



pennsylvania
DEPARTMENT OF AGRICULTURE

**Pennsylvania Department of Agriculture
Bureau of Plant Industry
2016 Fiscal year Seed Report
Pennsylvania Seed Act**

Nov 2017

Overview

The Pennsylvania Department of Agriculture Bureau of Plant Industry Seed Division analyses seed samples drawn under the authority of the Pennsylvania Seed Act. The division's work helps to ensure the quality and genetic purity of crops in the state, and provides consumers with accurate information to help make seed-purchasing decisions.

The division is responsible for (1) administration and enforcement of the Pennsylvania Seed Act; (2) administration of the Seed Certification Act; (3) operation of the State Seed Laboratory; and (4) maintenance of the seed herbarium.

This report is a summary of official seed inspection and laboratory analyses performed by the seed division from July 1, 2016 to June 30, 2017.

Regulatory Requirements

The Seed Act, from which the division derives its authority, requires proper labeling for all seeds distributed in Pennsylvania. Information must appear on a tag or label attached in a conspicuous place on the exterior of the seed container. Seed not properly labeled are subject to a "Stop Sale" order, which prohibits their sale or distribution until relabeled in compliance with the law. The person whose name appears on the seed analysis label must obtain an annual seed license at a cost of \$25.

During fiscal year 2016, there were **432** licensed Seed Dealers in Pennsylvania. The department collected a total of **\$10,800** for Seed Dealers license fees.

The Pennsylvania Code Chapter 111 lists additional requirements for labeling seeds, including:

- Labeling of flower seed mixtures
- Labeling of lawn seed mixtures
- Labeling of treated seeds
- Labeling of seeds for sprouting
- Germination standards for vegetable and flower seeds
- List of prohibited noxious weed seeds
- List of restricted noxious weed seeds, including undesirable grass seed in lawn and turf seeds

Seed Certification

Seed certification helps maintain, and make available to the public, sources of high quality seeds and propagating materials of superior varieties grown and distributed to ensure genetic identity. Only after passing rigid field and seed standards can seed be labeled as a class of certified seed. For a summary of crop, variety, and acres inspected see Table V.

During the reporting period the department collected, **\$19,074.66** in fees for field inspection, tags, labels, and other services.

The Pennsylvania Department of Agriculture is an active member of the Association of Official Seed Certification Agencies.

Seed Laboratory

The Seed Laboratory provides technical information and performs a range of tests and analyses on seed samples from various sources. All seed samples are prepared and tested according to the "Rules for Testing Seeds" published by the Association of Official Seed Analysts (AOSA).

During the reporting period, the laboratory received **7,440** samples, requiring **9,044** separate tests (See Table I). Plant Industry Inspectors submitted **2,672** regulatory seed samples for enforcement of the Seed Act, and **34** regulatory samples to test for viable weed seed to aid in the enforcement of the PA Feed Act. In addition, Plant Industry Inspectors issued **271** Seed Stop Sale Notices for labeling violations directly at retail and wholesale locations representing **2,186** containers.

Farmers, wholesale seedsmen and retail outlets submitted **4,577** service samples for labeling purposes and guidance in planting. The seed certification program and various other state agencies submitted **157** samples to determine if the seed met their standards or specifications. As of June 23, 2016, seed testing fees were increased in response to increased operational testing costs. The department collected a total of **\$87,058.00** in fees for these services.

The Pennsylvania Seed Act provides the department the authority to fix, adjust, assess and collect fees for the certification, inspection services, and requested seed tests. The fees shall be enough to meet reasonable expenses incurred by the department in making such inspections for certification and conducting seed tests. The current fee structure for seed service samples and certification services are available on the department website, www.agriculture.pa.gov. The Secretary of Agriculture may adjust the fees by sending notice to licensees and publishing a notice in the Pennsylvania Bulletin. The fees derived from these services and seed dealer licensing fees help support the Seed Program.

Seed analysts also identify and test seeds for the Pennsylvania Department of Transportation, the State Police Crime Laboratory, other state agencies, and the public.

The Seed Laboratory is an active member of AOSA and cooperates in the work of various committees. Staff members attend the annual meeting of AOSA to vote on rule changes, discuss other items of business, and attend committee meetings. Currently, Seed Program Supervisor Johnny Zook is a member of the AOSA executive board. Staff members also attended seed training schools; notably the Iowa State University Seed Short Course.

The department is also an active member of the Association of Seed Control Officials of the Northeastern States and the Association of American Seed Control Officials (AASCO). Seed Program Supervisor Johnny Zook is president of AASCO, and a staff member attends the annual meeting of each organization.

Each year the seed analysts assist the small grain judge at the Pennsylvania Farm Show, examining each exhibit for noxious and common weed seeds, other crop seeds, and foreign material.

Table I

Classification of samples by kind and numbers of tests involved.

Number of Samples	Kinds	Purity	Noxious Weed Examinations	Germinations*
3,995	Vegetable	12	2	4,012
2,085	Agricultural	539	768	1,960
892	Flower	0	1	913
16	Tree	0	0	0
34	Feed	0	34	1
3	Health Food	0	0	4
147	Pasture Mix	7	9	138
9	Flower Mix	0	0	2
48	Vegetable Mix	0	0	47
72	Conservation Mix	2	2	5
0	Vegetable Kit	0	0	0
138	Lawn Mix	35	37	62
1	Unidentified	0	0	0
7,440	Totals	595	853	7,144

Other Tests	
Interstate Noxious Weed Test	3
Treated Germination Test	0
Cold Test	74
Tetrazolium Test	25
Endophyte Test	0
Ryegrass Fluorescence Test	116
Oats Fluorescence Test	69
Identification Test	2
400 Seed Count Test	61
Miscellaneous Test	38
Canada Noxious Weed Test	57
Seed Count Test	7
Total Tests	9,044

* Includes preliminary and final seedling counts.

SEED ACT ENFORCEMENT

In the enforcement of the Seed Act, Bureau of Plant Industry inspectors visit wholesale and retail firms to inspect seed labeling and obtain samples for testing. The inspectors collected 2,672 seed samples. A total of 144 lots, or 5.39 % of these samples were found to be in violation of the Act, of which 111 (16,977 containers) were placed under “Stop Sale” at 39 locations. The other 33 were either technical or minor violations not requiring a Stop Sale Order. Stop Sales are released when the owner or custodian of the seed follows the recommended procedure to have it relabeled in compliance with the law or otherwise disposed.

The tables on the following pages summarize the Seed Act Activities.

Table II is a comparison of the percentage of all violations for the past three years for all classes of seeds.

Table III summarizes the kinds of agriculture, vegetable and flower seeds tested with the number and percentage violation of each.

Table IV summarizes the inspection record of individual wholesale distributors giving total samples and number correctly labeled or in violation.

Table V represents a summary of crops, varieties and acres inspected by the seed certification program.

Table II

A comparison of violations of seed samples taken by seed inspectors.

Kind s	Number of Samples *	% Violations		
		7/1/2016 - 6/30/2017	7/1/2015 - 6/30/2016	7/1/2014 - 6/30/2015
Vegetable	1,615	2.17 %	6.83 %	4.85 %
Agricultural	373	12.60 %	11.58 %	5.29 %
Flower	547	4.20 %	7.80 %	4.20 %
Tree	0	0.00 %	0.00 %	100.00 %
Health Food	3	33.33 %	0.00 %	46.67 %
Pasture Mix	10	20.00 %	44.44 %	23.81 %
Flower Mix	8	0.00 %	0.00 %	14.29 %
Vegetable Mix	48	8.33 %	0.00 %	4.00 %
Conservation Mix	3	66.67 %	0.00 %	0.00 %
Vegetable Kit	0	0.00 %	0.00 %	3.85 %
Lawn Mix	65	46.15 %	18.38 %	35.48 %
Totals	2,672	5.39 %	9.40 %	6.50 %

* Samples collected by seed inspectors 7/1/2016 - 6/30/2017

Explanation of abbreviations used in tables.

- CL - Correctly labeled.
- SV - Serious violation, discrepancy exceeds double the tolerance.
- MV - Minor violation, discrepancy exceeds regular tolerance.
- TV - Technical violation, label does not bear all required information.
- #VIOL - Number of violations.
- %VIOL - Percentage of violations.

Table III

Total of each kind tested, number and percentage of violations.

Seed Kind Tested	Vegetable Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Amaranth	1	1	0	0	0	0	0.00 %
Artichoke	2	1	1	0	0	1	50.00 %
Arugula	11	11	0	0	0	0	0.00 %
Asparagus	2	2	0	0	0	0	0.00 %
Asparagus Bean (Yardlong)	2	2	0	0	0	0	0.00 %
Basil	49	49	0	0	0	0	0.00 %
Bean, Garden	78	75	3	0	0	3	3.85 %
Bean, Red Kidney	2	2	0	0	0	0	0.00 %
Beet	36	36	0	0	0	0	0.00 %
Bok Choi	2	2	0	0	0	0	0.00 %
Broccoli	23	23	0	0	0	0	0.00 %
Broccoli Raab (Turnip Broccoli)	5	5	0	0	0	0	0.00 %
Brokali	1	1	0	0	0	0	0.00 %
Brussels-Sprouts	12	12	0	0	0	0	0.00 %
Butterfly-Bush	1	1	0	0	0	0	0.00 %
Cabbage	28	28	0	0	0	0	0.00 %
Cabbage, Chinese	2	2	0	0	0	0	0.00 %
Cantaloupe	13	13	0	0	0	0	0.00 %
Caraway	1	1	0	0	0	0	0.00 %
Carrot	53	51	2	0	0	2	3.77 %
Cat Grass	1	1	0	0	0	0	0.00 %
Catnip	7	7	0	0	0	0	0.00 %
Cauliflower	11	11	0	0	0	0	0.00 %
Celeriac	1	1	0	0	0	0	0.00 %
Celery	4	4	0	0	0	0	0.00 %
Chamomile, Bodegold	2	2	0	0	0	0	0.00 %
Chervil	2	2	0	0	0	0	0.00 %
Chicory	4	4	0	0	0	0	0.00 %
Chives	10	10	0	0	0	0	0.00 %
Chives, Garlic	8	8	0	0	0	0	0.00 %

Cilantro	12	12	0	0	0	0	0.00 %
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Seed Kind Tested	Vegetable Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Collards	12	12	0	0	0	0	0.00 %
Coriander	2	2	0	0	0	0	0.00 %
Corn, Ornamental	1	1	0	0	0	0	0.00 %
Corn, Sweet	58	58	0	0	0	0	0.00 %
Cornsalad	6	5	1	0	0	1	16.67 %
Cowpea	1	1	0	0	0	0	0.00 %
Cress	2	2	0	0	0	0	0.00 %
Cress, Upland	1	0	1	0	0	1	100.00 %
Cucumber	55	55	0	0	0	0	0.00 %
Cumin	1	1	0	0	0	0	0.00 %
Dandelion	1	0	1	0	0	1	100.00 %
Dill	19	19	0	0	0	0	0.00 %
Eggplant	16	16	0	0	0	0	0.00 %
Endive	5	5	0	0	0	0	0.00 %
Escarole	2	2	0	0	0	0	0.00 %
Eucalyptus,Foliage	1	1	0	0	0	0	0.00 %
Fennel	7	6	1	0	0	1	14.29 %
German Chamomile	2	2	0	0	0	0	0.00 %
Gourd, Small-Seeded	1	1	0	0	0	0	0.00 %
Gourds, Large-Seeded	5	5	0	0	0	0	0.00 %
Gourds, Luffa (Dishcloth)	2	2	0	0	0	0	0.00 %
Highland Kale	1	1	0	0	0	0	0.00 %
Impatiens	1	1	0	0	0	0	0.00 %
Kale	18	18	0	0	0	0	0.00 %
Kohlrabi	13	13	0	0	0	0	0.00 %
Lavender	1	1	0	0	0	0	0.00 %
Lavender	2	2	0	0	0	0	0.00 %
Leek	3	3	0	0	0	0	0.00 %
Lemon Balm	3	3	0	0	0	0	0.00 %
Lemon Basil	1	1	0	0	0	0	0.00 %
lemongrass	1	1	0	0	0	0	0.00 %
Lettuce	101	96	5	0	0	5	4.95 %
Lima Bean	9	9	0	0	0	0	0.00 %
Malabar Spinach	1	1	0	0	0	0	0.00 %
Marigold, Sweet	1	1	0	0	0	0	0.00 %
Marjoram	2	2	0	0	0	0	0.00 %
Melons	18	18	0	0	0	0	0.00 %
Mizuna, Mustard Greens	1	1	0	0	0	0	0.00 %
Mouse Melon	1	1	0	0	0	0	0.00 %
Mung Bean	1	1	0	0	0	0	0.00 %
Mustard	10	10	0	0	0	0	0.00 %

Seed Kind Tested	Vegetable Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Mustard, Leaf	7	7	0	0	0	0	0.00 %
Mustard, Spinach	2	2	0	0	0	0	0.00 %
New Zealand Spinach	1	1	0	0	0	0	0.00 %
Okra	14	14	0	0	0	0	0.00 %
Onion	42	32	10	0	0	10	23.81 %
Oregano	10	10	0	0	0	0	0.00 %
Pakchoi	7	7	0	0	0	0	0.00 %
Parsley	26	26	0	0	0	0	0.00 %
Parsnip	3	2	1	0	0	1	33.33 %
Pea, Garden	67	62	5	0	0	5	7.46 %
Peanut	3	3	0	0	0	0	0.00 %
Pepper	83	83	0	0	0	0	0.00 %
Pepper, Hot	45	45	0	0	0	0	0.00 %
Popcorn	2	2	0	0	0	0	0.00 %
Portulaca	1	1	0	0	0	0	0.00 %
Pumpkin	35	35	0	0	0	0	0.00 %
Purslane	1	1	0	0	0	0	0.00 %
Radicchio	2	2	0	0	0	0	0.00 %
Radish	60	60	0	0	0	0	0.00 %
Romanesco	1	1	0	0	0	0	0.00 %
Rosemary	4	4	0	0	0	0	0.00 %
Rutabaga	4	4	0	0	0	0	0.00 %
Sage	4	4	0	0	0	0	0.00 %
Salpiglossis	1	1	0	0	0	0	0.00 %
Salsify	1	1	0	0	0	0	0.00 %
Saltwort	1	1	0	0	0	0	0.00 %
Savory, Summer	1	1	0	0	0	0	0.00 %
Scarlet Runner Bean	1	1	0	0	0	0	0.00 %
Senposai	2	2	0	0	0	0	0.00 %
Sesame	1	1	0	0	0	0	0.00 %
Shallot	1	1	0	0	0	0	0.00 %
Soybean	2	2	0	0	0	0	0.00 %
Spearmint	4	4	0	0	0	0	0.00 %
Spinach	31	31	0	0	0	0	0.00 %
Squash	58	58	0	0	0	0	0.00 %
Squash, Autum-Winter	16	16	0	0	0	0	0.00 %
Squash, Hubbard	2	2	0	0	0	0	0.00 %
Strawberry	1	1	0	0	0	0	0.00 %
Sunflower	9	9	0	0	0	0	0.00 %
Sweet Basil	3	3	0	0	0	0	0.00 %
Sweet Corn	5	5	0	0	0	0	0.00 %

Seed Kind Tested	Vegetable Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Sweet Marjoram	2	2	0	0	0	0	0.00 %
Swiss Chard	15	15	0	0	0	0	0.00 %
Tarragon	2	0	2	0	0	2	100.00 %
Thyme	9	9	0	0	0	0	0.00 %
Tomatillo	5	5	0	0	0	0	0.00 %
Tomato	203	201	2	0	0	2	0.99 %
Turnip	16	16	0	0	0	0	0.00 %
Watercress	1	1	0	0	0	0	0.00 %
Watermelon	24	24	0	0	0	0	0.00 %
Total	1,616	1,581	35	0	0	35	2.17 %

Seed Kind Tested	Agricultural Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Alfalfa	17	15	2	0	0	2	11.76 %
Alfalfa	1	0	1	0	0	1	100.00 %
Aster, New England	1	0	1	0	0	1	100.00 %
Barley	7	6	0	1	0	1	14.29 %
Birdsfoot Trefoil	6	5	1	0	0	1	16.67 %
Bluestem, Little	1	1	0	0	0	0	0.00 %
Brome, Smooth	2	2	0	0	0	0	0.00 %
Buckwheat	3	1	1	0	1	2	66.67 %
Canada Wild Rye	1	0	1	0	0	1	100.00 %
Chewings Fescue	1	1	0	0	0	0	0.00 %
Clover, Alsike	2	2	0	0	0	0	0.00 %
Clover, Crimson	5	2	3	0	0	3	60.00 %
Clover, Ladino White	2	1	1	0	0	1	50.00 %
Clover, Red	7	4	3	0	0	3	42.86 %
Clover, Sweet White	1	1	0	0	0	0	0.00 %
Clover, White	3	0	3	0	0	3	100.00 %
Corn, Hybrid Field	23	17	4	2	0	6	26.09 %
Cowpea	1	1	0	0	0	0	0.00 %
Crabgrass	1	0	1	0	0	1	100.00 %
Crownvetch	3	3	0	0	0	0	0.00 %
Hard Fescue	12	12	0	0	0	0	0.00 %
Indiangrass	1	1	0	0	0	0	0.00 %
Kentucky Bluegrass	39	32	5	0	2	7	17.95 %
Millet, Pearl	3	3	0	0	0	0	0.00 %
Oat	23	20	2	0	1	3	13.04 %
Orchardgrass	9	8	1	0	0	1	11.11 %

Seed Kind Tested	Agricultural Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Oxeye Sunflower	1	0	1	0	0	1	100.00 %
Pea, Field	3	2	1	0	0	1	33.33 %
Radish	1	1	0	0	0	0	0.00 %
Radish, Forage	1	1	0	0	0	0	0.00 %
Red Fescue	26	26	0	0	0	0	0.00 %
Reed Canarygrass	1	1	0	0	0	0	0.00 %
Rosemary	1	1	0	0	0	0	0.00 %
Rye	19	17	2	0	0	2	10.53 %
Ryegrass, Annual	35	26	9	0	0	9	25.71 %
Ryegrass, Intermediate	1	1	0	0	0	0	0.00 %
Ryegrass, Perennial	30	29	1	0	0	1	3.33 %
Sorghum	1	1	0	0	0	0	0.00 %
Sorghum-Sudangrass Hybrid	4	3	1	0	0	1	25.00 %
Soybean	6	6	0	0	0	0	0.00 %
Soybean	22	17	5	0	0	5	22.73 %
Sudangrass	1	1	0	0	0	0	0.00 %
Sunn Hemp	1	1	0	0	0	0	0.00 %
Tall Fescue	22	21	1	0	0	1	4.55 %
Teff	2	2	0	0	0	0	0.00 %
Timothy	10	10	0	0	0	0	0.00 %
Triticale	3	3	0	0	0	0	0.00 %
Turnip	1	1	0	0	0	0	0.00 %
Virginia Wildrye	1	1	0	0	0	0	0.00 %
Wheat	20	20	0	0	0	0	0.00 %
Total	388	330	51	3	4	58	14.95 %

Seed Kind Tested	Flower Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Agastache	1	1	0	0	0	0	0.00 %
Agastache - Giant Hyssop	2	2	0	0	0	0	0.00 %
Ageratum	1	1	0	0	0	0	0.00 %
Alyssum, golden-tuft	1	1	0	0	0	0	0.00 %
Alyssum, Sweet	14	13	1	0	0	1	7.14 %
Amaranthus	4	4	0	0	0	0	0.00 %
Aquilegia	1	1	0	0	0	0	0.00 %
Asclepias (Butterfly Weed)	2	2	0	0	0	0	0.00 %
Asclepias (Milkweed)	1	1	0	0	0	0	0.00 %
Asters	6	5	1	0	0	1	16.67 %
Baby's Breath	2	2	0	0	0	0	0.00 %

Seed Kind Tested	Flower Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Baby's Breath, Annual	1	1	0	0	0	0	0.00 %
Baby's-Breath, perennial	1	1	0	0	0	0	0.00 %
Bachelor's Button	5	5	0	0	0	0	0.00 %
Balsam	1	1	0	0	0	0	0.00 %
Barley	1	1	0	0	0	0	0.00 %
Begonia	3	3	0	0	0	0	0.00 %
Bells of Ireland	2	2	0	0	0	0	0.00 %
Bidens	1	1	0	0	0	0	0.00 %
Bishop's Flower	1	1	0	0	0	0	0.00 %
Black-Eyed Susan	3	2	1	0	0	1	33.33 %
Blanket Flower	1	1	0	0	0	0	0.00 %
Bluestem, Little	1	0	1	0	0	1	100.00 %
Borage, Common	1	1	0	0	0	0	0.00 %
Calendula	6	6	0	0	0	0	0.00 %
California Poppy	2	2	0	0	0	0	0.00 %
Campanula	1	1	0	0	0	0	0.00 %
Canterbury Bells	2	2	0	0	0	0	0.00 %
Carnation	1	1	0	0	0	0	0.00 %
Cat Grass	1	1	0	0	0	0	0.00 %
Celosia	3	3	0	0	0	0	0.00 %
Celosia	6	6	0	0	0	0	0.00 %
Chamomile, Annual	1	1	0	0	0	0	0.00 %
Chamomile, Bodegold	1	1	0	0	0	0	0.00 %
Chamomile, Roman	1	1	0	0	0	0	0.00 %
Chinese Lanterns	1	1	0	0	0	0	0.00 %
Cineraria Maritima	1	1	0	0	0	0	0.00 %
Cleome	3	2	1	0	0	1	33.33 %
Coleus	8	8	0	0	0	0	0.00 %
Columbine	5	5	0	0	0	0	0.00 %
Coneflower	1	1	0	0	0	0	0.00 %
Convolvulus	11	9	2	0	0	2	18.18 %
Coreopsis, Lance-leaf	1	1	0	0	0	0	0.00 %
Coreopsis, Large Flower	1	1	0	0	0	0	0.00 %
Corn, Ornamental	2	2	0	0	0	0	0.00 %
Cornflower	2	2	0	0	0	0	0.00 %
Cornflower, Tall	1	1	0	0	0	0	0.00 %
COSMIDIUM	1	1	0	0	0	0	0.00 %
Cosmos	21	19	2	0	0	2	9.52 %
Cosmos, Sulphur	2	2	0	0	0	0	0.00 %
Cypress Vine	2	2	0	0	0	0	0.00 %
Dahlia	3	3	0	0	0	0	0.00 %

Seed Kind Tested	Flower Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Daisy, Blue-Eyed	1	1	0	0	0	0	0.00 %
Daisy, Shasta	6	5	1	0	0	1	16.67 %
Delphinium (Pacific Giants)	4	4	0	0	0	0	0.00 %
Dianthus	8	8	0	0	0	0	0.00 %
Doronicum	1	1	0	0	0	0	0.00 %
Dusty Miller	1	1	0	0	0	0	0.00 %
Echinacea	3	2	1	0	0	1	33.33 %
Endive	1	1	0	0	0	0	0.00 %
Forget-Me-Not	2	2	0	0	0	0	0.00 %
Forget-me-not, alpine	1	1	0	0	0	0	0.00 %
Forget-Me-Not,Chinese	3	3	0	0	0	0	0.00 %
Four O'clock	4	4	0	0	0	0	0.00 %
Foxglove	3	3	0	0	0	0	0.00 %
Gaillardia (Annual)	1	1	0	0	0	0	0.00 %
Gaillardia (Perennial)	4	4	0	0	0	0	0.00 %
Gazania	4	4	0	0	0	0	0.00 %
Geranium	2	2	0	0	0	0	0.00 %
Gerbera (Transvaal Daisy)	3	3	0	0	0	0	0.00 %
Gloriosa Daisy	2	2	0	0	0	0	0.00 %
Gomphrena	3	3	0	0	0	0	0.00 %
Gourd, Bottle	2	2	0	0	0	0	0.00 %
Gourd, Small-Seeded	1	1	0	0	0	0	0.00 %
Hollyhock	4	3	1	0	0	1	25.00 %
Hyacinth Bean	1	1	0	0	0	0	0.00 %
Hyssop	1	1	0	0	0	0	0.00 %
Iberis	2	2	0	0	0	0	0.00 %
Ice Plant	1	1	0	0	0	0	0.00 %
Impatiens	6	6	0	0	0	0	0.00 %
Ipomopsis (Scarlet Gilia)	1	1	0	0	0	0	0.00 %
Juncus Spp.(NIR)	1	1	0	0	0	0	0.00 %
Kale, Ornamental	2	2	0	0	0	0	0.00 %
Larkspur	4	4	0	0	0	0	0.00 %
Larkspur, Rocket (annual)	1	1	0	0	0	0	0.00 %
Lavender	9	7	2	0	0	2	22.22 %
Lewisia	1	1	0	0	0	0	0.00 %
Lobelia	6	5	1	0	0	1	16.67 %
Love-Lies-Bleeding	1	1	0	0	0	0	0.00 %
Lunaria	2	2	0	0	0	0	0.00 %
Lupine, Russell	2	2	0	0	0	0	0.00 %
Lupine, Russell hybrids	2	2	0	0	0	0	0.00 %
Lychnis	1	1	0	0	0	0	0.00 %

Seed Kind Tested	Flower Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Marigold, Sweet	1	1	0	0	0	0	0.00 %
Marigolds	30	29	1	0	0	1	3.33 %
Marjoram	1	1	0	0	0	0	0.00 %
Mexican Hat (Prairie Coneflower)	1	1	0	0	0	0	0.00 %
Mint	1	1	0	0	0	0	0.00 %
Moonflower	1	1	0	0	0	0	0.00 %
Morning Glory	16	16	0	0	0	0	0.00 %
Nasturtium	14	14	0	0	0	0	0.00 %
Needlegrass	1	1	0	0	0	0	0.00 %
Nemophila	1	1	0	0	0	0	0.00 %
Nicotiana	1	1	0	0	0	0	0.00 %
Oregano	1	0	1	0	0	1	100.00 %
Painted Daisy	3	3	0	0	0	0	0.00 %
Pansy, Common	9	9	0	0	0	0	0.00 %
Penstemon	3	3	0	0	0	0	0.00 %
Pentas	1	1	0	0	0	0	0.00 %
Petunias	15	15	0	0	0	0	0.00 %
Phlox	1	1	0	0	0	0	0.00 %
Phlox, Annual	2	2	0	0	0	0	0.00 %
Poppy	1	1	0	0	0	0	0.00 %
Poppy, California	3	3	0	0	0	0	0.00 %
Poppy, Corn	2	2	0	0	0	0	0.00 %
Poppy, Oriental	4	4	0	0	0	0	0.00 %
Portulaca	6	4	2	0	0	2	33.33 %
Purple Tansy	1	1	0	0	0	0	0.00 %
Ranunculus	1	1	0	0	0	0	0.00 %
Rudbeckia	1	1	0	0	0	0	0.00 %
Sage, Cedar	1	1	0	0	0	0	0.00 %
Salvia	7	7	0	0	0	0	0.00 %
Salvia	1	1	0	0	0	0	0.00 %
Savory, Winter	1	0	1	0	0	1	100.00 %
Scabiosa (annual) /Mourning-bride	1	1	0	0	0	0	0.00 %
Showy Milkweed	1	1	0	0	0	0	0.00 %
Snapdragon	9	9	0	0	0	0	0.00 %
Sorrel	1	1	0	0	0	0	0.00 %
Statice	2	2	0	0	0	0	0.00 %
Statice	1	1	0	0	0	0	0.00 %
Stock	4	4	0	0	0	0	0.00 %
Strawflower	2	2	0	0	0	0	0.00 %
Sunflower	1	1	0	0	0	0	0.00 %
Sunflower	52	52	0	0	0	0	0.00 %

Seed Kind Tested	Flower Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Sweet Pea, annual	7	7	0	0	0	0	0.00 %
Tarragon	1	0	1	0	0	1	100.00 %
Thunbergia	3	3	0	0	0	0	0.00 %
Thyme	3	3	0	0	0	0	0.00 %
Thymus, Creeping Thyme	1	0	1	0	0	1	100.00 %
Tithonia	2	2	0	0	0	0	0.00 %
Torenia (Wishbone Flower)	2	2	0	0	0	0	0.00 %
Tricolor Daisy	1	1	0	0	0	0	0.00 %
Tritoma	1	1	0	0	0	0	0.00 %
Verbascum	1	1	0	0	0	0	0.00 %
Verbena	1	1	0	0	0	0	0.00 %
Verbena	1	1	0	0	0	0	0.00 %
Verbena	1	1	0	0	0	0	0.00 %
Verbena, Rigid	1	1	0	0	0	0	0.00 %
Vinca	6	6	0	0	0	0	0.00 %
Viola	4	3	1	0	0	1	25.00 %
Wallflower	1	1	0	0	0	0	0.00 %
Zinnia	48	48	0	0	0	0	0.00 %
Total	547	524	23	0	0	23	4.20 %

Seed Kind Tested	Feed						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Feed	34	34	0	0	0	0	0.00 %

Seed Kind Tested	Pasture Mix						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Pasture Mix	10	8	2	0	0	2	20.00 %

Seed Kind Tested	Flower Mix						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Flower Mix	8	8	0	0	0	0	0.00 %

Seed Kind Tested	Lawn Mix						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Lawn Mix	65	35	26	0	4	30	46.15 %

Table IV

Vegetable Seeds Wholesale Distributors			Vegetable Seeds			
			CL	SV	TV	MV
ABBOTT & COBB, INC.	TREVOSE	PA	55	0	0	0
AMERICAN SEED CO., INC.	SPRING GROVE	PA	2	0	0	0
BOTANICAL INTERESTS, INC.	BROOMFIELD	CO	5	0	0	0
CROSMAN SEED CORP	EAST ROCHESTER	NY	2	0	0	0
LAKE VALLEY SEED COMPANY, INC.	BOULDER	CO	1	0	0	0
MICHELL CO, HENRY F.	KING OF PRUSSIA	PA	64	3	0	0
P. L. ROHRER & BRO., INC.	SMOKETOWN	PA	86	1	0	0
PLANTATION PRODUCTS	NORTON	MA	9	0	0	0
SEEDS OF CHANGE	COMPTON	CA	2	0	0	0
SEEDWAY, LLC	HALL	NY	134	1	0	0
SHIRK'S ANIMAL HEALTH SUPPLY, LLC	NARVON	PA	12	0	0	0
THE PAGE SEED COMPANY	GREENE	NY	1	0	0	0
W. ATLEE BURPEE CO.	WARMINSTER	PA	1,207	30	0	0
		Total	1,580	35	0	0

Agricultural Seeds Wholesale Distributors			Agricultural Seeds			
			CL	SV	TV	MV
ADVANTA U.S.	HEREFORD	TX	0	1	0	0
AGRIGOLD	SAINT FRANCISVILLE	IL	2	0	0	0
ALLIANCE SEEDS, INC.	BROOKLYN	NY	4	0	0	0
AMERICAN SEED CO., INC.	SPRING GROVE	PA	2	0	0	0
AUGUSTA SEED	VERONA	VA	0	1	0	0
BAYER ADVANCED ,B.U. OF BAYER CROPSCIENCE LP	RESEARCH TRIANGLE PARK	NC	4	0	0	0
BFG SUPPLY CO.	BURTON	OH	15	1	0	0
BFG SUPPLY DBA WETSEL	HARRISONBURG	VA	3	1	0	0
BFG SUPPLY DBA WETSEL, INC.	CHESWICK	PA	44	7	0	1
BYRON SEEDS LLC	ROCKVILLE	IN	1	1	0	0
CAPE HORN COUNTRY	RED LION	PA	0	1	0	0
CENTRAL FARM AND GARDEN	WOOSTER	OH	2	0	0	0
CHAMPAIGN COUNTY SEED CO, LLC	SAINT JOSEPH	IL	1	0	0	0
CHEMGRO SEEDS	REEDSVILLE	PA	1	0	0	0
CHEMGRO SEEDS	EAST PETERSBURG	PA	4	0	0	0
DAIRYLAND SEED	WOODLAND	CA	1	0	0	0
DLF PICKSEED	HALSEY	OR	2	0	0	0
EAGLE SEED CO.	WEINER	AR	0	1	0	0
EDDIE MERCER AGRI SERVICES, INC.	FREDERICK	MD	7	0	0	0
ERNST CONSERVATION SEED	MEADVILLE	PA	1	0	0	0
F M BROWNS SONS, INC.	SINKING SPRING	PA	5	0	0	0
FERTRELL COMPANY, THE	BAINBRIDGE	PA	0	1	0	0

Agricultural Seeds Wholesale Distributors			Agricultural Seeds			
			CL	SV	TV	MV
FRANKFERD FARMS FOOD, INC.	SAXONBURG	PA	2	1	0	0
GROWMARK	MILFORD	DE	1	0	0	0
GROWMARK FS, LLC	YORK	PA	18	1	0	0
GROWMARK FS, LLC	MILFORD	DE	2	0	0	0
GROWMARK FS, LLC	MILFORD	DE	9	0	0	0
HADLEY SEED FARM	HADLEY	PA	3	1	0	0
HILLTOP SEEDS	SHIPPENVILLE	PA	0	0	0	1
HISTANDS SUPPLY	WYCOMBE	PA	5	1	0	0
HORST HYBRID SEEDS	CHAMBERSBURG	PA	1	0	0	0
JERSEY SEED INC.	NEW BRUNSWICK	NJ	0	1	0	0
JUDSONS, INC.	COLUMBIA CROSS ROADS	PA	1	0	0	0
KING'S AGRI SEEDS, INC.	RONKS	PA	19	5	1	0
LA CROSSE FORAGE & TURF SEED, LLC DBA LA CROSSE SEE	LA CROSSE	WI	0	1	0	0
LEABROOK AG	LANCASTER	PA	10	3	0	0
LOVELAND PRODUCTS INC	GREELEY	CO	4	0	0	0
MASTERS CHOICE INC	ANNA	IL	1	0	0	0
MID-ATLANTIC SEEDS INC	YORK	PA	12	2	1	0
MIDWESTERN BIO-AG	BLUE MOUNDS	WI	0	1	0	0
MONSANTO COMPANY	ST LOUIS	MO	12	1	0	0
NORM'S FARM STORE	WATSONTOWN	PA	1	0	0	0
NORTHAMPTON COUNTY SEED CO.	NAZARETH	PA	12	0	0	0
P L ROHRER & BRO., INC.	SMOKETOWN	PA	19	4	0	0
POND SEED COMPANY	SCOTT	OH	1	0	0	0
PREFERRED SEED COMPANY, INC.	BUFFALO	NY	5	0	0	0
RAGAN & MASSEY, INC.	PONCHATOULA	LA	2	0	0	0
SCHLESSMAN SEED CO.	MILAN	OH	1	0	0	0
SEEDWAY, LLC	HALL	NY	68	3	0	2
SEMICAN INTERNATIONAL, INC.	PLESSISVILLE	QC	1	1	0	0
SOUTHERN STATES COOP, INC.	RICHMOND	VA	2	0	0	0
T. A. SEEDS, LLC	JERSEY SHORE	PA	1	0	0	0
W. ATLEE BURPEE CO.	WARMINSTER	PA	1	0	0	0
W. I. MILLER & SONS	FARMDALE	OH	5	0	0	0
W-L RESEARCH	NAMPA	ID	2	0	0	0
WALKER SUPPLY, INC.	CORAOPOLIS	PA	1	0	0	0
WILLOWDALE FARMS	JEFFERSON	MD	1	0	0	0
WINFIELD SOLUTIONS, LLC	ST PAUL	MN	4	0	0	0
		Total	326	41	2	4

Flower Seeds Wholesale Distributors			Flower Seeds			
			CL	SV	TV	MV
BOTANICAL INTERESTS, INC.	BROOMFIELD	CO	1	0	0	0
CROSMAN SEED CORP.	EAST ROCHESTER	NY	1	0	0	0
MICHELL CO, HENRY F.	KING OF PRUSSIA	PA	86	7	0	0
P. L. ROHRER & BRO., INC.	SMOKETOWN	PA	15	1	0	0
PLANTATION PRODUCTS	NORTON	MA	7	1	0	0
SEEDWAY, LLC	HALL	NY	28	0	0	0
W. ATLEE BURPEE CO.	WARMINSTER	PA	386	14	0	0
		Total	524	23	0	0

Feed Wholesale Distributors			Feed			
			CL	SV	TV	MV
A.J. FEEDS	NORTHERN CAMBRIA	PA	2	0	0	0
ALBION MILL	ALBION	PA	2	0	0	0
AMERICAN SEED CO., INC.	SPRING GROVE	PA	1	0	0	0
BARNETT FARMS	COUDERSPORT	PA	2	0	0	0
CHATHAM RUN FEED MILL, INC.	LOCK HAVEN	PA	1	0	0	0
CURWENSVILLE FEED STORE, INC.	CURWENSVILLE	PA	1	0	0	0
ERIE CRAWFORD COOP	UNION CITY	PA	1	0	0	0
GOLDENFEAST, INC.	PHOENIXVILLE	PA	2	0	0	0
HADLEY SEED FARM	HADLEY	PA	1	0	0	0
LEBANON SEABOARD CORP.	LEBANON	PA	2	0	0	0
MASTER FEED & GRAIN, INC.	CONNEAUTVILLE	PA	4	0	0	0
NEIGER MILLING COMPANY, H.W.	LAKE CITY	PA	1	0	0	0
OESTERLING'S FEED COMPANY	GROVE CITY	PA	2	0	0	0
SEREDAY'S TRUE VALUE	WEST MIDDLESEX	PA	4	0	0	0
ST. CLAIR FEED MILL	BOSWELL	PA	1	0	0	0
THE FEED STORE	HARRISBURG	PA	3	0	0	0
TOWN & COUNTRY COOP	SEVILLE	OH	1	0	0	0
TYRONE MILLING	TYRONE	PA	1	0	0	0
VERSELE LAGA C/O CAVALOR	DEINZE		1	0	0	0
WEST YORK AGWAY	YORK	PA	1	0	0	0
		Total	34	0	0	0

Health Food Wholesale Distributors			Health Food			
			CL	SV	TV	MV
FRANKFERD FARMS FOOD, INC.	SAXONBURG	PA	2	1	0	0
		Total	2	1	0	0

Pasture Mix Wholesale Distributors			Pasture Mix			
			CL	SV	TV	MV
ALFOREX SEEDS, LLC	WOODLAND	CA	0	1	0	0
BARENBRUG U.S.A.	TANGENT	OR	1	0	0	0
CENTRAL FARM AND GARDEN	WOOSTER	OH	1	0	0	0
COVER CROP SOLUTIONS, LLC	LITITZ	PA	1	0	0	0
KING'S AGRI SEEDS, INC.	RONKS	PA	4	0	0	0
PREFERRED SEED COMPANY, INC.	BUFFALO	NY	1	0	0	0
RAGAN & MASSEY, INC.	PONCHATOULA	LA	0	1	0	0
		Total	8	2	0	0

Flower Mix Wholesale Distributors			Flower Mix			
			CL	SV	TV	MV
PLANTATION PRODUCTS	NORTON	MA	2	0	0	0
W. ATLEE BURPEE CO.	WARMINSTER	PA	6	0	0	0
		Total	8	0	0	0

Vegetable Mix Wholesale Distributors			Vegetable Mix			
			CL	SV	TV	MV
BOTANICAL INTERESTS, INC.	BROOMFIELD	CO	1	0	0	0
PLANTATION PRODUCTS	NORTON	MA	1	0	0	0
W. ATLEE BURPEE CO.	WARMINSTER	PA	42	4	0	0
		Total	44	4	0	0

Conservation Mix Wholesale Distributors			Conservation Mix			
			CL	SV	TV	MV
KING'S AGRI SEEDS, INC.	RONKS	PA	1	0	0	0
SOUTHERN STATES-WESTFIELD	WESTFIELD	MA	0	2	0	0
		Total	1	2	0	0

Lawn Mix Wholesale Distributors			Lawn Mix			
			CL	SV	TV	MV
BFG SUPPLY DBA WETSEL, INC.	CHESWICK	PA	2	1	0	0
CENTRAL FARM AND GARDEN	WOOSTER	OH	1	1	0	0
CENTRAL TURF & IRRIGATION SUPPLY	ELMSFORD	NY	0	1	0	0
CHEMGRO SEEDS	EAST PETERSBURG	PA	2	0	0	0
D.L.F. PICKSEED	HALSEY	OR	0	1	0	0
FISHER & SON COMPANY, INC.	EXTON	PA	2	0	0	0
GENESIS TURFGRASS, INC.	GLEN ROCK	PA	1	2	0	0
GREENLEAF TURF SOLUTIONS	NEWARK	DE	0	1	0	0
GROWMARK F.S., LLC	YORK	PA	0	1	0	0

Lawn Mix Wholesale Distributors			Lawn Mix			
			CL	SV	TV	MV
HARRELL'S LLC	LAKELAND	FL	3	0	0	0
HODGES RASH COMPANY, INC.	MCKEES ROCKS	PA	2	0	0	1
J.R. SIMPLOT, DBA JACKLIN SEED	LIBERTY LAKE	WA	1	1	0	0
JERSEY SEED, INC.	NEW BRUNSWICK	NJ	1	1	0	1
JOHN DEERE LANDSCAPE/LESCO, INC.	CLEVELAND	OH	0	1	0	0
LEBANON SEABOARD CORP.	LEBANON	PA	1	4	0	0
LESCO, INC.	CLEVELAND	OH	5	5	0	0
MID-ATLANTIC SEEDS, INC.	YORK	PA	0	2	0	0
NORTHAMPTON COUNTY SEED CO.	NAZARETH	PA	0	1	0	0
PENNINGTON SEED	LEBANON	OR	2	0	0	0
REED & PERRINE	TENNENT	NJ	1	0	0	0
SEEDWAY, LLC	HALL	NY	4	0	0	0
SEETON TURF WAREHOUSE, LLC	MT LAUREL	NJ	5	0	0	0
SOUTHERN STATES-WESTFIELD	WESTFIELD	MA	1	3	0	0
WALKER SUPPLY, INC.	CORAOPOLIS	PA	1	0	0	2
		Total	35	26	0	4

Number of Samples per fiscal Year

(July 1st - June 30th)

