

*The
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Experiment
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Inspection of
Commercial
Fertilizers 1988

BY LESTER HANKIN

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During 1988, 233 official samples of fertilizer were collected by inspectors of the Connecticut Department of Agriculture and examined for authenticity of guaranteed analysis that is stated on the label and compliance with State Regulations. Other fertilizer samples were tested for farmers and Station research, but our findings are not included in this Bulletin. Although all guaranteed analyses are examined, only the results for the major plant nutrients of nitrogen, phosphoric acid, and potash are presented here.

Table 1 shows individual samples from 39 manufacturers. The numbers preceding the brand name are the guaranteed analyses. For example, 10-10-10, indicates the guaranteed percentage for nitrogen (N), phosphoric acid (P2O5), and potash (K2O), in that order. The actual content is then shown, with deficiencies indicated by a dash (-) following the amount found. Table 2 summarizes for each manufacturer the number of guarantees examined for each plant nutrient, the percentage of samples not meeting their guarantee, and the average percentage of guarantee found. Table 3 shows the tonnage of the various grades of mixed fertilizer sold in Connecticut. Only grades prepared by at least three manufacturers are shown; other grades are placed in the miscellaneous category. The tonnage of fertilizer material and mixed fertilizer sold in Connecticut is shown in Table 4.

Two types of variability affect fertilizer analysis and must be considered in judging deficiencies. The first is the variability among different batches of the same grade from a manufacturer. This variability can be noted in Table 1 by examining the analyses of the same grade from the same manufacturer. The second type of variability is between duplicate analyses of the same sample. The variability among duplicate analyses is shown in the statement: the mean difference between duplicates for nitrogen, phosphoric acid, and potash is about two-tenths percent.

Fertilizer samples are deemed deficient in any nutrient if the analysis is below the guarantee by more than the values established by the Association of American Feed Control Officials. Overall, 219 guarantees for nitrogen were tested and 13.7% were deficient; 218 guarantees for phosphoric acid were tested and 12.8% were deficient; and 212 guarantees for potash were tested and 18.3% were deficient. In 1987 the percentages of deficiencies for nitrogen were 13.5%, for phosphoric acid 20.4%, and for potash 13.7%. Thus the percentage of deficiencies for nitrogen remained the same, decreased for phosphoric acid, and increased for potash.

Analyses were performed by Craig Musante, Mamie Pyles, and Mary Alice DeFrancesco. Samples were collected by Marlene Abt, John Chapman, Richard Macsuga, Richard Olson, and Ronald Weller under the direction of Kenneth Veit. Fertilizer laws are administered by the Commissioner of Agriculture.

Lester Hankin
Chief, Analytical Chemistry

Table 1--Analysis of individual samples of commercial fertilizers

Manufacturer, guarantee, brand			Nutrients found, %			
			N	P2O5	K2O	
Agri Turf, Inc.						
			Agri Turf	6.9	9.9	
			Agri Turf	9.2	11.5	
15	2	8	Agri Turf	12.1-	2.7	6.6-
15	2.5	5	Agri Turf Custom Blend	3.7-	0.6-	1.1-
Agway, Inc.						
0	8	45	Agway Custom Blend		7.8	44.4
0	10	40	Agway Blend Rite AlfaB WB		11.3	42.3
0	10	43	Agway Custom Blend		11.8	42.2
5	10	10	Agway Blend Rite	5.4	8.7-	8.2-
10	10	10	Agway Blend Rite	11.2	10.8	9.4
10	20	10	Agway Nutri Bond Corn Strtr	12.1	20.5	10.9
10	20	20	Agway Blend Rite	10.0	19.6	19.8
15	15	15	Agway Nutri-Bond	15.8	16.8	15.0
15	8	12	Agway Blend Rite	15.0	8.1	12.3
16	16	16	Agway Custom Blend	15.6	16.3	18.8
18	18	18	Agway Custom Blend	18.8	20.3	19.4
18	18	18	Agway Custom Blend	18.6	19.2	17.4
20	10	16	Agway Custom Blend	20.3	13.2	24.6
20	10	16	Agway Custom Blend	21.5	11.9	18.2
21	10	14	Agway Custom Blend	22.4	24.7	14.9
21	11	16	Agway Custom Blend	21.4	17.9	22.6
23	11	17	Agway Blend	25.7	16.0	14.2-
26	10	15	Agway Custom Blend	28.7	12.3	17.9
26	12	12	Agway Blend #650	28.1	14.8	12.1
28	4	15	Agway Custom Blend	28.2	4.9	20.9
35	3	8	Agway Blend	32.8	4.5	8.0
Alaska Fish Fertilizer Co.						
5	2	2	Alaska Fish Fertilizer	5.0	2.9	1.5-
And Grow Fertilizer, Inc.						
15	5	5	Andgrow Custom Tree/Shrub	15.1	4.9	3.3-
18	0	3	Andgrow Custom Lawn/Evrgrn	10.3-		1.7-
Burpee Garden Products Co.						
18	4	7	Burpee Grow Azal/Cml/Rhod	20.4	4.2	6.6
20	4	8	Burpee Grow Shrubs/Trees	20.0	3.8	8.3
Cadwell & Jones						
4	5	5	Cadwell & Jones	4.7	4.7	6.0
4	6	9	Cadwell & Jones Fert	4.5	7.4	10.7
5	10	10	Cadwell & Jones	5.6	9.6	11.0
5	10	10	Cadwell & Jones Spec Fert	5.4	11.5	11.9

Table 1--Analysis of individual samples of commercial fertilizers (Continued)

Manufacturer, guarantee, brand				Nutrients found, %		
				N	P2O5	K2O
5	10	10	Cadwell & Jones Spec Fert	3.8-	7.9-	10.3
5	10	5	Cadwell & Jones Surge Lawn	5.4	9.4	7.8
5	10	5	Cadwell & Jones Surge	2.8-	6.7-	4.1-
7	7	7	Cadwell & Jones Surge Hi Pr	7.0	7.2	9.3
7	7	7	Cadwell & Jones Hi Prot Plnt	5.7-	6.4	11.8
10	2	8	Cadwell & Jones Spec Fert	8.8	1.9	9.4
10	6	4	Cadwell & Jones Spec Fert	13.1	7.0	4.1
10	6	4	Cadwell & Jones Spec Fert	13.2	8.3	4.8
15	3	5	Cadwell & Jones Turf Prod	15.0	2.7	4.7
10	10	10	Cadwell & Jones Spec Fert	4.0-	10.8	14.3
10	20	20	Cadwell & Jones Spec Fert	11.3	19.8	19.3
20	10	10	Cadwell & Jones Spec Fert	20.2	9.4	11.7
20	10	10	Cadwell & Jones Lawn Food	20.3	10.9	9.1-
25	3	9	Cadwell & Jones Surge/Team	26.3	3.3	9.1
28	7	14	Cadwell & Jones Tuckahoe	28.1	7.1	13.5
36	3	10	Cadwell & Jones Specialty	33.4-	3.7	10.3
Chevron Chemical Co./Ortho Div.						
0	12	0	Ortho Bone Meal		17.2	
0	20	0	Ortho Super Phosphate		25.7	
3	10	3	Ortho Up Start Plnt Strtr	3.1	13.4	2.5
4	12	8	Ortho Bulb Food	4.7	11.8	7.9
5	1	1	Ortho-Gro Fish Fertilizer	5.4	1.1	1.6
5	10	5	Ortho House Plant Food	6.4	10.1	5.5
6	18	6	Ortho Tomato & Vegetable Fd	6.2	21.5	5.5
8	12	4	Ortho Rose Food	8.8	13.4	3.6
10	10	10	Ortho General Purp Plnt Fd	10.0	10.7	10.0
10	12	6	Ortho Tomato Food	10.7	11.8	5.5
10	7	7	Ortho Azalea/Camelia/Rhod	10.4	7.8	7.1
11	8	7	Ortho Flower Garden Food	11.6	7.7	7.1
12	0	0	Ortho Blood Meal	13.9		
12	6	6	Ortho-Gro Liquid Plant Food	12.7	6.2	6.3
14	7	7	Ortho Evergreen Tree/Shrub	13.7	7.4	7.2
Clinton Nursery Products, Inc.						
4	10	10	New Era Flowrng Plnt Food	4.4	11.0	11.3
6	12	6	New Era Flowrng Plant Fd Stk	6.3	15.3	6.4
8	8	8	New Era Plant Food	9.0	11.0	9.2
12	6	6	New Era Regular Plant Food	12.1	8.4	5.2-
Crop Production Services						
	20		CPS Gran Super	20.1		
3.5	3.5	15.4	CPS	3.9	4.5	15.3
5	10	10	CPS Fertilizer	5.1	9.2-	9.2-
10	10	10	CPS Fertilizer	7.8-	9.6	10.1

Table 1--Analysis of individual samples of commercial fertilizers (Continued)

Manufacturer, guarantee, brand				Nutrients found, %		
				N	P2O5	K2O
10	10	10	CPS	10.2	11.8	10.6
10	10	10	CPS	10.1	10.1	10.7
10	20	20	CPS Blend	10.1	21.9	26.5
10	20	20	CPS w/Boron	10.6	19.4	22.3
10	6	4	Agrico Village Green	10.3	5.4	5.3
10	8	10	CPS	10.2	9.6	14.2
12	15	15	CPS Blend	18.2	15.9	13.4-
18	11	18	CPS Xmas Tree Mix	19.7	8.5-	15.1-
18	46	0	CPS DAP	18.2	45.3	5.0
24	5	24	CPS Blend Plant	24.5	4.6	23.4
46			CPS Urea	46.2		
Derby Feed Co., Inc.						
5	10	5	Derby's All Purpose Fert	4.5	7.9-	6.9
5	10	10	Derby's All Purpose Fert	5.1	14.3	9.3
10	10	10	Derby's All Purpose Fert	6.5-	9.5	9.1-
10	6	4	Derby's Lawn Fertilizer	10.0	6.0	4.0
26	4	6	Derby's Lawn Fertilizer	22.0-	4.2	6.5
Dexol Industries						
18			Dexol Compost Maker		17.9	
Earthgro, Inc.						
1	1	1	Country Pride Sheep Manure	0.9	0.7	0.9
1	1	1	Country Pride Comp Cow Manu	0.8	0.7	0.9
1	1	1	Earthgro Composted Cow Manu	0.7	0.6	0.8
1	1	1	Garden King Comp Cow Manure	0.6	0.5	0.6
2	1	1	Bouncy Dehyd Cow Manure	2.3	4.0	2.2
2	1	1	Country Pride Dehyd Cow Manu	1.5	3.0	2.0
2	1	1	Country Pride Dehyd Cow Manu	2.4	2.9	0.5
Estech, Inc.						
0	0	60	Gro-Tone Muriate of Potash			52.8-
4	10	10	Vigoro Azal/Camell/Rhod	5.8	10.2	4.9-
4	10	10	Vigoro Evergreen Food	7.7	12.9	9.5
4	10	10	Vigoro Evergreen Food	6.5	10.7	9.4
5	10	10	Suburban Brand	6.6	12.3	10.5
5	10	10	Swift Red Steer Fertilizer	5.1	7.6-	8.5-
5	10	5	Deerfield Plant Food	3.9-	6.8-	7.3
5	10	5	Deerfield Plant Food	5.1	7.1-	4.6
5	10	5	Grotone Plant Food 50% OrgN	8.0	10.3	5.5
5	10	5	Suburban Fertilizer	5.6	9.2-	4.3
6	0	0	Gro-Tone Cotton Seed Meal	4.4-		
6	8	6	Gro-Tone Evergreen Food	7.5	7.3	7.8

Table 1--Analysis of individual samples of commercial fertilizers (Continued)

Manufacturer, guarantee, brand				Nutrients found, %		
				N	P2O5	K2O
6	8	6	Gro-Tone Evrgrn Fd 30% OrgN	6.5	7.6	5.5
7	10	5	Gro Tone Rose Food	8.4	7.1-	6.9
7	10	5	Gro-Tone Rose Food	8.0	9.4	5.6
10	6	4	Deerfield Lawn Food	8.6-	4.7-	5.0
10	6	4	Deerfield Lawn Food	13.4	5.3	8.2
10	6	4	Perk Up Lawn Food	13.4	6.4	3.6
10	10	10	Suburban Fertilizer	9.0-	6.1-	10.2
32	3	8	Par-Ex Slow Release Fert	30.0-	4.2	10.5
Grass Roots Natures Way, Inc.						
20	3	3	Green Pro Serv Prem Fert	4.9-	0.9-	0.9-
H. K. Webster Co., Inc.						
10	3	6	Blue Seal Turf Green	10.0	3.9	6.9
10	3	6	Turf Green Plus Crabgrass	8.7-	2.6	4.4-
10	3	6	Turf Green Plus Weed Killer	12.6	2.9	7.8
Hy-Trous Corp.						
4	12	4	Hy Trous African Violet	5.1	12.1	4.9
5	10	5	Hy Trous Plant Food	5.0	10.0	6.2
International Spike, Inc.						
5	15	15	Jobe's Fertilizer Spikes	10.8	21.0	17.7
8	24	8	Jobe's Fertilizer Spikes	11.5	27.2	7.9
10	10	5	Jobe's Fertilizer	14.1	16.6	5.0
12	4	7	Jobe's Fertilizer Spikes	15.4	5.3	8.4
12	16	12	Jobe's Fertilizer Spikes	15.2	19.0	11.4
13	5	7	Jobe's Fertilizer Spikes	16.6	6.2	9.0
15	5	5	Jobe's Fertilizer Spikes	17.9	7.2	5.4
16	8	8	Jobe's Fertilizer Spikes	16.8	10.1	7.5
Lebanon Chem. Corp.						
5	10	5	Lawn & Garden Food	4.3-	9.6	4.4-
5	10	10	Lebanon	6.2	10.7	10.2
10	10	10	Homestead Extra Multi-Purp	10.1	11.1	9.3
10	6	4	Greens Keeper	10.1	6.4	3.7
11	23	10	Green Pro Crabgrass Prevent	12.8	22.8	11.5
13	25	12	Green Pro Fall Grass Food	14.3	24.7	11.1-
20	3	3	Homestead Lawn Food	23.1	3.4	9.3
20	8	8	Greens Keeper	21.4	7.3	9.2
26	3	3	Green Pro Crabgrass Prevent	26.1	3.6	2.9
30	3	3	Green Pro Weed Control	33.0	4.9	2.5
30	4	4	2 Way Green Power Weed Feed	32.1	4.5	3.6
30	4	4	Green Power Long Lstng Fert	30.0	4.7	4.7
32	4	4	Green Pro Grass Food	32.2	4.2	2.4-

Table 1--Analysis of individual samples of commercial fertilizers (Continued)

Manufacturer, guarantee, brand				Nutrients found, %		
				N	P2O5	K2O
Lesco						
30	10	7	Lesco Arbor Green	0.2-	0.2-	4.0-
Luster Leaf Products						
0	0	44	Luster Leaf Rapidfeed Potash			47.1
0	44	0	Luster Leaf Rapidfeed Phosph		48.7	
44	0	0	Luster Leaf Rapidfeed Nit	44.8		
Milwaukee Metropolitan Sewerage District						
6	2	2	Milorganite Fertilizer Acti	7.5	4.2	1.8
Nitrochem, Inc.						
34	0	0	Bull's Eye Ammonium Nitrate	32.9		
Nutrico, Inc.						
25	3	5	Derby's Lawn Fert plus Weed	26.8	3.3	4.9
O. M. Scott & Sons Company						
17	23	6	Scott's Starter Fertilizer	17.2	25.2	6.7
Old Fox Chemical, Inc.						
2	15	14	Old Fox	3.1	14.6	14.7
3	12	12	Old Fox	3.2	12.9	14.8
10	10	10	Old Fox	12.2	10.7	10.6
10	20	10	Old Fox	11.7	20.2	10.2
10	6	4	Old Fox	10.4	6.5	4.8
10	6	4	Old Fox Turf Food Nat OrgN	11.1	5.7	5.6
10	8	10	Old Fox	11.8	11.2	7.8-
15	0	30	Old Fox	13.9-	0	32.5
18	1	3	Old Fox Base Mix	15.2-	1.3	3.8
19	19	19	Old Fox	19.2	16.6-	22.9
20	4	8	Old Fox	24.3	4.0	8.6
20	4	8	Old Fox Green Gro	21.5	4.4	8.2
30	3	10	Old Fox Fairway	33.8	3.4	6.5-
Peters Fertilizer Products						
5	10	5	Peters Plant Food	5.8	12.1	5.4
10	30	20	Peters Blossom Booster	10.0	32.0	17.0
12	36	14	Peters African Violet	12.2	37.0	15.9
15	30	15	Peters Houseplant Food	20.4	30.7	16.1
20	20	20	Peters Prof Sol Plnt Fd	21.0	21.7	19.5
30	10	10	Peters Orchid Plant Food	30.1	11.8	10.4

Table 1--Analysis of individual samples of commercial fertilizers (Continued)

Manufacturer, guarantee, brand				Nutrients found, %		
				N	P2O5	K2O
Plant Research Laboratories						
1	2	1	Oxygen Plus Indoor Plant Fd	1.2	2.2	1.1
1	4	2	Oxygen Plus Flowering House	1.1	3.9	1.8
Rapid-Gro Corp.						
10	8	7	Rapid Gro House Plant Food	10.0	7.8	7.7
23	19	17	Rapid Gro House Plant Food	25.0	20.5	16.7
Rockland Chemical Co.						
4	5	6	Rockland Prof Turf Food	2.5-	3.6-	3.9-
Ross Daniels, Inc.						
5	25	15	Ross Tree & Shrub Winterize	5.8	28.4	16.1
9	46	15	Ross Fruit Nuts & Tomatoes	9.8	50.3	16.4
10	20	20	Ross Root Feeder Cartridges	11.3	21.7	21.3
12	24	12	Ross Flower & Garden Plant	7.2-	26.5	12.9
15	25	10	Ross Root Feeder Cart/Roses	17.0	28.6	11.3
25	10	10	Ross Root Feeder Cartridges	23.2-	13.7	11.0
Schultz Co.						
10	15	10	Shultz-Instant Liquid Plant	10.3	16.0	10.6
Sierra Chemical Co.						
18	6	12	Osmacote Outdoor & Indoor	18.1	8.5	12.2
20	10	5	Osmocote Tree & Shrub	20.1	11.8	5.1
Sterns Miracle Gro						
15	30	15	Sterns Miracle Gro Plnt Fd	18.7	30.1	14.4
20	20	20	Sterns Miracle Gro Patio Pl	22.0	19.6	21.2
30	10	10	Sterns Miracle Soil Acidifi	33.2	10.2	9.7
The Espoma Co.						
4	12	0	Espoma Bone Meal	5.6	14.1	
4	3	2	Espoma Plant Tone	5.7	4.9	2.9
4	6	6	Espoma Garden Tone	3.4	9.7	5.8
6	6	4	Espoma Rose Tone	6.1	8.0	7.0
9	5	4	Espoma Tree Tone	8.3	7.9	4.6
The Terre Co. of NJ, Inc.						
20	3	10	Terre Weed & Feed	20.2	3.1	5.6-
Universal Chemical Co., Inc.						
5	10	3	Electra Plant Food Hi Org	5.1	11.2	3.0

Table 1--Analysis of individual samples of commercial fertilizers (Continued)

Manufacturer, guarantee, brand			Nutrients found, %		
			N	P2O5	K2O
Vigoro Industries					
	30	25	Gro-Tone Prem Quality Fert	29.5	1.0-
0	20	0	Certified Harvest King Fert	25.6	
5	10	5	Gro Tone Plant Food 50% Org	5.7	8.6- 7.0
5	10	5	Harvest King Fertilizer	3.9-	8.5- 6.2
5	10	5	Suburban Brand	5.3	4.5- 6.8
5	10	5	Vigoro All Amer Lawn/Grdn	5.6	9.6 3.7-
5	10	5	Vigoro All Amer Lawn/Grdn	5.6	9.2- 6.3
5	10	10	Suburban Fertilizer	5.0	6.4- 8.0-
6	2	0	Gro Tone Nitroorganic	5.8	2.4
6	2	0	Gro-Tone Nitroorganic	4.9-	2.5
6	10	4	Vigoro All Purpose	7.6	13.4 5.8
10	6	4	Suburban Lawn Fertilizer	10.2	7.8 8.7
10	10	10	All American Lawn/Garden	10.0	7.7- 10.0
10	10	10	Harvest King Fertilizer	10.1	9.0- 9.2-
10	10	10	Suburban Brand	8.4-	6.6- 10.7
12	3	34	Par Ex Slow Release Fert	14.2	2.2- 35
12	5	9	Woodace Top Dress Special	10.3-	4.9 9.6
12	8	8	Harvest King Fertilizer	12.5	5.6- 8.1
18	3	6	Vigoro Deep Green Weed/Feed	12.2-	4.6 7.8
18	24	6	Vigoro Starter Fertilizer	18.9	23.7 5.1-
20	0	20	Par Ex Slow Release	20.1	22.7
21	3	16	Par-Ex Slow Release Fert	19.9	5.3 16.1
21	4	10	Woodace Nursery Fertilizer	25.2	4.5 8.7-
24	0	9	Slow Release Fertilizer	24.1	6.9-
24	4	12	Par-Ex Slow Release Fert	24.3	3.8 13.1
26	3	5	Par Ex Slow Release Fert	28.0	3.0 4.5
26	3	5	Par Ex Slow Release Fert	32.0	3.1 3.5-
27	3	3	Super K-Gro	32.9	3.4 3.9
29	3	10	Par Ex Slow Release Fert	29.8	6.2 8.4-
29	3	10	Par-Ex Slow Release Fert	28.3	5.1 13.1
30			Gro Tone Fert Rock Phos	29.6	
30	4	6	Gro-Tone Crabgrass Prevent	30.9	4.7 5.1-
30	4	6	Gro-Tone Lawn Fertilizer	32.3	5.2 5.7
30	4	6	Grotone Lawn Fertilizer	33.4	4.4 6.5
30	4	6	Grow-Tone Crabgrass Prevent	30.2	5.8 5.1-
31	3	11	Par Ex Slow Release Fert	31.3	5.8 9.8-
W. R. Grace & Co.					
46	0	0	Grace Nit Micro-Prill Fert	46.7	
Warren's Turf Nursery, Inc.					
25	3	9	Warren's Turf Grass Food	26.7	3.6 8.8

Table 2--Summary for each manufacturer of number of claims for individual plant nutrients, percentage of claims not meeting guarantee, and average percentage of guarantee for each nutrient

Company	Number Samples	Number of Claims			% Not Meeting Claim			Average % of Claim		
		N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
Agri Turf	4	2	2	2	100	50	100	53	80	52
Agway	21	18	21	21	0	5	10	105	123	108
Alaska Fish Fert.	1	1	1	1	0	0	100	100	145	75
And Grow Fert.	2	2	1	2	50	0	100	79	98	61
Burpee	2	2	2	2	0	0	0	107	100	99
Cadwell & Jones	20	20	20	20	25	10	10	99	102	115
Chevron Chemical	15	13	14	12	0	0	0	108	112	103
Clinton Nursery	4	4	4	4	0	0	25	107	125	105
Crop Prod. Serv.	15	15	13	13	7	15	23	105	102	108
Derby Feed	5	5	5	5	40	20	20	88	104	106
Dexol Industries	1	0	1	0	-	0	-	-	99	-
Earth Gro	7	7	7	7	0	0	0	177	113	113
Estech	20	19	18	19	26	39	16	119	94	109
Grass Roots	1	1	1	1	100	100	100	15	30	30
H.K. Webster	3	3	3	3	33	0	33	104	105	106
Hy-Trous	2	2	2	2	0	0	0	114	100	123
International Sp.	8	8	8	8	0	0	0	139	133	108
Lebanon Chemical	13	13	13	13	8	0	23	106	111	112
Lesco	1	1	1	1	100	100	100	1	2	57
Luster Leaf Prod.	3	1	1	1	0	0	0	102	111	107
Milwaukee Metrop.	1	1	1	1	0	0	0	125	210	90
Nitrochem	1	1	0	0	0	-	-	97	-	-
Nutrico	1	1	1	1	0	0	0	107	110	98
O.M. Scott & Sons	1	1	1	1	0	0	0	101	110	108
Old Fox Chemical	13	13	12	13	15	8	15	112	108	108
Peters Fert. Prod.	6	6	6	6	0	0	17	110	110	103
Plant Research	2	2	2	2	0	0	0	115	104	100
Rapid-Gro	2	2	2	2	0	0	0	104	103	104
Rockland Chemical	1	1	1	1	100	100	100	63	72	65
Ross Daniels	6	6	6	6	33	0	0	101	116	109
Schultz	1	1	1	1	0	0	0	103	107	102
Sierra Chemical	2	2	2	2	0	0	0	101	130	102
Sterns	3	3	3	3	0	0	0	115	100	100
The Espoma Co.	5	5	5	4	0	0	0	112	147	133
The Terre Co.	1	1	1	1	0	0	100	101	103	56
Universal Chem.	1	1	1	1	0	0	0	102	112	100
Vigoro Indust.	36	34	33	32	15	30	38	103	112	101
W.R. Grace	1	1	0	0	0	-	-	112	-	-
Warrens Turf Nurs.	1	1	1	1	0	0	0	107	120	98
Totals	233	220	217	215						

Table 3--Distribution of mixed fertilizers sold in Connecticut July 1, 1987-June 30, 1988

Grade	Tons	Grade	Tons	Grade	Tons
05-10-05	891	15-05-05	930	20-10-20	21
05-10-10	698	15-08-12	416	20-20-20	44
07-07-07	36	15-10-05	1	20-00-22	27
08-16-16	133	15-15-15	691	22-03-05	7
10-05-05	31	15-30-15	238	24-04-06	17
10-06-04	926	16-04-04	8	25-03-03	375
10-10-10	2684	16-08-08	45	25-03-05	157
10-20-10	329	19-04-04	70	25-05-10	137
10-20-15	99	20-00-10	43	27-03-03	1344
10-20-20	291	20-03-03	64	28-04-08	64
12-04-08	65	20-05-10	284	32-04-04	22
15-00-00	26	20-10-10	719	32-05-07	51
		TOTAL	11984		
		MISCELLANEOUS	22642		
		GRAND TOTAL	34626		

Table 4--Tonnage of fertilizer material and mixed fertilizers sold in Connecticut July 1, 1987-June 30, 1988

Commodity	Tons	Commodity	Tons
CHEMICAL NITROGEN		NATURAL ORGANICS	
Ammonium nitrate	72.1	Blood meal	7.3
Ammonium sulfate	9.5	Bonemeal	14.1
Calcium nitrate	46.2	Cottonseed meal	117
Nitrogen solutions	6	Gelatin	9.9
Other nitrogen mater.	1.3	Greensand	2
Sodium nitrate	2.4	Manure, cow, composted	49
Urea	1560.3	Manure, cattle, dried	39.8
Ureaform	3	Manure, poultry, dried	10.2
Urea-sulfur coated	14		
TOTAL	1714.8	TOTAL	249.3
PHOSPHATES		MULTINUTRIENT	
Ammonium phosphate	31	Minor elements	2.5
Bone meal, steamed	52.7		
Superphosphate	120.4	TOTAL	2.5
Other phosphates	125.9		
TOTAL	330	SECONDARY & MICRONUTRIENTS	
LIMING MATERIALS		Aluminum	2.6
Gypsum	106	Aluminum sulfate	1
lime	11	Borax	27.6
TOTAL	117	Ferrous sulfate	1.2
POTASH		Iron, chelated	1
Carbonate of potash	3	Iron	2.1
Muriate of potash	156.8	Magnesium oxide	0.5
Potassium nitrate	67	Sulfur	5.8
Potassium sulfate	9	Zinc sulfate	1
Sufate of potash	14	Miscellaneous	17.1
Sulfate potass/magnes	7		
TOTAL	256.8	TOTAL	59.9
		TOTAL COMMODITIES	2730.3
		TOTAL COMMERCIAL FERTILIZERS	34626
		GRAND TOTAL	37356.3



The Connecticut Agricultural Experiment Station, founded in 1875, is the first experiment station in America. It is chartered by the General Assembly to make scientific inquiries and experiments regarding plants and their pests, insects, soil and water, and to perform analyses for State agencies. The laboratories of the Station are in New Haven and Windsor; its Lockwood Farm is in Hamden. Single copies of bulletins are available free upon request to Publications; Box 1106; New Haven, Connecticut 06504. ISSN 0097-0905