

Station News

The Connecticut Agricultural Experiment Station
Volume 8 Issue 1 January 2018



This Issue

The mission of The Connecticut Agricultural Experiment Station is to develop, advance, and disseminate scientific knowledge, improve agricultural productivity and environmental quality, protect plants, and enhance human health and well-being through research for the benefit of Connecticut residents and the nation. Seeking solutions across a variety of disciplines for the benefit of urban, suburban, and rural communities, Station scientists remain committed to "Putting Science to Work for Society", a motto as relevant today as it was at our founding in 1875.



CAES

The Connecticut Agricultural Experiment Station

Putting Science to Work for Society since 1875

Administration	2
Analytical Chemistry	2
Entomology	3
Environmental Sciences	4
Forestry and Horticulture	5
Plant Pathology and Ecology	6
Valley Laboratory	7
Dept. Research Updates	8
Journal Articles Approved	11
Grants Received	12

ADMINISTRATION

DR. THEODORE ANDREADIS presented a talk entitled “*The Northeast Regional Center of Excellence for Vector-Borne Diseases*” at the 63rd Annual Meeting of the Northeastern Mosquito Control Association held in Plymouth, MA (180 attendees) (December 5); and was interviewed about current concerns and priorities regarding mosquitoes and mosquito-borne diseases in the Northeast, important points residents in the region should know, and basic recommendations for mosquito control and prevention by Jolene Hansen, representing a corporate client, Amdro (December 17).

ANALYTICAL CHEMISTRY

DR. JASON C. WHITE participated in an FDA sponsored conference call of the 2018 AFRPS Face-to-Face Agenda Planning Committee (December 1, 15); spoke by phone with Prof. Philip Demokritou of Harvard University regarding collaborative research projects (December 1); spoke by phone with Prof. Greg Lowry of Carnegie Mellon University regarding a joint USDA SCRI grant submission (December 1); presented an invited lecture entitled “Nanomaterials and the food supply: Assessing the balance between applications and implications” at Nanjing Agricultural University in Nanjing China (100 attendees) (December 4-8) and presented an invited lecture entitled “Nanomaterials and Food/Agriculture: Assessing the balance between applications and implications” at the Institute of Botany of the Chinese Academy of Sciences in Nanjing China (30 attendees) (December 4-8); met with student Alexandria Chan of Albertus Magnus College about a potential internship in the Department during her spring semester (December 14); and participated as a Jury member in the Ph.D. Dissertation Defense of Inge Jambon of Hasselt University in Hasselt Belgium (December 17-19).

DR. BRIAN EITZER attended the monthly Laboratory Preparedness meeting at the CT Department of Public Health Laboratory in Rocky Hill (December 4); participated in conference calls for the North American Chemical Workshop’s Organizing Committee (December 7, 14); and Food Emergency Response Network conference calls (December 12, 28).



J.C. White at the Nanjing Botanical Research Garden with hosts from Nanjing Agricultural University and the Institute of Botany of the Chinese Academy of Sciences



J.C. White and other Ph.D. Jury Members from the Committee of **Dr. Inge Jambon** (center) after her successful Dissertation Defense

ENTOMOLOGY

DR. KIRBY C. STAFFORD III presented a talk “Tick IPM Toolbox: An Update on Tick Control” at the annual meeting of the Northeastern Mosquito Control Association in Plymouth, MA (120 attendees) (December 5); and participated in the winter meeting of the Cooperative Agricultural Pest Survey committee, held at the Cottage at Lockwood Farm (12 participants) (December 13).

MS. KATHERINE DUGAS with **DR. KIRBY STAFFORD** and **DR. VICTORIA SMITH**, attended and ran the State CAPS Committee meeting held at Lockwood Cot-

tage (12 participants) (December 13).

MR. MARK H. CREIGHTON visited Southington High School, dropped off Honey Extraction Equipment in support of their apiary program (funded by a High School Youth Beekeeping Grant provided from the CT Department of Agriculture), and spoke with 40 students on Honey Bee management strategies (December 21).

DR. CHRIS T. MAIER discussed the lily leaf beetle and several forest insects at a meeting of the Advisory Committee of the Cooperative Agricultural Pest Survey (CAPS) at Lockwood Farm, Hamden (December 13).

DR. GALE E. RIDGE received confirmation of her identification of a plant bug *Charagochilus longicornis* (Miridae) collected on September 21, 2017 from Logees Nursery, Danielson, in Windham County (December 12), a new North American record (this bug is a species found in Southeast Asia) and was interviewed by Diane Orson WNPR about freeze killing bed bugs during a current extended period of very cold weather (December 29).

DR. VICTORIA L. SMITH participated in the winter meeting of the Cooperative Agricultural Pest Survey committee, held at the Cottage at Lockwood Farm (12 participants) (December 13); and in a meeting of the Yale Biosafety Committee, held at 135 College Street, New Haven (20 participants) (December 21).

DR. KIMBERLY A. STONER organized and moderated a conference session on Wildlife Management at the New England Vegetable and Fruit Conference in Manchester, New Hampshire (75 attendees) (December 12).

ENVIRONMENTAL SCIENCES

DR. JOSEPH PIGNATELLO gave a departmental seminar, “Interactions of Organic Compounds with Pyrogenic Carbonaceous Matter (Black Carbon)—Beyond Adsorption” to the Department of Environmental Health and Engineering, Johns-Hopkins University, Baltimore, MD (approx. 100 attendees total, 60 students) (December 5).

DR. PHILIP ARMSTRONG gave the talk “Northern Range Expansion of the Asian Tiger Mosquito (*Aedes albopictus*): Analysis of Mosquito Data from Connecticut USA” at the Annual Northeastern Mosquito Control Association Meeting in Plymouth, MA (approx. 100 attendees) (December 5) .

DR. GILLIAN EASTWOOD was presented the John McColgan Grant-in-Aid Award for investigations of *Aedes albopictus* at the Northeast Mosquito Control Association meeting in Plymouth, MA (December 5).

DR. GOUDARZ MOLAEI organized the symposium, *Continuous Plague of Ticks and Tick-associated Diseases in the Northeastern United States*, and presented the talk, "Rising Tick Populations and Changing Patterns of Tick-associated Diseases in the Northeastern United States" Plymouth, MA (190 attendees) (December 5).

MR. JOHN SHEPARD gave the talk "Arbovirus Activity in Connecticut, 2017" at the 63rd Annual Meeting of the Northeastern Mosquito Control Association, Plymouth, MA (approx. 200 meeting attendees) (December 4-6).

FORESTRY AND HORTICULTURE

DR. JEFFREY S. WARD met with Judy Wilson, Jenny Dickson, and Pete Picone (DEEP Wildlife) at Session Woods to discuss invasive control and tree establishment (December 5); met with Phil Royer and Andy Hubbard (MDC) in Barkhamsted to discuss forest regeneration in gypsy moth damaged stands (December 6); interviewed about princess pines by Robert Miller of the Danbury News-Times (December 12); administered practical and oral examination to arborist candidates for the Connecticut Tree Protection Examining Board (December 13); hosted a New England Society of American Foresters Executive Committee quarterly meeting (conference call) (December 14); participated in a State Vegetation Management Task Force meeting in Middlefield (December 19); and gave two webinars on "Rehabilitation of degraded hardwood stands " for the Cornell University ForestConnect series (202 attendees who collectively manage over 33 million acres) (December 20).

DR. ABIGAIL A. MAYNARD assisted students in all aspects of growing plants in a greenhouse at Hamden Hall Country Day School (33 students, 3 teachers) (December 1, 4, 6, 13, 20); and discussed the New Crops Program with Lou Borelli in North Haven (December 15).

DR. SCOTT C. WILLIAMS gave invited lecture titled "Charismatic and Complicit: Impacts of Increased Abundances of White-tailed Deer on Ticks and Tick-borne Diseases" at the Northeastern Mosquito Control Association Meeting in Plymouth, MA (190 attendees) (December 5); and gave invited lecture titled "Use of Repellents for Averting Deer and Rabbit Damage" at the New England Vegetable & Fruit Conference in Manchester, NH (120 attendees) (December 12).

MR. JOSEPH P. BARSKY participated in a New England Society of American Foresters Executive Committee quarterly meeting (conference call) (December 14).

CAES



The Connecticut Agricultural Experiment Station
Putting Science to Work for Society since 1875

STATION NEWS

PLANT PATHOLOGY AND ECOLOGY

DR. WADE ELMER organized a departmental tour for Mr. George Baldwin's senior biology class from the Sound School and spoke on Sudden Vegetation Dieback and Nanoparticles in Agriculture (7 students and 1 adult) (December 1).

DR. YONGHAO LI presented "Plant Disease Diagnostics" to visiting Sound School students in George Baldwin's Biotech class (7 students and 1 adult) (December 1).

DR. ROBERT E. MARRA participated in a meeting of the Steering Committee for the Connecticut Conference on Natural Resources at the University of Connecticut, Storrs (11 adults) (December 18).

DR. NEIL SCHULTES gave a seminar entitled "Nucleobase Transporters in Plants" for senior high school students visiting the Station -from the Sound School in New Haven (7 students) (December 1); and interviewed Josh Lefurge, a junior biology major attending the University of New Haven, for a potential internship during the summer of 2018 (December 8).

DR. QUAN ZENG presented "Plant diseases caused by bacteria" to visiting students from The Sound School (8 adults) (December 1); and gave a presentation "Management of fire blight under the humid climate in the Eastern United States" at the 2017 New England Vegetable and Fruit Conference in Manchester, NH (200 adults) (December 12).

DR. JATINDER S. AULAKH met with Pete Picone from DEEP for a collaborative research project on mile-a-minute control (December 14).

DR. CAROLE CHEAH led a guided tour of pristine hemlocks in Great Mountain Forest for the Friends of American Legion and People's State Forest, Norfolk, (6 attendees) (November 1); and led an evaluation of hemlock watershed and ravine areas on a 15-acre property in Glastonbury (November 3).

DR. JAMES LAMONDIA participated in the Hops Conference Research meeting in Hamilton, NY (25 attendees) (December 1); presented "Low versus high trellis hop research in Connecticut" at the 2017 Cornell/Northeast Hop Alliance Conference in Morrisville, NY (150 attendees) (December 2); participated in an American Hort Horticultural Research Institute conference call to develop national boxwood blight resistance and tolerance screening protocols (December 5); and was interviewed about tobacco varieties, breeding, and history by Darcy Cahill for American History Magazine (December 6).

DR. DEWEI LI took a one-month sabbatical leave at Nanjing Forestry University (NJFU), Hubei Academy of Forestry and Jiangsu Normal University to conduct collaborative research including field trips to collect fungal specimens from October 26 to November 25, 2017 in mainland China. He made two presentations, "Phylogenetic relationships of *Chlamydomyces*, *Harzia*, *Olpitrichum*, and their sexual allies, *Melanospora* and *Sphaerodes*" and "Update on Ethnomycology: fungi and human beings" at College of Forestry, NJFU (59 attendees); and presented "Phylogenetic relationships of *Chlamydomyces*, *Harzia*, *Olpitrichum*, and their sexual allies, *Melanospora* and *Sphaerodes*" also at Jiangsu Institute of Medicinal Plants, Jiangsu Normal University" (62 attendees) (November 16). De-Wei was invited to visit Taiwan, Republic of China (ROC) to visit, two mycologists, Dr. Sheng-Hua Wu, Curator of Botany at National Museum of Natural Science and Dr. Pi-Han Wang, professor at Tunghai University and as a speaker in the workshop "Microbiology of the Built Environment in Hot, Humid Climate" held in Taichung, ROC, (November 28 to December 2). He gave two presentations "Airborne fungi and Human Health" and "Fungal Ecology in Indoor Environments" to the workshop with 70 and 55 people in the audience, respectively.

Servin, A.D.; Castillo-Michel, H.; Hernandez-Viezcas, J.A.; De Nolf, W.; De la Torre-Roche, R.; Pagano, L.; Pignatello, J.; Uchimiya, M.; Gardea-Torresdey, J.; White, J.C. 2017. Bioaccumulation of CeO₂ nanoparticles by earthworms in biochar amended soil: A synchrotron microspectroscopy study. *J. Agric. Food. Chem.* DOI: 10.1021/acs.jafc.7b04612.

Abstract- The interactions of nanoparticles (NPs) with biochar (BC) and soil components may substantially influence NP availability and toxicity to biota. In the present study, earthworms (*Eisenia fetida*) were exposed for 28 d to a residential or agricultural soil amended with 0-2000 mg CeO₂ NP/kg and with biochar (produced by the pyrolysis of pecan shells at 350 °C and 600 °C) at various application rates (0-5% [w/w]). After 28 d, earthworms were depurated and analyzed for Ce content, moisture content and lipid peroxidation. The results showed minimal toxicity to the worms; however, biochar (350 °C or 600 °C) was the dominant factor, accounting for 94% and 84% of the variance for moisture content and lipid peroxidation, respectively, in the exposed earthworms. For both soils with 1000 mg CeO₂/kg, 600 °C, biochar significantly decreased the accumulation of Ce in the worm tissues. Amendment with 350 °C biochar had mixed responses on Ce uptake. Analysis by μ -XRF and μ -XANES was used to evaluate Ce localization, speciation and persistence in CeO₂- and biochar (BC)-exposed earthworms after depuration for 12, 48 and 72 h. Earthworms from the 500 mg CeO₂/kg and 0% BC treatments eliminated most Ce after a 48 h depuration period. However, in the same treatment and with 5% BC-600 (biochar pyrolysis temperature of 600 °C), ingested biochar fragments (~ 50 μ m) with Ce adsorbed to the surfaces were retained in the gut after 72 h. Additionally, Ce remained in earthworms from the 2000 mg CeO₂/kg and 5% BC treatments after depuration for 48 h. Analysis by μ -XANES showed that within the earthworm tissues, Ce remained predominantly as Ce⁺⁴O₂, with only few regions (2-3 μ m²) where it was found in the reduced form (Ce⁺³). The present findings highlight that soil and biochar properties have a significant influence in the internalization of CeO₂ NPs in earthworms; such interactions need to be considered when estimating NP fate and effects in the environment.

J. Soghigian, T. Andreadis, T. Livdahl. 2017. From ground pools to treeholes: convergent evolution of habitat and phenotype in *Aedes* mosquitoes. *BMC Evolutionary Biology*, 17:262 DOI 10.1186/s12862-017-1092-y

Abstract- Invasive mosquito species are responsible for millions of vector-borne disease cases annually. The global invasive success of *Aedes* mosquitoes such as *Aedes aegypti* and *Aedes albopictus* has relied on the human transport of immature stages in container habitats. However, despite the importance of these mosquitoes and this ecological specialization to their widespread dispersal, evolution of habitat specialization in this group has remained largely unstudied. We use comparative methods to evaluate the evolution of habitat specialization and its potential influence on larval morphology, and evaluate whether container dwelling and invasiveness are monophyletic in *Aedes*. We show that habitat specialization has evolved repeatedly from ancestral ground pool usage to specialization in container habitats. Furthermore, we find that larval morphological scores are significantly associated with larval habitat when accounting for evolutionary relationships. We find that Ornstein-Uhlenbeck models with unique optima for each larval habitat type are preferred over several other models based predominantly on neutral processes, and that OU models can reliably simulate real morphological data. Our results

demonstrate that multiple lineages of *Aedes* have convergently evolved a key trait associated with invasive success: the use of container habitats for immature stages. Moreover, our results demonstrate convergence in morphological characteristics as well, and suggest a role of adaptation to habitat specialization in driving phenotypic diversity in this mosquito lineage. Finally, our results highlight that the genus *Aedes* is not monophyletic.

Wang, Qing-Hai, De-Wei Li, Chun-Hua Duan, Xing-Hong Liu, Shan-Guang Niu, Li-Qun Hou, Xiao-Qin Wu 2017. First report of walnut anthracnose caused by *Colletotrichum fructicola* in China. *Plant Disease* 102(1): 247. <https://doi.org/10.1094/PDIS-06-17-0921-PDN>

Abstract—Walnut (*Juglans regia* L.) is a valuable woody nut and oil tree planted worldwide. Recently, walnut production has been limited by walnut anthracnose due to early-fruiting varieties, such as ‘Xiangling,’ a major variety, dwarf pruning, dense planting, and rainy summers in China. Walnut leaf spot disease in China has been attributed to *Colletotrichum fioriniae* (Zhu et al. 2015). In late July 2014, 20 walnut fruits with anthracnose symptoms were collected from two orchards in Jinan, Shandong, China. Symptoms on fruit were subcircular or irregular shaped, with brown to black water soaked and sunken lesions. The black lesions enlarged and amalgamated into large necrotic areas. The older spots in the center became blackish and oozed slimy pink conidial masses. On leaves, lesions were circular or irregular, water soaked, brown or black, and expanded along the veins. Later, the central lesions became necrotic and perforated. Necrotic tissues (3 to 4 mm²) of the fruits were sterilized with 1% NaClO for 60 s, rinsed with sterile distilled water, and placed on potato dextrose agar (PDA). Pure cultures were obtained by monospore isolation, and isolate (SQ-12) was deposited into the China’s Forestry Culture Collection Center (CFCC 51553). On PDA, colonies were gray, cottony, pale white to pale gray, producing strong brownish pigmentation near the center on the reverse. The daily growth rate was 15.2 mm/day at 28°C under a 12 h light/dark cycle. Conidia were 1-celled, colorless, oblong, subcylindrical, attenuated with blunt ends, 15.2 to 15.6 × 4.7 to 4.9 μm (= 15.4 ± 0.2 × 4.8 ± 0.1, n = 45). Most conidia germinated and developed one pleurogenous, 1-celled appressorium. Appressoria were medium to dark brown, obovoid to ellipsoid or irregular, 7.8 to 8 × 5.6 to 5.8 μm (= 7.9 ± 0.1 × 5.7 ± 0.1, n = 45). The morphological characteristics fit the descriptions of *C. fructicola* (Prihastuti et al. 2009). The identity of isolate SQ-12 was further studied by phylogenetic analysis of the ribosomal internal transcribed spacer (ITS1-5.8S-ITS2) gene, and partial sequences of actin (ACT), glyceraldehyde-3phosphate dehydrogenase (GAPDH), and chitin synthase (CHS-1). The ITS, ACT, GAPDH, and CHS-1 sequences (KX913950, KX913947, KX913956, KX913953) were compared with sequences in Q-Bank. The similarity of isolate SQ-12 was 100% with ITS *C. fructicola* ex-type culture ICMP18581 and ACT *C. fructicola* isolate ICMP12568. SQ-12 GAPDH and CHS-1 sequences showed 99% with *C. fructicola* isolate ICMP18581. A neighbor-joining phylogenetic tree was generated based on combining all sequenced loci in MEGA7. Isolate SQ-12 fell in the *C. fructicola* clade with 97% bootstrap support. To complete Koch’s postulates, 20 healthy 1-month-old ‘Xiangling’ fruits and 12 fully expanded leaves were inoculated using a point inoculation with a drop of conidial suspension (10⁶ conidia/ml) and dH₂O as a control. All inoculated leaves and fruits were placed in sterile tissue culture bottles containing two layers of wet paper towels at 28°C under a 12 h light/dark cycle. All fruits and leaves developed anthracnose symptoms similar to those observed in the field while the controls did not show any symptoms after 7 days. The same fungus was reisolated from the lesions. To our knowledge, this is the first report of *C. fructicola* as a pathogen of walnut anthracnose. The result provided crucial information for epidemiologic studies and management of this disease.

Li, De-Wei and Ye, Jian-Ren 2018 [2017]. *Triadelphia acericola* sp. nov. and a synopsis of the genus. Mycotaxon 132:723-744.

Abstract—A new hyphomycete species found during a collection of micro-fungi from plant debris and decaying wood in Connecticut, USA, is described and illustrated here as *Triadelphia acericola*. The new species produces four conidial forms: form (a), the predominant form, is cylindrical and 2-septate, with the apical septum covered by a wide dark band; form (b) is oblong or ellipsoidal and 1-septate; form (d) is clavate and pluriseptate, with the middle transverse septum covered by a dark band; and form (f) is globose. Literature on all published *Triadelphia* names is reviewed, and a comparative synopsis of the genus and a key to *Triadelphia* species are provided. “*Triadelphia centroseptata*” nom. inval. is validated by designation of a holotype, and *T. archontophoenicicola* nom. nov. is proposed to replace the illegitimate homonym, *T. australiensis* Joanne E. Taylor et al.

Li De-Wei, Chin Yang, Ariunaa Jalsrai. 2018 [2017]. *Bactrodesmiastrum domesticum* sp. nov. and a noteworthy hyphomycete from indoor environments. Mycotaxon 132: 779-787.

Abstract—Two hyphomycetes were collected from residences: a new species, *Bactrodesmiastrum domesticum*, with turbinate or obtriangular conidia and *Conioscypha varia*, reported for the first time from an indoor environment.

Castañeda-Ruiz Rafael F., De-Wei Li, Xiu-Guo Zhang, Bryce Kendrick, Beatriz Ramos-García, Simón Pérez-Martínez, & Daynet Sosa 2018 [2017]. *Ellismarsporium* gen. nov. and *Stanhughesiella* gen. nov. to accommodate atypical *Helminthosporium* and *Corynespora* species. Mycotaxon 132: 759-766.

Abstract—Two new genera are proposed: *Ellismarsporium* for species of *Helminthosporium* and *Corynespora* that have catenate conidia and polytretic conidiogenous cells, and *Stanhughesiella* for a species of *Helminthosporium* with dictyoseptate conidia. Descriptions and illustrations are provided.

Li, Y. H. Volutella Blight of Boxwood. CAES Fact Sheet. http://www.ct.gov/caes/lib/caes/documents/publications/fact_sheets/plant_pathology_and_ecology/2017/volutella_blight_of_boxwood.pdf.

Li, Y. H. Red Thread of Turfgrass. CAES Fact Sheet. http://www.ct.gov/caes/lib/caes/documents/publications/fact_sheets/plant_pathology_and_ecology/2017/red_thread_on_turfgrass.pdf.

Li, Y. H., Mmbaga, M. T., Zhou, B. R., Joshua, J, Rotich, E., Parikh, L. P. Diseases of Hydrangea. In Handbook of Florists' Crops Diseases. McGovern, R. J. and Elmer, W. H. Eds. Springer International Publishing.

CAES



The Connecticut Agricultural Experiment Station
Putting Science to Work for Society since 1875

STATION NEWS

JOURNAL ARTICLES APPROVED DECEMBER 2017

Elmer, Wade H. and Jason C. White. The future of nanotechnology in plant pathology. *Frontiers in Plant Science*

Hao, Yi, Wen Yuan, Chuanxin Ma, Jason C. White, et al. Engineered nanomaterials suppress turnip mosaic virus infection in tobacco (*Nicotiana benthamiana*). *Environmental Science & Technology Letters*

Molaei, Goudarz, Theodore G. Andreadis, John F. Anderson, and Kirby C. Stafford III. An exotic hitchhiker: a case report of importation into Connecticut from Africa of the human parasitizing tick, *Hyalomma truncatum*. *Emerging Infectious Diseases*

Steven, Blaire and Cheryl R. Kuske. Resuscitation of intact and disturbed biological soil crusts in response to a wetting event characterized by metatranscriptomic sequencing. *ISME Journal*

Zeng, Quan, Neil Schultes, and Daniel Cooley. Managing fire blight under humid climate conditions in Eastern United States. *Proceedings of the New England Vegetable and Fruit Conference 2017*

CAES



The Connecticut Agricultural Experiment Station

Putting Science to Work for Society since 1875

STATION NEWS

GRANTS RECEIVED DECEMBER 2017

MR. GREGORY BUGBEE, “Aquatic Plant Surveillance, Mapping and Integrated Management;” the Town of East Haddam and the Bashan Lake Association; \$8,500 (December 14).

Executive Summary: We are in the 17th year of research involving the use of spot applications of the herbicide Navigate (2,4-D) to control variable watermilfoil (*Myriophyllum heterophyllum*) in Bashan Lake. We have largely restored the lake to pre-infestation conditions. Our resurvey of Bashan Lake in 2014 found an approximate 99 percent reduction in variable watermilfoil and an increase in the number of desirable native species from 12 to 19. In the fall of 2014, the water level in the lake was lowered 18 feet for dam repairs, with the prospect for the refilling to take two years. A survey of Bashan Lake in 2016 found a few sparse patches of variable watermilfoil and a number of areas where phragmites (*Phragmites australis*) had become established. CAES IAPP performed a targeted herbicide application of the phragmites in late September 2016 using a mixture of Habitat® (Imazapyr) and Rodeo (Glyphosate) with considerable success. In June 2016, we surveyed the lake for phragmites and found the plant sporadically along the shore. In addition, variable milfoil was observed in a few locations. Phragmites treatment was redone in September 2017 as was spot treatment of the variable watermilfoil with Navigate. The results will be determined in 2018.

DR. QUAN ZENG received a two-year grant from USDA-SCBG (\$73,146) to develop effective biological controls for apple and pear growers to control fire blight in CT.

DR. JATINDER S. AULAKH received a grant approval notification (\$34768) from Connecticut DoAg for a two year research project to investigate the effect of growth regulators for preventing freeze injury in peaches.

DR. JAMES LAMONDIA was awarded a Specialty Crop Block grant from the CT Department of Agriculture for ‘Germplasm Development for Hops as a Connecticut Specialty Crop’, \$65,500



CAES

The Connecticut Agricultural Experiment Station

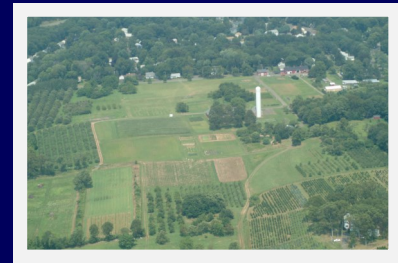
Putting Science to Work for Society since 1875

The Connecticut Agricultural Experiment Station

Main Laboratories
123 Huntington Street
New Haven, CT 06511-2016
Phone: 203-974-8500



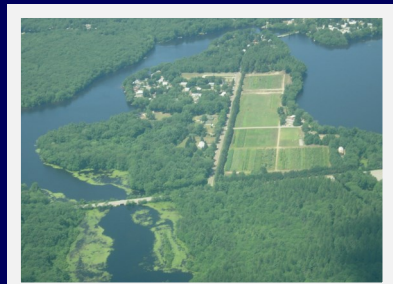
Main Laboratories, New Haven



Lockwood Farm, Hamden

Lockwood Farm
890 Evergreen Avenue
Hamden, CT 06518-2361
Phone: 203-974-8618

Griswold Research Center
190 Sheldon Road
Griswold, CT 06351-3627



Griswold Research Center, Griswold



Valley Laboratory, Windsor

Valley Laboratory
153 Cook Hill Road
Windsor, CT 06095-0248
Phone: 860-683-4977

Putting Science to
Work for Society.

The Connecticut Agricultural Experiment Station

Back and Current issues of Station News are located on our website at <http://www.ct.gov/caes/cwp/view.asp?a=2826&q=378188>

The Connecticut Agricultural Experiment Station (CAES) prohibits discrimination in all of its programs and activities on the basis of race, color, ancestry, national origin, sex, religious creed, age, political beliefs, sexual orientation, criminal conviction record, gender identity, gender expression, genetic information, learning disability, present or past history of mental disorder, intellectual or physical disability including but not limited to blindness, or marital or family status. To file a complaint of discrimination, contact Dr. Jason White, Vice Director, The Connecticut Agricultural Experiment Station, P.O. Box 1106, New Haven, CT 06504, (203) 974-8523 (voice), or Jason.White@ct.gov (e-mail). CAES is an affirmative action/equal opportunity provider and employer. Persons with disabilities who require alternate means of communication of program information should contact the Chief of Services, Michael Last at (203) 974-8442 (voice), (203) 974-8502 (FAX), or Michael.Last@ct.gov (e-mail).

Station News was prepared and edited by Dr. Theodore G. Andreadis, Ms. Vickie Bomba-Lewandoski, Ms. Sandra Carney, and Ms. Brandi Marks.

Volume 8 Issue 1
January 2018

WWW.CT.GOV/
CAES