

2016

Annual Seed Regulatory Report



Office of
Indiana State Chemist & Seed Commissioner
175 S. University Street
Purdue University
West Lafayette, Indiana 47907-2063

Robert D. Waltz, Ph.D.
State Chemist & Seed Commissioner

Donald B. Robison
Seed Administrator

**2016
Indiana Seed Regulatory Program
Annual Report**



Table of contents

2	Welcome Letter
3	Enforcement Action Taken in 2016
4	Our Presence in Indiana
5	The Indiana Seed Industry
5	Seed Distribution in Indiana
7	Professional Affiliations
8	Analysis and Testing Methods
9	Our People – Seed Regulatory Program Staff
10	Detailed Summary of Analyses by Company

Indiana Seed Control 2016 Annual Report

Presented here within is the 2016 annual report of the Office of Indiana State Seed Commissioner. It represents a summary of official inspectional activities related to seed control in Indiana, as well as laboratory analyses performed on official samples collected under the authority of Indiana Seed Law for agricultural and vegetable seeds distributed in Indiana.



The activities of our seed regulatory program revolve around our mission statement: ***“Provide education and service to consumers of seed and the seed industry and assure a quality product is available in the marketplace and truthfully represented.”***

The Indiana Seed Law is a “truth-in-labeling” law requiring basic quality factors to be expressed to represent a level of quality to potential purchasers and consumers. The purpose of the law is to provide the consumers with adequate information, through fair and consistent labeling, to make intelligent purchases of agricultural and vegetable seed products.

The inspection staff of the Indiana State Chemist and Seed Commissioner provides marketplace surveillance throughout the state through inspectional visits to all retail sales outlets offering seed products for sale. These products routinely consist of various agricultural crop seeds, forage seeds, lawn and turf seeds, and vegetable seed kinds. Samples are obtained through official sampling methods and are analyzed in the Indiana State Seed Laboratory to determine compliance with labeled guarantees.

Our office is a charter member of the Association of American Seed Control Officials (AASCO) and the Association of Official Seed Analysts (AOSA) and we abide by the rules and protocols established by those associations. This report accurately reflects the dedication to our statutory responsibilities to enforce the Indiana Seed Law and provide consumer protection to Indiana farmers, consumers and seedsmen.

Prepared and Submitted By:

A handwritten signature in black ink, appearing to read 'Donald B. Robison'.

Donald B Robison
Seed Administrator



ENFORCEMENT ACTIONS ...

Providing education, service and protection to Indiana consumers and industry to assure quality seed products of the highest integrity are truthfully represented and available in the marketplace

- **OUR PURPOSE**

The Indiana Seed Law (IC 15-15-1) is administered by the Office of Indiana State Chemist & Seed Commissioner. The purpose of the law is twofold: First, to give the purchaser sufficient information to enable him to buy good seed, and second, to protect the honest and reliable seedsman and the farmer from unscrupulous dealers. Our field, laboratory and office staffs strive to carry out our mission in administration and enforcement of the Act.

- **ENFORCEMENT ACTION TAKEN IN 2016**

Enforcement action initiated in 2016 was dictated by the seriousness of the violations found as a result of either laboratory analysis or inspectional observations discovered during facility inspections.

Official Samples Tested in 2013:	1,603	
Official Samples Passing:	1,540	(96.1%)
Samples Deficient:	63	(3.9%)
Samples Voided and/or Cancelled:	6	
Samples Reported in Detail:	1,597	

Breakdown of 2016 Violations:

Minor Violations Based on Product Analysis: (Relabeling Orders):	28	(1.7%)
Serious Violations Based on Product Analysis: (Stop Sale Orders):	34	(2.1%)
Technical Violations Based on Product Analysis:	1	(0.01%)
Inspector-Issued Stop Sale Orders:	43	

Laboratory analysis done to verify label claims of “mechanical purity” (included Pure Seed %, other crop seed %, inert matter %, weed seed %, noxious weed seed), seed count, and “viability” (germination, hard seed and dormancy). Additional claims evaluated included genetic trait verification for glyphosate tolerance (by lateral flow immunoassay) and Bt traits including Cry1Ab, Cry3Bb, and Cry34, MCry3A, and Cry1F (utilizing lateral flow immunoassay test kits).

** Relabeling orders issued against seed lots classified as “minor” violations as a result of laboratory analysis*

*** Stop sale action taken against seed lots classified as “serious” violations as a result of laboratory analysis*

- **USDA FEDERAL SEED ACT ENFORCEMENT**

Samples were collected and shipped to USDA, Gastonia NC for Trueness To Variety Testing (TTV). Eight lots of vegetable seed were involved in this TTV testing and all varieties were found to be correctly packaged and labeled.

Two Warning Letters were sent to companies shipping interstate seed into or out of Indiana. In both cases the Apparent Violation was resolved quickly by the seed companies involved.

OUR PRESENCE IN INDIANA ...

The Indiana Seed Commissioner was established in 1921 with the passage of House Bill No. 99 which was signed into law on February 24, 1921 to create the Indiana Seed Law, a “truth-in-labeling” law.



Seed testing facilities were established at Purdue University following passage of that first law to provide support to enforcement activities conducted under the authority of the law. Testing services were also provided for residents and consumers of the state to assess seed quality on seed purchased and grown by farmers.



State Seed Laboratory, Today

The Office of Indiana State Chemist and Seed Commissioner (OISC) is located on the campus of Purdue University and housed in the Biochemistry Building in the College of Agriculture. This proximity to faculty, researchers and extension staff in the various agricultural sciences is beneficial in providing information on new technologies constantly emerging in the regulated industries OISC comes in contact with.



*Biochemistry Building
175 S. University Street, Purdue University
West Lafayette, IN 47907-2063*

THE INDIANA SEED INDUSTRY

Number of Indiana Seed Permit* holders: **297**

(Both in-state and out-of-state distributors)

(* distributors marketing seed under their private label)

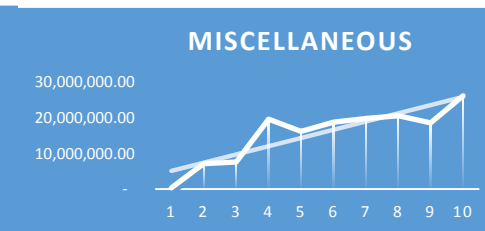
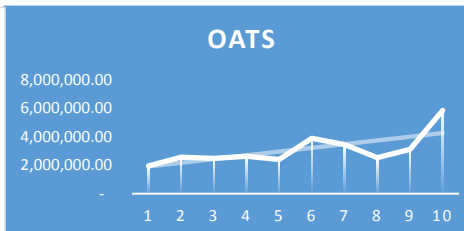
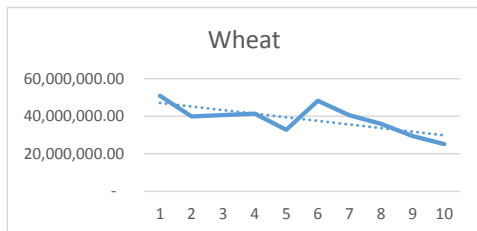
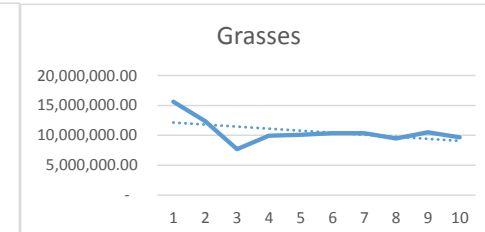
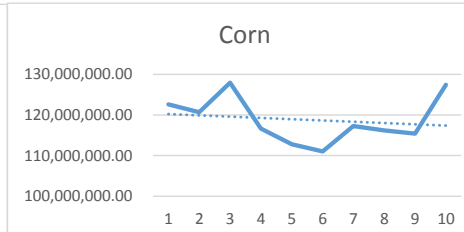
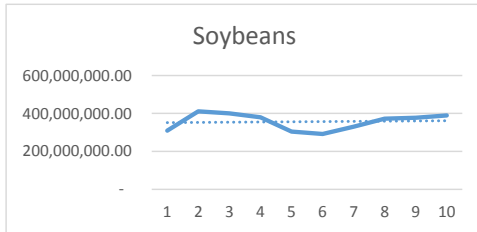
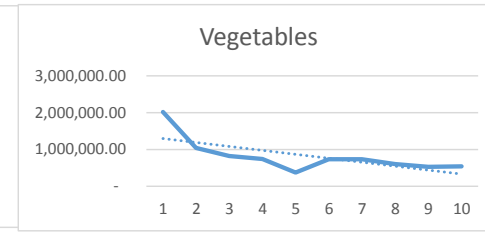
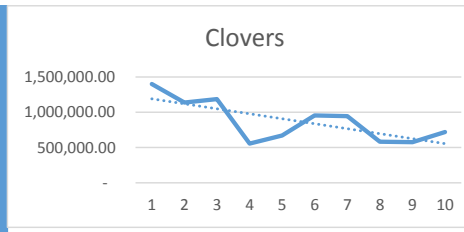
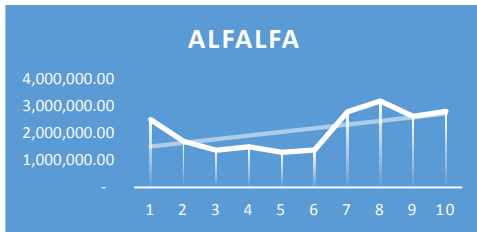
SEED DISTRIBUTION IN INDIANA

The table on the next page illustrates a breakdown of reported pounds of agricultural and vegetable seeds distributed in Indiana on which inspection fees were paid during the calendar years of 2007 to 2016. These figures and categories reported represent those specified on the quarterly reports submitted from all permit holders licensed to do business in Indiana, as required by the Indiana Seed Law.

The law requires all distributors who cause seed to be distributed in the state to report total sales made. Inspection fees are assessed based on the kind and amount of seed sold. Current fees assessed on total distribution are 30 cents/100 pounds sold for alfalfas, clovers, grasses and vegetables, and 15 cents/100 pounds sold for all other seeds.

Seed Distribution Report
Ten Year

Seed	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Alfalfa	2,508,800.00	1,710,300.00	1,373,000.00	1,503,000.00	1,299,500.00	1,385,900.00	2,796,000.00	3,197,650.00	2,632,000.00	2,818,360.00
Clovers	1,400,600.00	1,137,100.00	1,187,300.00	556,200.00	671,100.00	954,400.00	946,100.00	582,000.00	575,400.00	718,504.00
Vegetables	2,018,400.00	1,043,000.00	824,000.00	741,700.00	373,100.00	737,500.00	737,500.00	601,000.00	526,400.00	538,153.00
Grasses	15,621,900.00	12,362,700.00	7,685,000.00	9,937,500.00	10,095,000.00	10,353,400.00	10,353,400.00	9,468,000.00	10,503,000.00	9,664,594.00
Corn	122,634,100.00	120,663,000.00	127,947,500.00	116,644,100.00	112,816,900.00	111,039,000.00	117,270,700.00	116,224,000.00	115,441,800.00	127,427,645.00
Soybeans	309,458,700.00	411,191,700.00	401,144,500.00	379,302,100.00	304,384,800.00	291,915,700.00	329,752,700.00	372,345,700.00	377,653,900.00	389,585,289.00
Wheat	50,912,200.00	39,916,200.00	40,705,000.00	41,342,800.00	32,746,100.00	48,204,100.00	40,468,300.00	36,009,100.00	29,464,400.00	25,164,329.00
Oats	1,953,500.00	2,570,300.00	2,479,000.00	2,632,600.00	2,400,700.00	3,893,300.00	3,459,800.00	2,529,800.00	3,112,300.00	5,858,697.00
Miscellaneous	336,400.00	7,128,800.00	7,598,000.00	19,610,000.00	16,206,000.00	18,781,100.00	19,820,900.00	20,583,500.00	18,594,500.00	26,173,506.00



PROFESSIONAL AFFILIATIONS ...

The Office of the Indiana Seed Commissioner maintains membership in national seed organizations and associations and agreements with federal agencies.

AASCO (Association of American Seed Control Officials)

The Seed Commissioner's office participates as an active member of AASCO. The Association of American Seed Control Officials is an organization of seed regulatory officials from the United States and Canada. The Association was organized in 1949, from an outgrowth of regional meetings held in various parts of the United States. The members meet annually to discuss mutual concerns of seed law enforcement, to be updated on new developments in the seed industry, and to update the Recommended Uniform State Seed Law (RUSSL) which the organization developed and maintains as a "model" law for states and federal programs.

AOSA (Association of Official Seed Analysts, Inc.)

The State Seed Laboratory is a member of the Association of Official Seed Analysts, Inc., (AOSA) a national body responsible for development of uniform testing rules utilized in the U.S. and Canada and recognized internationally. AOSA was formed in 1908 in response to initial attempts by individual states to develop seed laws. This was the beginning of regulated seed commerce in the United States. Initial priorities included, as was defined in the constitution, an attempt to seek uniformity and accuracy in methods, results, and reports. It set as its objective an effort to perfect and make publicly known, through publication, uniform rules for seed testing. Primary functions include:

- Establish the AOSA Rules for Testing Seeds which are generally adopted by most states as the rules for testing seeds in their respective states ;
- Contribute to the refinement and modification of the rules and procedures for seed testing ;
- Ensure that testing procedures are standardized between analysts and between laboratories;
- Influence and assist in enforcement of appropriate seed legislation at state and federal levels

USDA Seed Regulatory & Testing Branch

The Indiana Seed Commissioner's Office maintains Cooperative Agreement #12-25-A-3330 with the USDA Seed Regulatory and Testing Branch for mutual assistance and cooperation in regulatory matters pertaining to seed shipped into the state from out-of-state vendors. The federal agency authorizes the State Seed Commissioner to sample seed and inspect records pertaining to seed shipments made into Indiana subject to the Federal Seed Act. The Federal Seed Act, by virtue of its basic similarity to the Indiana Seed Law, supplements the State Law.

ANALYSIS & TESTING METHODS

The Indiana State Seed Laboratory is an active member of the Association of Official Seed Analysts (AOSA) and the methods used for sample preparation and analysis are those approved by the Association. Under such “Rules for Testing Seeds” a standard analysis has been developed in conjunction with the enforcement of labeling laws that furnishes information as to the composition of the seed sample and the ability of the seed to produce plants. The rules, which are routinely followed, summarize and make available the accumulated experience of seed analysts.



The laboratory also offers a service testing program available to the general public. Individuals and/or companies requesting analysis information may submit samples to the laboratory for testing and specify the type of test or tests desired (purity, germination, noxious weed seed exam). Testing fees are \$6 per sample for individual purity, germination and/or identification tests, and \$10 per sample for complete tests (purity, germination, noxious weed exam). Detailed reports of analysis are furnished to the sender at the completion of the testing.

OUR PEOPLE...

Minoo Faghihi – Registered Seed Technologist



Minoo was hired in February 2005 as an analyst to specialize in seed purity testing in the laboratory and provides valuable assistance in seed purity testing in the laboratory. She obtained her accreditation from AOSA as a Certified Seed Analyst in germination testing in April 2012 and her purity accreditation in February 2013.

Minoo is retired and helps the lab during seasonal busy times. We are very happy to have Minoo back to help us with her tremendous knowledge and experience.

Jodi Small - Certified Seed Analyst



Jodi was hired in March 2005 as an analyst to specialize in germination testing for the laboratory. In her present role her main focus is viability testing, conducting warm germination tests on both agricultural and vegetable crop kinds. Jodi obtained her accreditation from AOSA as a Certified Seed Analyst in germination testing in April 2011. Jodi has a Masters of Education from Indiana State University. She currently is continuing her education while working toward the purity portion of accreditation.

Teresa Thompson – Laboratory Technician VII



Teresa began her Purdue career in 2004 working in the Department of Horticulture as a lab technician. She was hired by the Seed Laboratory in January 2011 as a secretary to the Seed Laboratory and Seed Administrator. In her role she is responsible for data entry of all sample information and official seed reports. Teresa has a BS in Agriculture from Purdue University. She assists with visitors, those who send in samples or phone in with questions. She also is trained to help with germination testing and supervising student workers.

Jessica McVay – Laboratory Coordinator/Feed Microscopist/Registered Seed Technologist



Jessica was hired in August 2012 in the laboratory as a Seed Analyst/Feed Microscopist. She holds a BS in Interdisciplinary Biology with a minor in Forensic Science and Sociology from Purdue University. Her Role in the laboratory is to help direct the lab staff in both purity and germination and provide microscopic analysis on animal feed and bird feed products. Her new role of Laboratory Coordinator in June 2016 has her providing leadership to the lab staff and helping direct the workflow.

Emily Morrison- Certified Seed Analyst



Emily was hired January 2016 as a Seed Analyst. Her primary role in the lab is to perform physical purity and germination. In 2016 Emily obtained certification in germination testing through AOSA and will pursue certification in physical purity. Before starting in the seed lab she has had previous experience in seed quality testing with Dow AgroScience. She graduated from Purdue University with a BS in Natural Resources and Environmental Science.

Table I

Classification of samples by kind and numbers of tests involved.

Number of Samples	Kinds	Purity	Noxious Weed Examinations	Germinations*
931	Vegetable	2	2	968
1,842	Agricultural	1,172	1,152	1,857
380	Flower	0	0	387
0	Tree	0	0	0
2	Feed	0	0	2
0	Health Food	0	0	0
34	Pasture Mix	12	9	36
32	Flower Mix	0	3	29
0	Vegetable Mix	0	0	0
0	Conservation Mix	0	0	0
0	Vegetable Kit	0	0	0
82	Lawn Mix	82	64	85
47	Unidentified	3	5	38
3,350	Totals	1,271	1,235	3,402

Other Tests	
Interstate Noxious Weed Test	0
Treated Germination Test	0
Cold Test	0
Sand Test	0
Roundup® Ready Test	1
Tetrazolium Test	0
Endophyte Test	0
Ryegrass Fluorescence Test	0
Oats Fluorescence Test	0
Identification Test	5
Miscellaneous Test	0
400 Seed Count Test	0
Seed Count Test	111
Canada Noxious Weed Test	0
Mechanical Seed Count Test	0
Total Tests	6,025

* Includes preliminary and final seedling counts.

SEED ACT ENFORCEMENT

In the enforcement of the Seed Act, Plant Industry Inspectors visit wholesale and retail firms to inspect seed labeling and obtain samples for testing. The inspectors collected 1,597 seed samples. A total of 72 or 4.51 % of these samples were found to be in violation of the Act. The inspectors also placed 34 lots of seed (1,886 containers) under 'Stop Sale' at 27 locations. These '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.

Kinds	Number of Samples*	% Violations	
		1/1/2016 - 12/30/2016	
Vegetable	494	5.26 %	
Agricultural	1,031	3.39 %	
Pasture Mix	9	33.33 %	
Lawn Mix	63	12.70 %	
Totals	1,597	4.51 %	

* Samples collected by seed inspectors 1/1/2016 - 12/30/2016

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
Arugula	1	1	0	0	0	0	0.00 %
Bean, Garden	28	28	0	0	0	0	0.00 %
Bean, Lima	4	3	1	0	0	1	25.00 %
Beets	8	8	0	0	0	0	0.00 %
Bluegrass, Kentucky	1	1	0	0	0	0	0.00 %
Broccoli	5	4	0	0	1	1	20.00 %
Brussels-Sprouts	2	1	0	0	1	1	50.00 %
Cabbage	15	12	3	0	0	3	20.00 %
Cantaloupe	2	1	1	0	0	1	50.00 %
Carrot	17	17	0	0	0	0	0.00 %
Cauliflower	2	2	0	0	0	0	0.00 %
Celery	3	3	0	0	0	0	0.00 %
Collards	5	5	0	0	0	0	0.00 %
Corn, Sweet	18	17	0	0	1	1	5.56 %
Cornsalad	1	0	0	0	1	1	100.00 %
Cowpea	2	2	0	0	0	0	0.00 %
Cucumber	10	10	0	0	0	0	0.00 %
Eggplant	3	1	2	0	0	2	66.67 %
Endive	3	3	0	0	0	0	0.00 %
Fennel	1	1	0	0	0	0	0.00 %
Kale	5	5	0	0	0	0	0.00 %
Kale, Siberian	1	1	0	0	0	0	0.00 %
Kohlrabi	4	4	0	0	0	0	0.00 %
Leek	2	2	0	0	0	0	0.00 %
Lettuce	30	26	4	0	0	4	13.33 %
Muskmelon	2	2	0	0	0	0	0.00 %
Mustard	3	3	0	0	0	0	0.00 %
Mustard, Black	1	1	0	0	0	0	0.00 %
Okra	2	2	0	0	0	0	0.00 %
Onion	9	6	2	0	1	3	33.33 %
Parsley	2	0	1	0	1	2	100.00 %

Seed Kind Tested	Vegetable Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Parsnip	3	0	3	0	0	3	100.00 %
Pea, Garden	10	10	0	0	0	0	0.00 %
Pepper	7	7	0	0	0	0	0.00 %
Pepper, Hot	1	1	0	0	0	0	0.00 %
Radish	11	10	1	0	0	1	9.09 %
Rutabaga	1	0	1	0	0	1	100.00 %
Spinach	5	4	0	0	1	1	20.00 %
Squash	1	1	0	0	0	0	0.00 %
Sweet Corn	1	1	0	0	0	0	0.00 %
Swiss Chard	1	1	0	0	0	0	0.00 %
Tomato	13	13	0	0	0	0	0.00 %
Turnip	4	4	0	0	0	0	0.00 %
Watermelon	4	4	0	0	0	0	0.00 %
Total	254	228	19	0	7	26	10.24 %

Seed Kind Tested	Agricultural Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Alfalfa	17	15	2	0	0	2	11.76 %
Barley	2	2	0	0	0	0	0.00 %
Bean, Garden	3	3	0	0	0	0	0.00 %
Beet, Sugar	1	1	0	0	0	0	0.00 %
Bluegrass, Kentucky	32	27	3	0	2	5	15.63 %
Brassica	1	1	0	0	0	0	0.00 %
Buckwheat	1	0	0	0	1	1	100.00 %
Canada Wild Rye	1	1	0	0	0	0	0.00 %
Carrot	1	1	0	0	0	0	0.00 %
Chicory	1	0	0	0	1	1	100.00 %
Clover	1	1	0	0	0	0	0.00 %
Clover, Alsike	1	0	0	0	1	1	100.00 %
Clover, Crimson	8	6	0	1	1	2	25.00 %
Clover, Ladino White	1	0	0	0	1	1	100.00 %
Clover, Red	4	1	0	0	3	3	75.00 %
Clover, White	3	2	1	0	0	1	33.33 %
Corn, Hybrid Field	4	4	0	0	0	0	0.00 %
Corn, Refuge	1	1	0	0	0	0	0.00 %
Corn, Sweet	2	1	1	0	0	1	50.00 %
Fescue, Chewings	2	2	0	0	0	0	0.00 %
Fescue, Creeping Red	18	13	1	0	4	5	27.78 %
Fescue, Meadow	2	1	1	0	0	1	50.00 %

Seed Kind Tested	Agricultural Seeds						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Fescue, Tall	51	47	1	0	3	4	7.84 %
Festulolium	1	0	1	0	0	1	100.00 %
Fine Fescue	6	4	1	0	1	2	33.33 %
Mustard	1	1	0	0	0	0	0.00 %
Oat	23	18	3	0	2	5	21.74 %
Orchardgrass	5	3	1	0	1	2	40.00 %
Pea, Field	4	3	0	0	1	1	25.00 %
Pea, Garden	1	1	0	0	0	0	0.00 %
Radish	5	5	0	0	0	0	0.00 %
Radish, Forage	5	4	1	0	0	1	20.00 %
Rape	4	3	0	0	1	1	25.00 %
Rye	44	40	2	0	2	4	9.09 %
Ryegrass	1	1	0	0	0	0	0.00 %
Ryegrass, Annual	4	3	0	0	1	1	25.00 %
Ryegrass, Intermediate	1	1	0	0	0	0	0.00 %
Ryegrass, Perennial	36	28	4	0	4	8	22.22 %
Sorghum	1	1	0	0	0	0	0.00 %
Sorghum-Sudangrass Hybrid	2	2	0	0	0	0	0.00 %
Soybean	86	86	0	0	0	0	0.00 %
Spelt	2	2	0	0	0	0	0.00 %
Sweetclover, Yellow	1	0	0	0	1	1	100.00 %
Timothy	4	2	1	0	1	2	50.00 %
TOTAL BRASSICA SP	1	1	0	0	0	0	0.00 %
Total Ryegrass	9	8	0	0	1	1	11.11 %
Triticale	4	4	0	0	0	0	0.00 %
Turnip	2	1	1	0	0	1	50.00 %
Vetch, Hairy	2	1	0	0	1	1	50.00 %
Wheat	101	98	1	0	2	3	2.97 %
Total	514	451	26	1	36	63	12.26 %

Seed Kind Tested	Pasture Mix						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Pasture Mix	8	5	1	0	2	3	37.50 %

Seed Kind Tested	Lawn Mix						
	Total	CL	SV	TV	MV	#VIOL	%VIOL
Lawn Mix	51	43	2	0	6	8	15.69 %

Table IV

Vegetable Seeds Wholesale Distributors			Vegetable Seeds			
			CL	SV	TV	MV
APPLACRES INC	BEDFORD	IN	3	0	0	0
BAKER CREED HEIRLOOM SEED CO	MANSFIELD	MO	2	0	0	0
BEHM & HAGEMANN INC	EAST PEORIA	IL	1	0	0	0
BENDER LUMBER CO	LINTON	IN	4	0	0	0
BENTLEY SEED CO	CAMBRIDGE	NY	8	0	0	0
BFG SUPPLY CO	HARRISONBURG	VA	2	0	0	0
BIRCH ROAD GREENHOUSE	BREMEN	IN	1	1	0	0
BOTANICAL INTERESTS	BROOMFIELD	CO	3	0	0	0
BURPEE GARDEN PRODUCTS CO	WARMINSTER	PA	16	1	0	0
BUZZY INC	POTTSVILLE	PA	0	1	0	0
CAUDILL SEED COMPANY	MOREHEAD	KY	6	0	0	0
CHESTERTON FEED & GARDEN CENTER	CHESTERTON	IN	1	0	0	0
COLONIAL LANDSCAPING & GARDEN	SULLIVAN	IN	1	0	0	0
CORNUCOPIA SEEDS	FELTON	CA	2	0	0	0
COUNTRY FOLKS GREENHOUSE	BAINBRIDGE	IN	1	0	0	0
COX'S PLANT FARM	CLAYTON	IN	6	0	0	0
DAY HARDWARE	AKRON	IN	1	0	0	0
DO IT BEST FERGUSON LUMBER	VEEDERSBURG	IN	1	0	0	0
DO IT BEST REED'S HARDWARE	BLUFFTON	IN	3	1	0	0
DUNECRAFT	WARRENSVILLE HEIGHTS	OH	0	1	0	0
E & R SEED	MONROE	IN	1	1	0	0
FAMILY ROOTS NURSERY	DALE	IN	4	0	0	0
FELKE FLORIST	PLYMOUTH	IN	2	0	0	0
FRANCHI SEMENTI SPA	GRASSOBBIO	IN	1	0	0	1
G&M PET & GARDEN CENTER INC	MUNCIE	IN	2	0	0	0
GARDENS ALIVE INC	LAWRENCE	IN	2	0	0	0
GRAHAM FEED & FARM CENTER	TERRE HAUTE	IN	3	0	0	0
GRANNYS MARKET	NORTH JUDSON	IN	3	0	0	0
GURNEY'S SEED & NURSERY CO.	GREENDALE	IN	3	0	0	0
HELLER GARDEN SHOP INC	DECATUR	IN	3	0	0	0
HENDERSON REED GARDEN CENTER	FORT WAYNE	IN	3	1	0	0
HOPPE PRO HARDWARE	NORTH JUDSON	IN	1	2	0	0
HUNTINGTON NURSERY & FLORIST	HUNTINGTON	IN	3	0	0	0
JAKE'S FEED & GARDEN	VALPARAISO	IN	2	0	0	0
JENKINS FAMILY GREENHOUSES	DALE	IN	1	1	0	0
JOHNSON	HOBART	IN	2	0	0	0
KEWANNA PRO HARDWARE & SUPPLY	KEWANNA	IN	2	0	0	0
KOUNTRY GREENHOUSE	MONTGOMERY	IN	4	0	0	0
LA CROSSE FORAGE & TURF SEED LLC	LACROSSE	WI	1	0	0	0
LAKE VALLEY SEED	BOULDER	CO	7	0	0	2

Vegetable Seeds Wholesale Distributors			Vegetable Seeds			
			CL	SV	TV	MV
LEAHY'S GREENHOUSE	BEDFORD	IN	3	0	0	0
LIVINGSTON SEED COMPANY	COLUMBUS	OH	3	0	0	0
MASTERSON'S NURSERY INC	LAMAR	IN	1	0	0	0
MATTHYS FARM MARKET	SOUTH BEND	IN	1	0	0	0
MICHAELS FARM MARKET	MARION	IN	2	0	0	0
MUSALL'S LAWN & GARDEN CENTER	MONTICELLO	IN	0	2	0	0
NORTHGATE TRUE VALUE HARDWARE	ANDERSON	IN	4	0	0	0
NORWAY GARDEN AND GIFT SHOP	MONTICELLO	IN	3	0	0	0
PECKENPAUGHS NURSERY	EVANSVILLE	IN	2	0	0	0
PLANTATION PRODUCTS	NORTON	MA	32	3	0	2
PRICE'S GARDEN CTR INC	MARION	IN	3	0	0	0
RENEE'S GARDEN	FELTON	CA	6	0	0	0
SAPPER'S MARKET & GREENHOUSE	HOBART	IN	3	0	0	0
SEED SAVERS EXCHANGE	DECORAH	IA	3	0	0	0
SEEDS OF CHANGE	COMPTON	CA	5	0	0	1
SEEDWAY LLC	HALL	NY	5	0	0	0
SPRING GARDENS GREENHOUSE	MONTGOMERY	IN	4	0	0	0
STURGEON'S COUNTRY GARDEN	WASHINGTON	IN	2	0	0	0
THE GARDEN CENTER	INDIANAPOLIS	IN	2	0	0	0
THE PAGE SEED COMPANY	GREENE	NY	7	0	0	1
TURNER SEED INC OF KY	WINCHESTER	KY	0	3	0	0
URBAN FARMER LLC	WESTFIELD	IN	0	1	0	0
WALTERS SEED COMPANY	HOLLAND	MI	1	0	0	0
WEEKS SEED CO	GREENVILLE	NC	10	0	0	0
WETSEL SEED COMPANY	HARRISONBURG	VA	9	0	0	0
WINAMAC LUMBER YARD	WINAMAC	IN	2	0	0	0
		Total	225	19	0	7

Agricultural Seeds Wholesale Distributors			Agricultural Seeds			
			CL	SV	TV	MV
1ST CHOICE SEEDS	MILTON	IN	4	0	0	0
AG ALUMNI SEED	ROMNEY	IN	2	0	0	0
AGRIGENETICS INC.	INDIANAPOLIS	IN	1	0	0	0
AGRIMAXX WHEAT COMPANY	MASCOUTAH	IL	3	0	0	0
AGVENTURE INC.	KENTLAND	IN	3	0	0	0
ALLENDAN SOD CO	WINTERSET	IA	1	0	0	0
AMERI-TURF	ANDERSON	IN	3	0	0	0
AMTURF ENTERPRISES	JEFFERSON	OR	1	0	0	0
ANTLER KING TROPHY PRODUCTS	BLACK RIVER FALLS	WI	0	0	0	1
APPLEGATE'S SEED HOUSE	BROOK	IN	0	0	0	1
ARMOR SEED	WALDENBURG	AR	2	0	0	0

Agricultural Seeds Wholesale Distributors			Agricultural Seeds			
			CL	SV	TV	MV
BAKER SEED LLC	WEST SALEM	IL	2	0	0	0
BAMBAUER FERTILIZER & SEED	NEW KNOXVILLE	OH	1	0	0	0
BARENBRUG USA	TANGENT	OR	3	0	0	1
BAYER CROPSCIENCE LP	RESEARCH TRIANGLE PARK	NC	6	0	0	0
BECK'S HYBRIDS	ATLANTA	IN	8	0	0	0
BEHM & HAGEMANN INC	EAST PEORIA	IL	2	0	0	0
BIO GENE SEEDS	SARDINIA	OH	2	0	0	0
BIOLOGIC LLC	WEST POINT	MS	1	0	0	0
BIOTOWN SEEDS INC	REYNOLDS	IN	5	0	0	0
BOTANICAL INTERESTS	BROOMFIELD	CO	0	0	1	0
BRODBECK SEED INC	WABASH	IN	4	0	0	0
BURTCH SEED CO	CELINA	OH	2	0	0	0
BYRON SEEDS	ROCKVILLE	IN	16	1	0	3
BYRON SEEDS LLC	DONGOLA	IL	2	0	0	0
CAUDILL SEED COMPANY	GRANITE	OK	1	0	0	0
CAUDILL SEED COMPANY	LOUISVILLE	KY	4	0	0	1
CENTRAL CROP CARE	CRAB ORCHARD	KY	0	1	0	0
CISCO CO	INDIANAPOLIS	IN	58	2	0	4
CROP TECH INC	VINCENNES	IN	1	1	0	0
CROPLAN GENETICS	FORT DODGE	IA	1	0	0	0
DAIRYLAND SEED COMPANY	WEST BEND	WI	3	0	0	0
DAY HARDWARE	AKRON	IN	1	0	0	0
DEER CREEK SEED	ASHLAND	WI	5	0	0	1
DISCOUNT SEEDS	WATERTOWN	SD	4	1	0	0
DLF INTERNATIONAL SEEDS	HALSEY	OR	1	0	0	0
EBBERTS FIELD SEEDS INC	COVINGTON	OH	5	0	0	0
EL-PAR SEEDS	VERSAILLES	MO	1	0	0	0
FRENCH'S HYBRIDS INC	WAKEMAN	OH	1	0	0	0
GLICK SEED SERVICES	HARTSVILLE	IN	2	0	0	0
GROWMARK INC	BLOOMINGTON	IL	3	0	0	0
HARRELLS LLC	LAKELAND	FL	5	0	0	1
HURT SEED CO INC	HALLS	TN	2	0	0	0
ISCH SEEDS, LLC	BLUFFTON	IN	1	0	0	0
JONATHAN GREEN INC.	FARMINGDALE	NJ	1	0	0	0
KAUFFMAN SEEDS INC	HAVEN	KS	1	0	0	0
KINGSBURY ELEVATOR INC	LA PORTE	IN	2	0	0	0
KITCHEN SEED CO INC	ARTHUR	IL	1	0	0	0
L&M GLICK SEED	COLUMBUS	IN	2	0	0	0
LA CROSSE FORAGE & TURF SEED LLC	LA CROSSE	WI	22	2	0	0
LA CROSSE FORAGE & TURF SEED LLC	ELWOOD	IN	1	0	0	0
LAKEVIEW FARM	MIDDLETOWN	MO	1	0	0	0

Agricultural Seeds Wholesale Distributors			Agricultural Seeds			
			CL	SV	TV	MV
LESCO INC	CLEVELAND	OH	4	0	0	1
LEWIS SEED COMPANY	LOUISVILLE	KY	3	0	0	1
LIVINGSTON SEED COMPANY	COLUMBUS	OH	1	0	0	0
LORD SEED FARMS	WALTON	IN	1	0	0	1
LOVELAND PRODUCTS INC	GREELEY	CO	8	0	0	0
MARTIN SEED AND SUPPLY LLC	ELKHART	IN	3	0	0	0
MARTIN SEEDS INC	WILLIAMSPORT	IN	1	0	0	0
MCKILLIP SEEDS INC	WABASH	IN	2	0	0	0
MILLBORN SEEDS INC	BROOKINGS	SD	1	0	0	0
MONSANTO COMPANY	CREVE COEUR	MO	20	0	0	0
MOORE SEED FARM	ELSIE	MI	1	0	0	0
MT VIEW SEEDS	SALEM	OR	1	0	0	0
MYCOGEN SEEDS	INDIANAPOLIS	IN	2	0	0	0
NEXT GRO GENETICS	NAMPA	ID	1	0	0	0
NRG AGRICULTURAL SERVICES & SUPPLIES	NEW ROSS	IN	5	0	0	0
OLDS GARDEN SEED	ST PAUL	MN	2	0	0	0
PENNINGTON SEED CO	LEBANON	OR	1	0	0	0
PENNINGTON SEED CO	MADISON	GA	0	0	0	1
PENNINGTON SEED OF GREENFIELD	GREENFIELD	MO	3	0	0	0
PINNACLE AGRICULTURE DISTRIBUTION, INC	LOVELAND	CO	3	0	0	0
PIONEER HI BRED INTERNATIONAL INC	JOHNSTON	IA	23	0	0	0
PROHARVEST SEEDS	ASHKUM	IL	1	0	0	0
PURPLE RIBBON SEEDS INC	MARSHALL	IN	2	0	0	0
QUALITY SEEDS	VAUGHON	ON	0	2	0	0
RURAL KING	MATTOON	IL	4	0	0	0
RURAL KING	FRANKFORT	IN	1	0	0	0
SADDLE BUTTE AG INC	SHEDD	OR	1	1	0	0
SCOTTS COMPANY	MARYSVILLE	OH	2	1	0	0
SEED CONSULTANTS INC	WASHINGTON COURTHOUSE	OH	1	0	0	0
SEEDWAY LLC	HALL	NY	2	0	0	0
STEVENSON'S ACE HARDWARE	CRAWFORDSVILLE	IN	0	1	0	0
STEWART SEEDS INC	GREENSBURG	IN	1	0	0	0
STEYER SEEDS	OLD FORT	OH	2	1	0	0
STINE SEED COMPANY	ADEL	IA	5	0	0	0
STOCK SEED FARMS	MURDOCK	NE	1	0	0	0
SUNSTAR HYBRIDS	CULVER	IN	9	0	0	0
SUPERIOR AG RESOURCES CO-OP	HUNTINGBURG	IN	1	0	0	1
SUPERIOR SEED INC	RUSHVILLE	IN	6	0	0	0
SYNGENTA SEED INC	MINNEAPOLIS	MN	10	0	0	0
TENBARGE SEED COMPANY	HAUBSTADT	IN	3	0	0	0

Agricultural Seeds Wholesale Distributors			Agricultural Seeds			
			CL	SV	TV	MV
TURNER SEED	LAVERGNE	TN	8	0	0	1
TURNER SEED INC	ANTIOCH	TN	2	0	0	0
UNITY SEEDS LLC	LAFAYETTE	IN	2	0	0	0
WHITE RIVER COOPRTV	MITCHELL	IN	6	0	0	0
WINFIELD SOLUTIONS LLC	ST. PAUL	MN	25	0	0	0
WOLF RIVER VALLEY SEEDS	WHITELAKE	WI	1	0	0	0
WYATT SEED CO INC	PETERSBURG	IN	0	0	0	1
WYCKOFF HYBRIDS INC	VALPARAISO	IN	4	0	0	0
YERKS SEED INC	WOODBURN	IN	4	0	0	0
		Total	394	14	1	20

Pasture Mix Wholesale Distributors			Pasture Mix			
			CL	SV	TV	MV
BYRON SEEDS	ROCKVILLE	IN	2	1	0	2
CISCO CO	INDIANAPOLIS	IN	3	0	0	0
		Total	5	1	0	2

Lawn Mix Wholesale Distributors			Lawn Mix			
			CL	SV	TV	MV
AMTURF ENTERPRISES	JEFFERSON	OR	0	0	0	1
BARENBRUG USA	TANGENT	OR	6	0	0	0
BEHM & HAGEMANN INC	EAST PEORIA	IL	1	0	0	0
BFG SUPPLY CO	HARRISONBURG	VA	1	0	0	0
BONIDE PRODUCTS INC.	ORISKANY	NY	1	0	0	0
CHESTERTON FEED & GARDEN CENTER	CHESTERTON	IN	1	0	0	0
CISCO CO	INDIANAPOLIS	IN	5	0	0	1
DEER CREEK SEED	ASHLAND	WI	2	0	0	0
DLF INTERNATIONAL SEEDS	HALSEY	OR	4	0	0	0
JONATHAN GREEN INC.	FARMINGDALE	NJ	2	0	0	0
LA CROSSE FORAGE & TURF SEED LLC	LA CROSSE	WI	1	0	0	0
PENNINGTON SEED CO	LEBANON	OR	1	1	0	0
PENNINGTON SEED OF GREENFIELD	GREENFIELD	MO	1	0	0	0
PERFORMANCE SEED	ST CLOUD	MN	3	0	0	0
POWELL ACE HOME CENTER	WEST LEBANON	IN	1	0	0	0
PRINCE CORPORATION	MARSHFIELD	WI	0	1	0	2
RAGAN & MASSEY INC	PONCHATOUA	LA	0	0	0	1
SCHULTZ TURF & FORAGE SEED	DIETERICH	IL	1	0	0	1
SCOTTS COMPANY	MARYSVILLE	OH	2	0	0	0
SUSTAINABLE LOW MAINTENANCE GRASS LLC	PALM COAST	FL	1	0	0	0

Lawn Mix Wholesale Distributors			Lawn Mix			
			CL	SV	TV	MV
TENBARGE SEED COMPANY	HAUBSTADT	IN	3	0	0	0
TRI-STAR SEED CO., INC.	SPRING HILL	KS	1	0	0	0
TURNER SEED	LAVERGNE	TN	1	0	0	0
X-SEED, LLC	BECKER	MN	4	0	0	0
		Total	43	2	0	6