2004 PEST INFESTATION LEVELS ON LIMA BEANS IN DELAWARE AND EASTERN SHORE MARYLAND

Lima bean growers were asked about the severity of pest infestation they experienced for the 2004 growing season. For insects and diseases, growers were asked to rate the severity of specific pest infestation by using the following scale:

1 - No pest presence
2 - Light infestation
3 - Medium infestation
4 - Heavy infestation
5 - Severe infestation

For each pest, the number of reports, the mean of the reported pest infestation, the standard deviation, and the minimum and maximum pest infestation level reported is provided.

INSECTS

Pest	No. Rpts.	Mean	Std. Dev.	Min.	Max.
Corn earworms	29	3.62	1.2	1	5
Lygus bug species	28	2.75	1.1	1	4
Stink bugs	27	2.48	.9	1	4
Leafhoppers	29	2.38	.9	1	4
Spider mites	27	1.63	.7	1	3
Seed corn maggot	28	1.54	.7	1	3
Aphids	29	1.52	.8	1	4
Mexican bean beetles	27	1.04	.2	1	2

1 - No pest presence 2 - Light infestation 3 - Medium infestation
4 - Heavy infestation 5 - Severe infestation

DISEASES

Pest	No. Rpts.	Mean	Std. Dev.	Min.	Max.
White mold	28	3.57	1.3	1	5
Downy mildew	29	3.14	1.1	1	5
Lima bean pod blight	28	2.21	1.3	1	5
Root rots	27	1.93	1.0	1	3
Anthracnose	27	1.56	.9	1	3
Bacterial brown spot	28	1.36	.5	1	2

For weeds, growers were asked if they made any post-emergence herbicide applications in 2004. If they responded "yes", they were asked to identify weeds the herbicide application was targeted for. Of the 29 producers filling out the pest infestation survey supplement, there were 11 producers who reported a post-emergent herbicide application. From those 11 producers, here are the frequency counts reported for each weed targeted:

Lambsquarters	9	Nightshades	5
Pigweed	9	Canada thistle	5
Jimsonweed	9	Johnsongrass	4
Common cocklebur	8	Fall panicum	3
Morninggloy species	8	Pokeweed	3
Common ragweed	8	Bermudagrass	2
Crabgrass	8	Groundcherry	1
Barnyardgrass	6	Bindweed	0
Foxtails	6	Common milkweed	0
Velvetleaf	6	Yellow nutsedge	0
Horsenettle	6		

Delaware Agricultural Statistics Service, NASS, USDA
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Lima Beans, Proc.: Active Ingredients and Publication Status By Program States, 2004

Active Ingredient	Program States		
	ALL	DE	MD
Herbicides			
Alachlor	*		*
Bentazon	P	*	*
Halosulfuron	*	*	
Imazethapyr	P	P	P
Paraquat	*		*
Pendimethalin	*	*	
S-Metolachlor	P	P	P
Sethoxydim	*	*	*
Trifluralin	P	*	*
Insecticides			
Bifenthrin	*	*	
Dimethoate	*	*	
Lambda-cyhalothrin	P	P	P
Methomyl	P	*	*
Zeta-cypermethrin	P	P	P
Fungicides			
Boscalid	*	*	
Copper hydroxide	P	P	P
Mefenoxam	*	*	
Metalaxyl	*	*	
Thiophanate-methyl	P	P	P

P Usage data are published for this active ingredient.
* Usage data are not published for this active ingredient.

Lima Beans, Proc.: Pesticide, Planted Acreage, Percent of Area Receiving Applications and Total Applied Program States and Total, 2004

State	Planted Acreage	Area Receiving and Total Applied							
		Herbicide		Insecticide		Fungicide		Other	
	1,000 Acres	Percent	1,000 lbs	Percent	1,000 lbs	Percent	1,000 lbs	Percent	1,000 lbs
DE	16,300	91	18.0	88	2.7	94	30.6		
MD	500	99	0.7	91	0.2	95	1.4		
Total	16,800	91	18.7	88	2.9	94	32.0		

Lima Beans, Proc.: Agricultural Chemical Applications, Program States, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre	Pounds per Acre	1,000 lbs
Herbicides					
Bentazon	18	1.0	0.99	1.00	3.1
Imazethapyr	79	1.0	0.04	0.04	0.5
S-Metolachlor	48	1.0	0.84	0.84	6.8
Trifluralin	69	1.0	0.57	0.57	6.5
Insecticides					
Lambda-cyhalothrin	65	1.2	0.03	0.03	0.3
Methomyl	13	1.1	0.65	0.69	1.5
Zeta-cypermethrin	53	1.5	0.04	0.06	0.5
Fungicides					
Copper hydroxide	92	2.1	0.71	1.52	23.5
Thiophanate-methyl	28	1.1	1.41	1.56	7.4

[1] Planted acreage in 2004 for the 2 Program States was 16,800 acres. States included are DE and MD.

Lima Beans, Proc.: Agricultural Chemical Applications, Delaware, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre	Pounds per Acre	1,000 lbs
Herbicides					
Imazethapyr	80	1.0	0.04	0.04	0.5
S-Metolachlor	47	1.0	0.84	0.84	6.5
Insecticides					
Lambda-cyhalothrin	65	1.2	0.03	0.03	0.3
Zeta-cypermethrin	53	1.4	0.04	0.06	0.5
Fungicides					
Copper hydroxide	92	2.1	0.71	1.50	22.5
Thiophanate-methyl	27	1.1	1.41	1.57	7.0

[1] Planted acreage in 2004 for Delaware was 16,300 acres.

Lima Beans, Proc.: Agricultural Chemical Applications, Maryland, 2004 [1]

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	Percent	Number	Pounds per Acre	Pounds per Acre	1,000 lbs
Herbicides					
Imazethapyr	45	1.0	0.03	0.03	([2])
S-Metolachlor	70	1.0	0.78	0.80	0.3
Insecticides					
Lambda-cyhalothrin	62	1.1	0.03	0.03	([2])
Zeta-cypermethrin	61	1.5	0.03	0.04	([2])
Fungicides					
Copper hydroxide	95	2.5	0.84	2.12	1.0
Thiophanate-methyl	52	1.0	1.40	1.40	0.4

[1] Planted acreage in 2004 for Maryland was 500 acres.
[2] Total applied is less than 50 lbs.

Pest Management Practices,
Percent of Farms Utilizing Practice,
All Vegetables, 2004

Practice	States						
	AZ	CA	DE	FL	GA	IL	MD
	Percent of Farms	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*	*Percent of Farms*
Prevention Practices:							
No-till/minimum till used manage pests	29	23	19	22	11	17	15
Remove or plow down crop residue	81	73	86	81	77	49	94
Clean implements after fieldwork	61	62	95	84	62	40	85
Field cultivated for weed control	92	83	100	51	75	88	100
Field edges/etc, chopped, mowed/etc.	83	78	100	78	79	83	50
Water management practices	47	45	76	65	23	15	71
Avoidance Practices:							
Adjust planting/harvesting dates	37	24	65	27	25	22	65
Rotate crops to control pests	89	70	100	59	84	86	100
Planting locations planned to avoid pests	53	37	67	28	37	40	94
Grow trap crop to control insects	8	16	15	4	3	4	
Crop variety chosen for pest resistance	51	39	86	45	40	36	86
Monitoring Practices:							
Scouting by general observation	78	72	100	68	72	84	100
Deliberate scouting activites	18	26		25	25	14	
Field was not scouted	4	2		7	4	3	
Established scouting process/insect trap	61	50	76	36	28	40	100
used	15	23	60	11	9	19	20
Scouting due to pest advisory warning	18	21	73	13	11	20	19
Scouting due to pest development model	95	89	100	88	86	97	100
Scouted for weeds							
Scouting for weeds was done by:	41	45	14	79	83	64	66
Operator, partner, or family member	10	12		3	7		
An employee	25	15		1	1	1	15
Farm supply or chemical dealer	24	28	86	18	9	35	19
Indep. crop consultant or comm.	100	95	100	93	96	98	100
scout							
Scouted for insects amd mites	26	31	4	73	77	57	
Scouting for insects/mites was done by:	3	10		3	6	1	
Operator, partner, or family member	42	23		1	1		15
An employee	30	36	96	23	16	42	85
Farm supply or chemical dealer	92	92	100	92	95	98	100
Indep. crop consultant or comm.							
scout	26	33	4	73	77	55	
Scouted for diseases	4	10		3	6	1	
Scouting for diseases was done by:	40	21		1	1		15
Operator, partner, or family member	30	37	96	23	16	44	85
An employee	60	51	100	41	30	41	85
Farm supply or chemical dealer	14	16	44	16	6	18	85
Indep. crop consultant or comm.	44	47	83	50	20	14	28
scout	54	61	100	80	62	65	100
Records kept to track pests	7	22	29	10	4	8	35
Field mapping of weed problem							
Soil/plant tissue analysis to detect pests							
Weather monitoring	40	29		35	16	8	
Biological pest controls	12	21		13	2	2	
	41	37	100	25	26	32	85
Suppression Practices:	46	49	41	64	36	27	15
Biological pesticides	26	27	78	31	23	23	100
Beneficial organisms	61	52	87	53	37	31	85
Scouting used to make decisions							
Maintain ground cover or physical barriers							
Adjusted planting methods							
Alternate pesticides with different MOA							

Pest Management Practices, Percent of Acres Receiving Practice, All Vegetables, 2004

Practice	States						
	AZ	CA	*DE*	*FL*	*GA*	*IL*	*MD*
	Percent of Acres	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*	*Percent of Acres*
Prevention Practices:							
No-till/minimum till used manage pests	23	24	15	20	14	14	20
Remove or plow down crop residue	79	83	85	80	87	40	96
Clean implements after fieldwork	65	67	95	94	62	33	80
Field cultivated for weed control	94	92	100	47	86	94	100
Field edges/etc, chopped, mowed/etc.	90	90	100	89	71	91	63
Water management practices	53	44	79	83	41	38	71
Avoidance Practices:							
Adjust planting/harvesting dates	49	26	30	39	42	15	61
Rotate crops to control pests	86	84	100	58	79	81	100
Planting locations planned to avoid pests	65	37	84	37	47	23	96
Grow trap crop to control insects	4	7	13	4	2	2	
Crop variety chosen for pest resistance	68	48	91	49	46	25	85
Monitoring Practices:							
Scouting by general observation	89	86	100	83	88	88	100
Deliberate scouting activites	7	13		14	12	8	
Field was not scouted	4	*		3	*	4	
Established scouting process/insect trap used	89	71	83	67	61	59	100
Scouting due to pest advisory warning	24	30	39	20	12	43	19
Scouting due to pest development model	23	26	89	36	38	40	35
Scouted for weeds	97	91	100	92	80	99	100
Scouting for weeds was done by:							
Operator, partner, or family member	18	24	9	49	38	45	46
An employee	10	21		2	17		
Farm supply or chemical dealer	35	21		3	6	*	20
Indep. crop consultant or comm. scout	37	34	91	46	39	55	35
Scouted for insects amd mites	100	100	100	99	99	99	100
Scouting for insects/mites was done by:							
Operator, partner, or family member	7	14	2	39	33	41	
An employee	1	16		2	14	*	
Farm supply or chemical dealer	48	27		3	5		20
Indep. crop consultant or comm. scout	44	43	98	56	49	59	80
Scouted for diseases	99	98	100	99	100	100	100
Scouting for diseases was done by:							
Operator, partner, or family member	5	14	2	39	33	41	
An employee	1	15		2	13	*	
Farm supply or chemical dealer	50	27		3	5		20
Indep. crop consultant or comm. scout	45	43	98	56	49	59	80
Records kept to track pests	85	63	100	71	67	62	80
Field mapping of weed problem	16	19	67	24	8	19	80
Soil/plant tissue analysis to detect pests	68	55	39	73	52	8	39
Weather monitoring	73	77	100	93	82	75	100
Biological pest controls	10	29	55	17	8	6	51
Suppression Practices:							
Biological pesticides	83	43		50	32	6	
Beneficial organisms	12	13		14	3	1	
Scouting used to make decisions	49	44	100	52	59	50	80
Maintain ground cover or physical barriers	64	41	68	67	60	17	20
Adjusted planting methods	34	28	34	29	24	15	100
Alternate pesticides with different MOA	94	67	93	74	72	48	80

* / Less than 0.5 percent