magnolia, periwinkle, Norway maple
egg, adult, some (crawlers, nymphs)	May 01 - May 10	to - 145	j plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
egg	Jun 20 - Jun 30	from - 707	<ul> <li>plants bloom: Rhododendron maximum, Spiraea</li> <li>bumalda, Philadelphus</li> </ul>
egg, adult, some (crawlers, nymphs)	Jul 01 - Jul 10	to - 1151	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata

### **Biological Control**

*Lindorus lophanthae (lady beetle - scale predator)* Cryptolaemus montrouzieri (lady beetle predator) Chrysoperla sp. (green lacewing - predator) Chilocorus stigma (lady beetle - predator)

\*restricted use pesticide

#### Comments

occurs naturally

~

Available commercially

Available commercially; occurs naturally

Available commercially; occurs naturally

#### **Chemical Control**

<u>Ical Control</u>	Comments
Reference use only. NOT a label substitute.	
	e same s and s s

Select the appropriate insecticide/miticide for the correct life stage of the target pest.

acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Lepitect	Effective against immatures. Bee caution.	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
*bifenthrin	Talstar P Professional	Effective against immatures. Bee caution.	С	12 hours
buprofezin	Talus 70DF	Only effective against immatures.	W	12 hours
carbaryl	Carbaryl 4L	Effective against immatures. Bee caution.	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours
*deltamethrin	Suspend SC	Effective against immatures. Bee caution.	С	

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*\*ESA approved common name 384

Arborist

Agricultural

**Restricted Entry** 

Interval (REI)^

Signal

Word

### WHITE PRUNICOLA SCALE

Pseudaulacaspis prunicola Page 392 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> It life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*dinotefuran	Safari 20 SG	BEE CAUTION	С	12 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
insecticidal soap	Des-X Insecticidal SoapConcentrate		W	12 hours
	M-Pede	Only effective against immatures.	W	12 hours
lambda-cyhalothrin	Demand CS	Effective against immatures. Bee caution.	С	
*lambda-cyhalothrin	Scimitar GC	Effective against immatures. Bee caution.	С	24 hours
malathion	Malathion 5 EC	Effective against immatures. Bee caution.	W	12 hours
	Malathion 8 Flowable	Effective against immatures. Bee caution.	С	12 hours
pyrethrin	PyGanic	OMRI listed, effective against immatures	С	12 hours
pyriproxyfen	Distance IGR	Only effective against immatures.	С	12 hours

\*restricted use pesticide

385

\*\*ESA approved common name

Orgyia leucostigma Page 158-160 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

### Frequency with which pest occurs: OCCASIONAL

Sevin SL

Acelepryn

Suspend SC

Dimilin 25W

Tree-age

\*restricted use pesticide

Chlorpyrifos 4E AG

### Part of plant to treat: FOLIAGE

	on Nome		iontific Nome		
Host Plants: Comm Ginkge					
•	hestnut	, and the second s			
redbud			rcis canadensis		
		Ce	reis cuntuensis		
Pest Survey Inf	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u> Plant Part</u>	Plant Damage	<u>Surve</u>	y Method
larva	May 10 Jun 01	foliage	defoliation		l inspection
larva	Aug 10 Sep 01	foliage	defoliation	visua	l inspection
Control: Stage(	<u>s) and Timing</u>				
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the follo	wing	
larva	May 10 - May 20	192 - 298	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ing	
larva	Aug 10 - Aug 20	1917 - 2149	plant fruit in color: Mountain ash, cranberry bu	sh	
larva	Aug 20 - Aug 31	2150 - 2380	plant fruit in color: Viburnum dentatum		
Biological Cont Podisus maculivent	<mark>rol</mark> ris (spined soldier bug	g - predator)	<u><b>Comments</b></u> Available commercially; occurs naturally		
Chemical Contr Reference	<mark>∙ol</mark> use only. NOT a labe	el substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry
	•		orrect life stage of the target pest.		Interval (REI)^
acephate	Acephate 97 WD	OG	BEE CAUTION	С	24 hours
	Lepitect		BEE CAUTION	С	24 hours
	Orthene T,T & C	) WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
B. thuringiensis aizawai	XenTari		Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	DiPel DF		Most effective against young larvae.	С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	ional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

BEE CAUTION

BEE CAUTION

caution. BEE CAUTION

Non-residential, BEE CAUTION

Effective against immatures. Bee

С

W

C C

W

^for agricultural applications only.

12 hours

4 hours

24 hours

12 hours

chlorantraniliprole

\*chlorpyrifos

\*deltamethrin

\*diflubenzuron

\*emamectin benzoate

### WHITEMARKED TUSSOCK MOTH\*\*

Orgyia leucostigma Page 158-160 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the con	<u>Comments</u> rect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
indoxacarb	Provaunt	BEE CAUTION	С	
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Perm-UP 3.2EC	BEE CAUTION	С	12 hours
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

### Additional information on biology and control

Handle caterpillars with care. Some people are quite sensitive to the hairs of this caterpillar.

\*restricted use pesticide

387

\*\*ESA approved common name

Rhynchaenus rufipes Page 190 (Johnson & Lyon)

### **GROWING SEASON**

## Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: FOLIAGE

Host Plants: Common	Name	S	cientific Name		
willow		S	alix		
Pest Survey Inform	mation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	<u>Surve</u>	y Method
adult	May 15 Jul 01	foliage	defoliation	visua	l inspection
larva	Jun 01 Aug 01	foliage	discoloration (mining)	visua	l inspection
Control: Stage(s) a	and Timing				
Stage(s) Id	deal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follow	ving	
adult M	May 20 - May 31	from - 363	3 plants bloom: ruby horsechestnut, Laburnum alp black locust, ninebark	inum,	
adult Ju	un 01 - Jun 10		<ul> <li>plants bloom: Kousa dogwood, cranberry bush, beautybush</li> </ul>		
adult, larva Ju	un 10 - Jun 20		<ul> <li>plants bloom: mountain laurel, mock-orange, Jaj tree lilac, Washington hawthorn</li> </ul>	panese	
adult, larva Ju	un 20 - Jun 30		<ul> <li>plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus</li> </ul>	l	
adult, larva Ju	ul 01 - Jul 10	to - 1029	<ul> <li>plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata</li> </ul>		
<u>Chemical Control</u>	e only. NOT a labe	Loubotituto	Comments	Signal	Agricultural Restricted Entry
	-		correct life stage of the target pest.	<u>Word</u>	Interval (REI)^
acephate	Acephate 97 WD		BEE CAUTION	С	24 hours
	Orthene T,T & C		BEE CAUTION	С	24 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	ional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS		BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC		BEE CAUTION	С	24 hours
pyrethrin	Pyrenone			С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

Host Plants	s: Common Name	Scientific Name					
	basswood	Tilia americana					
	cherry, flowering	Prunus					
	crabapple	Malus					
	maple	Acer					
	oak	Quercus					
Pest Surv	Pest Survey Information:						
Pest Stage	<u>From To</u> <u>Plant</u>	Part Plant Damage	Survey Method				
egg	Mar 01 Apr 01 trunk		visual inspection (magnification)				
<b>Control:</b>	Stage(s) and Timing						
Stage(s)	Ideal Control Dat Degree	e Days Treat HOST PLANT when the	hefollowing				
egg	Mar 15 - Apr 15 5	- 45 None Offered					

#### Apply thorough treatment only when pest stage found.

#### Non Chemical Control

**DORMANT SEASON** 

Band trees in late winter to trap hatching caterpillars.

#### Additional information on biology and control

As of March 2019, this invasive European moth has been found in southeastern Connecticut and further west along the shore. Small brown to beige 1" male moths emerge from the soil and begin flying around Thanksgiving. They mate with wingless females on the trunks of host trees. Tiny, rusty red eggs laid on host tree trunks in December and January overwinter and in spring turn a dark blue black prior to hatching in late March to mid-April. Small green caterpillars inch their way up the trunk and begin to feed on flower or foliar buds that have shed their scales. Small caterpillars also move about by spinning a silken thread and ballooning to new plants by winds. As time goes on new leaves are shredded and damage looks similar to that caused by the cankerworms. At maturity, the one inch long, green caterpillars with white longitudinal stripes will drop to the ground and pupate in the soil. Dr. Joe Elkinton, UMass, has released a parasitic fly in Connecticut to control winter moth. This fly has successfully lowered populations of winter moth in Nova Scotia so that it is no longer a problem there

\*restricted use pesticide

389

\*\*ESA approved common name

#### **DELAYED DORMANT**

#### Apply thorough treatment only when pest stage found.

Host Plants: Common Name	Scientific Name	
basswood	Tilia americana	
cherry, flowering	Prunus	
crabapple	Malus	
maple	Acer	
oak	Quercus	

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u> Plant Part</u>	<u>Plant Damage</u>	Survey Method
larva (caterpillar)	Apr 01	May 01	bud, foliage	chewed buds, small leafholes	visual inspection (magnification)

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

## Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE, NEW SHOOTS

Host Plants: Common Name	Scientific Name
basswood	Tilia americana
cherry, flowering	Prunus
crabapple	Malus
maple	Acer
oak	Quercus

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
larva (caterpillar)	May 01	Jun 15	foliage	skeletonized leaf, defoliation	visual inspection

### Control: Stage(s) and Timing

Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the following
larva (caterpillar)	May 01 - May 10	135 - 190	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry
larva	May 10 - May 31	190 - 395	Remainder of season between the beginning and end phenology
larva	Jun 01 - Jun 10	410 - 540	plants bloom: Kousa dogwood, cranberry bush, beautybush

#### **Non Chemical Control**

Band trees in late summer to trap emerging females.

\*restricted use pesticide

Chemical Control Reference use Select the app	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^		
acephate	Lepitect	BEE CAUTION	С	24 hours
B. thuringiensis aizawai	XenTari	Most effective against young larvae.	С	4 hours
B. thuringiensis kurstaki	DiPel DF	Most effective against young larvae.	С	4 hours
*bifenthrin	Talstar P Professional	BEE CAUTION	С	12 hours
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
indoxacarb	Provaunt	BEE CAUTION	С	
pyrethrin	PyGanic	OMRI listed	С	12 hours
	Pyrenone		С	12 hours
spinosad	Conserve SC	Most effective against young larvae.	С	4 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

391

\*\*ESA approved common name

#### WITCHHAZEL LEAF GALL APHID (SPRING)

Hormaphis hamamelidis Page 450 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: FOLIAGE

Host Plants: Common Name witchhazel			Scientific Name Hamamelis				
			numumeus				
Pest Survey Info				C			
Pest Stage	From To	Plant Part	Plant Damage		<u>y Method</u>		
nymph	May 01 Jun 01	foliage	gall	visual	inspection		
Control: Stage(s	Control: Stage(s) and Timing						
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the f	ollowing			
nymph	May 01 - May 10	144 - 2	228 plants bloom: Japanese quince, saucer mag bridalwreath, Japanese flowering cherry	gnolia,			
adult, nymph	May 20 - May 31	311 - 4	<ul> <li>plants bloom: ruby horsechestnut, Laburnu black locust, ninebark</li> </ul>	ım alpinum,			
Chemical Contro	ol		<u>Comments</u>	Signal	Agricultural		
	ise only. NOT a labe	el substitute.	Comments	<u>Word</u>	Restricted Entry		
Select the a	ppropriate insecticide	e/miticide for th	e correct life stage of the target pest.		Interval (REI)^		
*abamectin	Mauget Abacide	2	BEE CAUTION	W			
acephate	Acephate 97 WE	DG	BEE CAUTION	С	24 hours		
	Orthene T,T & C	O WSP	BEE CAUTION	С	24 hours		
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours		
azadirachtin	Aza-Direct			С	4 hours		
	AzaGuard			С	4 hours		
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours		
	Talstar P Profess	sional	BEE CAUTION	С	12 hours		
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours		
	Sevin SL		BEE CAUTION	С	12 hours		
*clothianidin	Arena 50 WDG			С	12 hours		
*deltamethrin	Suspend SC		BEE CAUTION	С			
*fenpropathrin	Tame 2.4EC		BEE CAUTION	W	24 hours		
horticultural oil	Damoil			С	4 hours		
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours		
	Merit 75WSP		BEE CAUTION	С	12 hours		
insecticidal soap	Des-X Insecticid	lal Soap Conce	ntrate	W	12 hours		
	M-Pede			W	12 hours		
lambda-cyhalothrin	Demand CS		BEE CAUTION	С			
*lambda-cyhalothrii			BEE CAUTION	С	24 hours		
malathion	Malathion 5 EC		BEE CAUTION	W	12 hours		
	Malathion 8 Flow	wable	BEE CAUTION	С	12 hours		
pymetrozine	Endeavor			С	12 hours		
pyrethrin	Pyrenone			С	12 hours		

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE

Fait of plait to treat. FOLIAGE								
Host Plants: Common Name birch				<b>eientific Name</b>				
			De					
Pest Survey Info	ormation:							
Pest Stage	<u>From</u> <u>To</u>	Plant Part	t	<u>Plant Damage</u>	Surve	<u>y Method</u>		
adult	Jun 01 Jul 0	l foliage		gall	visua	l inspection		
Control: Stage(s	Control: Stage(s) and Timing							
Stage(s)	Ideal Control Dat	t Degree Da	ys	Treat HOST PLANT when the follow	ving			
adult, nymph	Jun 10 - Jun 20	563 -	737		panese			
adult, nymph	Jun 20 - Jun 30	737 -	967	tree lilac, Washington hawthorn plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus	1			
Chemical Contr	ol			Comments	Signal	Agricultural Restricted Entry		
	use only. NOT a la				<u>Word</u>	Interval (REI)^		
Select the a	appropriate insectic	ide/miticide for	the c	correct life stage of the target pest.				
*abamectin	Mauget Abacic	le 2		BEE CAUTION	W			
acephate	Acephate 97 W	/DG		BEE CAUTION	С	24 hours		
	Lepitect			BEE CAUTION	С	24 hours		
	Orthene T,T &	O WSP		BEE CAUTION	С	24 hours		
acetamiprid	TriStar 8.5 SL			BEE CAUTION	С	12 hours		
azadirachtin	Aza-Direct				С	4 hours		
	AzaGuard				С	4 hours		
*bifenthrin	Onyx Pro			BEE CAUTION	W	12 hours		
	Talstar P Profe	ssional		BEE CAUTION	С	12 hours		
carbaryl	Carbaryl 4L			BEE CAUTION	С	12 hours		
	Sevin SL			BEE CAUTION	С	12 hours		
chlorantraniliprole	Acelepryn					4 hours		
*chlorpyrifos	Chlorpyrifos 4	E AG		Non-residential, BEE CAUTION	W	24 hours		
*clothianidin + bifenthrin	Aloft GC G			BEE CAUTION	С	12 hours		
*clothianidin	Arena 50 WDO	3			С	12 hours		
*deltamethrin	Suspend SC			BEE CAUTION	С			
*fenpropathrin	Tame 2.4EC			BEE CAUTION	W	24 hours		
flonicamid	Aria				С	12 hours		
horticultural oil	Damoil				С	4 hours		
*imidacloprid	Mallet 75 WSF	)		BEE CAUTION	С	12 hours		
	Merit 75WSP			BEE CAUTION	С	12 hours		
insecticidal soap	Des-X Insectic	idal Soap Con	centra	ate	W	12 hours		
	M-Pede				W	12 hours		
lambda-cyhalothrin	Demand CS			BEE CAUTION	С			

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

#### WITCHHAZEL LEAF GALL APHID (SUMMER)

Hormaphis hamamelidis Page 450 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the corre	<u>Comments</u> ect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

394

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: STEM

Host Plants: Common Name Scie		ientific Nan	ne				
elm		Ul	mus				
Pest Survey Information:							
Pest Stage	<u>From</u> <u>To</u>	Plant Part	<u>Pla</u>	nt Damage	Survey Method		
nymph, adult	Apr 20 May 3	l opening buds, f	oliage dis	scoloration, distortion	visual inspection		
Control: Stage	s) and Timing						
Stage(s)	Ideal Control Dat	Degree Days	Treat HOS	ST PLANT when the follow	ring		
nymph, adult	May 01 - May 31	144 - 423	1	Japanese quince, saucer magnolia, Japanese flowering cherry			
<b>Biological Cont</b>	rol		Com	<u>nents</u>			
Orius sp. (predator	)		Available commercially; occurs naturally				
Hippodamia conver	rgens (lady beetle - pr	edator)	Available commercially; occurs naturally				
Diaeretiella rapae	(wasp, aphid parasite	)	occurs naturally				
Deraeocoris nebulosus (mirid bug - predator)			occurs naturally				
Chrysoperla sp. (green lacewing - predator)			Available commercially; occurs naturally				
Aphidoletes aphidir	nyza (midge, aphid pr	edator)	Available commercially; occurs naturally				
Aphidius matricario	ae (wasp, aphid paras	ite)	Availabi	le commercially; occurs naturally			

	only. NOT a label substitute.	<u>Comments</u>	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
Select the app	ropriate insecticide/miticide for the correct	t life stage of the target pest.		
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
*clothianidin	Arena 50 WDG		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	

\*fenpropathrin Tame 2.4EC BEE CAUTION W 24 hours horticultural oil С 4 hours Damoil BEE CAUTION С \*imidacloprid Mallet 75 WSP 12 hours BEE CAUTION Merit 75WSP С 12 hours insecticidal soap Des-X Insecticidal Soap Concentrate W 12 hours M-Pede 12 hours W

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

^for agricultural applications only.

#### WOOLLY APPLE APHID (SPRING)\*\*

Eriosoma lanigerum Page 316 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the co	<u>Comments</u> prrect life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	Pyrenone		С	12 hours

#### Additional information on biology and control

These aphids cause knotty galls on the roots and twigs and reduce the vigor of trees. Woolly apple aphids have a complex life cycle during which they may use several hosts, but elm and apple are the principal hosts. In spring, nymphs hatch from the eggs that have overwintered on elm trees, and they begin to feed on the buds and leaves. The reddish brown to purple nymphs easily are identified because they secrete tufts of a white, cottony-like substance on their bodies. After 2-3 generations, winged females develop and migrate to apple or other rosaceous plants. On apple, the females start colonies that may complete several generations. Subterranean colonies of nymphs also can spend the winter on apple roots. These colonies develop through several generations on apple roots, finally producing winged females that move to the aerial parts of the tree to start new infestations in the cracks and the crevices on the bark or at the base of growing shoots. In autumn, the winged adults of both sexes migrate to elm where the females lay eggs that will overwinter. Infestations of the woolly apple aphid may be reduced during the summer by pruning branches with colonies. The removal of suckers at the base of trees and on the main scaffold limbs is especially important. An application of horticultural oil, which is among the compounds registered for use against this pest in Connecticut, at the 1/2"-growth stage sometimes provides good control. Consult the label for dosage rates and safety precautions (From 'The Plant Pest Handbook ', Published by the Connecticut Agricultural Experiment Station)

\*restricted use pesticide

396

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: TWIG AND TRUNK SCARS, ROOTS

Host Plants: Common Name	Scientific Name	
apple	Malus	
Cotoneaster	Cotoneaster	
firethorn	Pyracantha	
hawthorn	Crataegus	
mountain ash, European	Sorbus aucuparia	

#### **Pest Survey Information:**

Pest Stage	<b>From</b>	<u>To</u>	<u>Plant Part</u>	Plant Damage	Survey Method
nymph, adult	Jun 20	Sep 30	stem	galls: twig, branch, root	visual inspection

#### **Control:** Stage(s) and Timing

Stage(s)	Ideal Co	ontrol Dat	Degree	e Da	ays	Treat HOST PLANT when the following
nymph, adult	Jun 01	- Jun 10	437	-	563	plants bloom: Kousa dogwood, cranberry bush, beautybush
nymph, adult	Jun 10	- Jun 20	563	-	737	plants bloom: mountain laurel, mock-orange, Japanese tree lilac, Washington hawthorn
nymph, adult	Aug 10	- Aug 20	1933	-	2173	plant fruit in color: Mountain ash, cranberry bush

Biological Control	Comments		
Orius sp. (predator)	Available commercially; occurs naturally		
Hippodamia convergens (lady beetle - predator)	Available commercially; occurs naturally		
Diaeretiella rapae (wasp, aphid parasite)	occurs naturally		
Deraeocoris nebulosus (mirid bug - predator)	occurs naturally		
Chrysoperla sp. (green lacewing - predator)	Available commercially; occurs naturally		
Aphidoletes aphidimyza (midge, aphid predator)	Available commercially; occurs naturally		
Aphidius matricariae (wasp, aphid parasite)	Available commercially; occurs naturally		
	Commente	Cianal	Agricultural

**Comments** 

#### **Chemical Control**

Reference use only. NOT a label substitute. Select the appropriate insecticide/miticide for the correct life stage of the target pest.

*abamectin	Mauget Abacide 2	BEE CAUTION	W	
acephate	Acephate 97 WDG	BEE CAUTION	С	24 hours
	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL	BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct		С	4 hours
	AzaGuard		С	4 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L	BEE CAUTION	С	12 hours
	Sevin SL	BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn			4 hours
*chlorpyrifos	Chlorpyrifos 4E AG	Non-residential, BEE CAUTION	W	24 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name 397

^for agricultural applications only. Arborist

Signal

<u>Word</u>

**Restricted Entry** 

Interval (REI)^

#### WOOLLY APPLE APHID (SUMMER)\*\*

Eriosoma lanigerum Page 316 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	Comments	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
*clothianidin	Arena 50 WDG		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	C C	12 110 015
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	Pyrenone		С	12 hours
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours

\*restricted use pesticide

398

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

## Part of plant to treat: FOLIAGE

Host Plants: Com	mon Name	Sc	ientific Name			
beecl	h	Fa	igus			
Pest Survey In	formation:					
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method	
egg, nymph	May 20 May 3	l foliage	discoloration, distortion	visua	l inspection	
nymph, adult	Jun 01 Jul 01	foliage	discoloration, distortion	visua	l inspection	
Control: Stage	e(s) and Timing					
Stage(s)	Ideal Control Dat	Degree Days	Treat HOST PLANT when the follo	wing		
egg, nymph	May 20 - May 31	from - 363	plants bloom: ruby horsechestnut, Laburnum a black locust, ninebark	lpinum,		
nymph, adult	Jun 01 - Jun 10		plants bloom: Kousa dogwood, cranberry bush beautybush	,		
nymph, adult	Jun 10 - Jun 20	to - 707	plants bloom: mountain laurel, mock-orange, J tree lilac, Washington hawthorn	apanese		
Biological Con Orius sp. (predato			<u>Comments</u> Available commercially; occurs naturall	у		
Hippodamia conve	ergens (lady beetle - pr	edator)	Available commercially; occurs naturall	у		
Diaeretiella rapae	(wasp, aphid parasite)	)	occurs naturally			
Deraeocoris nebul	losus (mirid bug - pred	ator)	occurs naturally			
Chrysoperla sp. (green lacewing - predator)		or)	Available commercially; occurs naturally			
Aphidoletes aphid	imyza (midge, aphid pr	edator)	Available commercially; occurs naturally			
Aphidius matricar	iae (wasp, aphid paras	ite)	Available commercially; occurs naturally	v		
Chemical Con			<u>Comments</u>	Signal	Agricultural Restricted Entr	
	e use only. NOT a labe e appropriate insecticid		orrect life stage of the target pest.	<u>Word</u>	Interval (REI)	
*abamectin	Mauget Abacide	2	BEE CAUTION	W		
acephate	Acephate 97 WI	DG	BEE CAUTION	С	24 hours	
	Lepitect		BEE CAUTION	С	24 hours	
	Orthene T,T & O	O WSP	BEE CAUTION	С	24 hours	
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours	
azadirachtin	Aza-Direct			С	4 hours	
	AzaGuard			С	4 hours	
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours	
	Talstar P Profess	sional	BEE CAUTION	С	12 hours	
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours	
	Sevin SL		BEE CAUTION	С	12 hours	
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours	
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours	

Signal words: C=Caution; W = Warning; DP = Danger Poison

\*\*ESA approved common name

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

399

#### WOOLLY BEECH APHIDS\*\*

Aphididae Page 296 (Johnson & Lyon) Page 37 (Adams & Packauskas)

Chemical Control		<u>Comments</u>	Signal	Agricultural Restricted Entry
	e only. NOT a label substitute. propriate insecticide/miticide for the correc	t life stage of the target pest.	<u>Word</u>	Interval (REI)^
*clothianidin	Arena 50 WDG		С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*fenpropathrin	Tame 2.4EC	BEE CAUTION	W	24 hours
flonicamid	Aria		С	12 hours
horticultural oil	Damoil		С	4 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	Pyrenone		С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

### Part of plant to treat: UNFOLDING FOLIAGE

	rt of plant to treat:				
Host Plants: Comm elm	ion Name		Scientific Name Ulmus		
		· · · · ·	0 mms		
Pest Survey Info					
Pest Stage	<u>From</u> <u>To</u>	Plant Part	<u>Plant Damage</u>		ey Method
nymph, adult	May 01 Jun 30	foliage	discoloration, distortion	visua	l inspection
Control: Stage(s	<u>s) and Timing</u>				
Stage(s)	Ideal Control Dat	<b>Degree Days</b>	Treat HOST PLANT when the follo	wing	
adult, nymph	May 01 - May 10	from - 12	21 plants bloom: Japanese quince, saucer magnolia bridalwreath, Japanese flowering cherry		
adult, nymph	May 10 - May 20		<ul> <li>plants bloom: Japanese quince, saucer magnolia bridalwreath, Japanese flowering cherry</li> </ul>	ì,	
adult, nymph	Jun 20 - Jun 30	to - 24	46 plants bloom: Rhododendron maximum, Spirae bumalda, Philadelphus	a	
<b>Biological Cont</b> Orius sp. (predator)			<u>Comments</u> Available commercially; occurs naturally	,	
Hippodamia conver	gens (lady beetle - pro	edator)	Available commercially; occurs naturally	,	
Diaeretiella rapae (	wasp, aphid parasite)	)	occurs naturally		
Deraeocoris nebulo.	sus (mirid bug - preda	ator)	occurs naturally		
Chrysoperla sp. (gre	een lacewing - predat	or)	Available commercially; occurs naturally	,	
Aphidoletes aphidimyza (midge, aphid predator)		Available commercially; occurs naturally	7		
Aphidius matricaria	e (wasp, aphid paras	ite)	Available commercially; occurs naturally		
Chemical Contr			Comments	Signal	Agricultural Restricted Entry
	use only. NOT a labe		o correct life stage of the target past	<u>Word</u>	Interval (REI)^
			e correct life stage of the target pest.		
*abamectin	Mauget Abacide		BEE CAUTION	W	0.4.1
acephate	Acephate 97 WI		BEE CAUTION BEE CAUTION	C	24 hours
	Orthene T,T & C	) wsp		C	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	C	12 hours
azadirachtin	Aza-Direct			C	4 hours
¥1.0 (1.)	AzaGuard			C	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION BEE CAUTION	W	12 hours
	Talstar P Profess	lonal	BEE CAUTION BEE CAUTION	C	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	C	12 hours
*clothianidin	Arena 50 WDG		BEE CAUTION	C	12 hours
*deltamethrin	Suspend SC		BEE CAUTION BEE CAUTION	C	24.1
*fenpropathrin	Tame 2.4EC		DEE CAUTION	W	24 hours 4 hours
horticultural oil	Damoil Mollet 75 WSD		BEE CAUTION	C	
*imidacloprid	Mallet 75 WSP			C	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name

#### WOOLLY ELM APHID (SPRING)\*\*

Eriosoma americanum Page 306 (Johnson & Lyon)

	e only. NOT a label substitute. propriate insecticide/miticide for the correc	<u>Comments</u> ct life stage of the target pest.	Signal <u>Word</u>	Agricultural Restricted Entry Interval (REI)^
insecticidal soap	Des-X Insecticidal Soap Concentrate		W	12 hours
	M-Pede		W	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours
	Malathion 8 Flowable	BEE CAUTION	С	12 hours
pymetrozine	Endeavor		С	12 hours
pyrethrin	Pyrenone		С	12 hours

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: ROOT ZONE

Fa	it of plant to treat.	KUUI LUNI			
Host Plants: Comm			ientific Name		
service	eberry, shadbush	An	nelanchier		
Pest Survey Info	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method
nymph, adult	Aug 01 Sep 30	foliage	discoloration, distortion	visua	l inspection
Control: Stage(s	<u>s) and Timing</u>				
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the follow	ving	
nymph, adult	Aug 10 - Aug 20	1933 - 2173	plant fruit in color: Mountain ash, cranberry bus	sh	
<b>Biological Cont</b> Orius sp. (predator)			<u>Comments</u> Available commercially; occurs naturally		
Hippodamia conver	gens (lady beetle - pre	edator)	Available commercially; occurs naturally		
Diaeretiella rapae (	wasp, aphid parasite)		occurs naturally		
Deraeocoris nebulo	sus (mirid bug - preda	itor)	occurs naturally		
Chrysoperla sp. (gre	een lacewing - predate	or)	Available commercially; occurs naturally		
Aphidoletes aphidimyza (midge, aphid predator)		Available commercially; occurs naturally			
Aphidius matricaria	e (wasp, aphid parasi	te)	Available commercially; occurs naturally		
Chemical Contr	<mark>∙ol</mark> use only. NOT a labe	al substitute	<u>Comments</u>	Signal Word	Agricultural Restricted Entry
	•		orrect life stage of the target pest.	woru	Interval (REI)^
*abamectin	Mauget Abacide	2	BEE CAUTION	W	
acephate	Acephate 97 WD		BEE CAUTION	С	24 hours
-	Lepitect		BEE CAUTION	С	24 hours
	Orthene T,T & C	) WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
chlorantraniliprole	Acelepryn				4 hours
*clothianidin	Arena 50 WDG			С	12 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	С	12 hours
	Merit 75WSP		BEE CAUTION	С	12 hours
*thiamethoxam	Meridian 0.33G		BEE CAUTION	С	12 hours

#### Additional information on biology and control

\*restricted use pesticide

Moves to roots from stems.

\*\*ESA approved common name

Eriosoma rileyi Page 306 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: TRUNK, STEM

	it of plant to treat.	,			
			ientific Name		
		01	mus		
Pest Survey Info	ormation:				
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	Plant Damage	-	<u>y Method</u>
nymph	May 15 Sep 30		knot and gall		l inspection
adult May 15 Sep 30 bark, stem			knot and gall	visual	l inspection
Control: Stage(s	s) and Timing				
Stage(s)	<b>Ideal Control Dat</b>	<b>Degree Days</b>	Treat HOST PLANT when the fol	lowing	
immature, adult	May 01 - May 10	144 - 228	plants bloom: Japanese quince, saucer magno bridalwreath, Japanese flowering cherry	lia,	
immature, adult	May 10 - Jul 31	228 - 1673		and end	
immature, adult	Aug 01 - Aug 10	1700 - 1933	plant bloom: Pee Gee Hydrangea blooms turn	pink	
Chemical Contr		- 1 h - 13 ( ( -	<u>Comments</u>	Signal	Agricultural Restricted Entry
	use only. NOT a labe		orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^
			• • • •		
*abamectin	Mauget Abacide		BEE CAUTION	W	
acephate	Acephate 97 WI	DG	BEE CAUTION	C	24 hours
	Lepitect		BEE CAUTION	С	24 hours
	Orthene T,T & C	O WSP	BEE CAUTION	С	24 hours
acetamiprid	TriStar 8.5 SL		BEE CAUTION	С	12 hours
azadirachtin	Aza-Direct			С	4 hours
	AzaGuard			С	4 hours
*bifenthrin	Onyx Pro		BEE CAUTION	W	12 hours
	Talstar P Profess	sional	BEE CAUTION	С	12 hours
carbaryl	Carbaryl 4L		BEE CAUTION	С	12 hours
	Sevin SL		BEE CAUTION	С	12 hours
chlorantraniliprole	Acelepryn				4 hours
*chlorpyrifos	Chlorpyrifos 4E	AG	Non-residential, BEE CAUTION	W	24 hours
*clothianidin + bifenthrin	Aloft GC G		BEE CAUTION	С	12 hours
*clothianidin	Arena 50 WDG			С	12 hours
*deltamethrin	Suspend SC		BEE CAUTION	С	
*fenpropathrin	Tame 2.4EC		BEE CAUTION	W	24 hours
horticultural oil	Damoil			С	4 hours
*imidacloprid	Mallet 75 WSP		BEE CAUTION	C C	12 hours
	Merit 75WSP		BEE CAUTION	C C	12 hours
insecticidal soap		lal Soap Concentra	ate	W	12 hours
	M-Pede			w	12 hours
	1v1-1 Cuc			vv	12 nouis

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

\*restricted use pesticide

\*\*ESA approved common name

### WOOLLY ELM BARK APHID

Eriosoma rileyi Page 306 (Johnson & Lyon)

Chemical Control		<u>Comments</u>	Signal	Agricultural Restricted Entry		
	e only. NOT a label substitute.		<u>Word</u>	Interval (REI)^		
Select the appropriate insecticide/miticide for the correct life stage of the target pest.						
lambda-cyhalothrin	Demand CS	BEE CAUTION	С			
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours		
malathion	Malathion 5 EC	BEE CAUTION	W	12 hours		
pymetrozine	Endeavor		С	12 hours		
pyrethrin	Pyrenone		С	12 hours		
*thiamethoxam	Meridian 0.33G	BEE CAUTION	С	12 hours		

\*restricted use pesticide

405

\*\*ESA approved common name

Adelges laricis Page 78 (Johnson & Lyon)

#### **GROWING SEASON**

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

#### Part of plant to treat: EXPANDING BUDS AND FOLIAGE

Host Plants: Common Name		Scientific Name					
larch		La	Larix				
Pest Survey Information:							
Pest Stage	<u>From</u> <u>To</u>	<u>Plant Part</u>	<u>Plant Damage</u>	Surve	y Method		
nymph	May 01 Jun 01	foliage	discoloration, gall	visua	l inspection		
Control: Stage(s) and Timing							
Stage(s)	<b>Ideal Control Dat</b>	Degree Days	Treat HOST PLANT when the follow	ving			
nymph	May 01 - May 10	121 - 192	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry	,			
nymph	May 10 - May 20	121 - 192	plants bloom: redbud, Sargent crabapple, flower almond, Tatarian honeysuckle	ing			
<u>Chemical Control</u>			<u>Comments</u>	Signal	Agricultural Restricted Entry		
Reference	use only. NOT a labe	al substitute		Word			
Select the appropriate insecticide/miticide for the correct life stage of the target pest.							
			orrect life stage of the target pest.	<u>Word</u>	Interval (REI)^		
acetamiprid			orrect life stage of the target pest. BEE CAUTION	<u>vvoru</u> C	Interval (REI)^ 12 hours		
	appropriate insecticide	e/miticide for the c	5 5 7				
acetamiprid	appropriate insecticide TriStar 8.5 SL	e/miticide for the c	BEE CAUTION	C	12 hours		
acetamiprid *bifenthrin	appropriate insecticide TriStar 8.5 SL Talstar P Profess	e/miticide for the c	BEE CAUTION BEE CAUTION	C C	12 hours		
acetamiprid *bifenthrin *deltamethrin	appropriate insecticide TriStar 8.5 SL Talstar P Profess Suspend SC	e/miticide for the c	BEE CAUTION BEE CAUTION	C C C	12 hours 12 hours		
acetamiprid *bifenthrin *deltamethrin horticultural oil	appropriate insecticide TriStar 8.5 SL Talstar P Profess Suspend SC Damoil	e/miticide for the c	BEE CAUTION BEE CAUTION BEE CAUTION	C C C C	12 hours 12 hours 4 hours		
acetamiprid *bifenthrin *deltamethrin horticultural oil	appropriate insecticide TriStar 8.5 SL Talstar P Profess Suspend SC Damoil Mallet 75 WSP Merit 75WSP	e/miticide for the c	BEE CAUTION BEE CAUTION BEE CAUTION BEE CAUTION BEE CAUTION	C C C C C	12 hours 12 hours 4 hours 12 hours		

\*restricted use pesticide

\*\*ESA approved common name

# Apply thorough treatment only when pest stage found.

Frequency with which pest occurs: OCCASIONAL

# Part of plant to treat: TERMINAL SHOOTS

Host Plants: Common Name			Scientific Name					
pine			Pinus					
Pest Survey In	formation	:						
Pest Stage	From	<u>To</u>	Plant	Part	<u>t</u>	Plant Damage	Surve	y Method
larva	Apr 15	May 31	termi	inal sl	hoots	discoloration, dieback	visua	l inspection
adult	Jun 15	Sep 30	foliag	ge			visua	l inspection
Control: Stage(s) and Timing								
Stage(s)	Ideal Con	trol Dat Degree Days		ys	Treat HOST PLANT when the following			
larva	Apr 20 -	Apr 30	from	-	96	plants bloom: boxelder, star magnolia, periwinkle Norway maple	,	
larva	May 01 -	May 10	-	-	-	plants bloom: Japanese quince, saucer magnolia, bridalwreath, Japanese flowering cherry		
larva	May 10 -	May 20	to	-	311	plants bloom: redbud, Sargent crabapple, flowerir almond, Tatarian honeysuckle	ng	
adult	Jun 20 -	Jun 30	from	-	737	plants bloom: Rhododendron maximum, Spiraea bumalda, Philadelphus		
adult	Jul 01 -	Jul 10	-	-	-	plants bloom: Ceanothus americanus, Clematis jackmanii, Tilia cordata		
adult	Jul 10 -	Jul 20	-	-	-	plants bloom: Abelia, golden rain tree, sourwood		
adult, larva	Jul 20 -	Jul 31	-	-	-	plants bloom: butterfly bush, Clethra alnifolia, fal spirea	se	
adult, larva	Aug 01 -	Aug 10	to	-	1933	plant bloom: Pee Gee Hydrangea blooms turn pin	k	
adult, larva	Aug 10 -	Aug 20	1933	-	2173	plant fruit in color: Mountain ash, cranberry bush	ı	
Chamical Cont	rol					Commente	Signal	Agricultural

#### Chamical Control

Chemical Control	e only. NOT a label substitute.	<u>Comments</u>	Signal	Agricultural Restricted Entry
Select the app	<u>Word</u>	Interval (REI)^		
*abamectin	Mauget Abacide 2	BEE CAUTION	W	
acephate	Orthene T,T & O WSP	BEE CAUTION	С	24 hours
*bifenthrin	Onyx Pro	BEE CAUTION	W	12 hours
	Talstar P Professional	BEE CAUTION	С	12 hours
*deltamethrin	Suspend SC	BEE CAUTION	С	
*diflubenzuron	Dimilin 25W	Effective against immatures. Bee caution.	С	12 hours
dimethoate	Dimate 4EC	BEE CAUTION	W	48 hours
	Dimethoate 400 EC	BEE CAUTION	W	48 hours
*imidacloprid	Mallet 75 WSP	BEE CAUTION	С	12 hours
	Merit 75WSP	BEE CAUTION	С	12 hours
lambda-cyhalothrin	Demand CS	BEE CAUTION	С	
*lambda-cyhalothrin	Scimitar GC	BEE CAUTION	С	24 hours
*permethrin	Astro	BEE CAUTION	С	12 hours
	Perm-UP 3.2EC	BEE CAUTION	С	12 hours

Signal words: C=Caution; W = Warning; DP = Danger Poison

Growing season control may not be necessary if Dormant or Delayed Dormant Season control is effective.

19-Mar-2019

\*restricted use pesticide

\*\*ESA approved common name 407