



United States Department of Agriculture  
National Agricultural Statistics Service



# News Release

Cooperating with the Pennsylvania Department of Agriculture  
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**Results** of a recent survey are contained in this release. You can also find it on our site at [www.nass.usda.gov/pa/](http://www.nass.usda.gov/pa/) and click on the Pennsylvania Publications link.

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FOR IMMEDIATE RELEASE

## Agricultural Chemical Usage Results for Vegetables

HARRISBURG, PA, Aug 2, 2007 - - - The following displays statistics for on-farm use of commercial fertilizers, agricultural chemicals, and integrated pest management practices from producers of targeted vegetable crops. Chemical application rates listed by active ingredient are also featured in this publication. The agricultural chemical use estimates in this report focus on the acreage treated with herbicides, insecticides, fungicides, and other pesticides for selected vegetable crops. Information is provided from a survey funded by the USDA Pesticide Data Program that targeted 23 vegetable crops and 19 states. Pennsylvania was surveyed for 3 different vegetable crops: snap beans for processing, fresh market sweet corn, and pumpkins.

**Snap Beans, Processing:** Growers of processed snap beans applied nitrogen to 96 percent of the crop's acreage. Phosphate and Potash were both applied to 81 percent of the acreage, while 30 percent of the acreage received sulfur applications. Herbicide applications were reported on 95 percent of the surveyed acres. The herbicides used most were **EPTC**, applied to 39 percent of the acreage, **Trifluralin**, used on 38 percent of the acreage, and **S-Metolachlor**, applied to 35 percent of the acreage. Insecticides were applied to 73 percent of the acres. Insecticides commonly used included **Bifenthrin** on 40 percent of the acreage, followed by **Acephate** and **Zetacypermethrin**, at 16 and 11 percent coverage, respectively. Fungicides were applied to 53 percent of the acres. **Thiophanate-methyl**, used on 37 percent of the acres, was the most widely used fungicide.

**Corn, Sweet, Fresh:** Nitrogen was applied to 95 percent of the 2006 fresh market sweet corn acreage in the following Program States: California, Colorado, Florida, Georgia, Illinois, Michigan, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Texas, and Wisconsin. Phosphate, potash, and sulfur were applied to 91, 85, and 27 percent of the acreage, respectively. Herbicides were applied to 83 percent of the fresh market sweet corn acres. **Atrazine** was used on 71 percent of the acreage, followed by **S-Metolachlor** on 39 percent. Insecticides were applied to 88 percent of the acreage; **Lambda-cyhalothrin**, applied to 52 percent of the acreage; and **Chlorpyrifos** and **Thiodicarb** which were both applied to 23 percent of the acreage. Fungicides were used on 20 percent of the acres. The most commonly used fungicides were **Mancozeb** and **Propiconazole**, both of which were applied to 11 percent of the acreage.

**Pumpkins:** Nitrogen was applied to 90 percent of the pumpkin acreage in the Program States: California, Illinois, Michigan, Ohio, and Pennsylvania. Phosphate, potash, and sulfur applications were made to 63, 85, and 13 percent of the acreage, respectively. Herbicides were applied to 75 percent of the acres planted to pumpkins, while insecticide and fungicide applications were made to 79 and 75 percent of the acres, respectively. Major herbicides used included **Clomazone**, applied to 60 percent of the acreage, followed by **Ethalfuralin**, applied to 25 percent of the acreage. The more commonly used insecticides were **Bifenthrin**, **Carbaryl**, and **Endosulfan**, covering 40, 18, and 16 percent of the acreage, respectively. **Chlorothalonil** was the most widely used fungicide and was applied on 48 percent of the acreage. **Copper hydroxide** was the most utilized fungicide, applied to 28 percent of the acreage, followed by **Azoxystrobin**, on 22 percent of the acreage.

Pennsylvania: Vegetable Crops – Planted Acreage, Pesticide,  
Percent of Area Receiving Applications and Total Applied, 2006

Crop	Planted Acreage	Area Receiving and Total Applied							
		Herbicide		Insecticide		Fungicide		Other	
	<i>Acres</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>	<i>Percent</i>	<i>1,000 lbs</i>
Snap Beans, Processed	10,900	93	19.7	89	2.1	41	2.9	( )	
Sweet Corn, Fresh	20,200	95	77.3	73	10.6	22	0.6	( )	
Pumpkins	8,500	87	16.7	90	7.7	90	30.4	( )	

<sup>1</sup> Insufficient reports to publish data for pesticide class.

Pennsylvania: Fertilizer Primary Nutrient Applications, 2006

Primary Nutrient	Planted Acreage	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Acres</i>	<i>Percent</i>	<i>Number</i>	<i>Lbs per Acre</i>	<i>Lbs per Acre</i>	<i>1,000 lbs</i>
Snap Bean, Processed	10,900					
Nitrogen		98	5.9	28	164	1,755.6
Phosphate		98	6.6	39	258	2,766.3
Potash		98	5.7	43	248	2,655.7
Sulfur		36	5.0	10	48	188.9
Sweet Corn, Fresh	20,200					
Nitrogen		99	9.1	46	418	8,321.8
Phosphate		92	6.5	54	348	6,486.5
Potash		93	6.5	39	250	4,665.9
Sulfur		6	5.8	12	67	78.4
Pumpkins	8,500					
Nitrogen		88	6.4	65	413	3,085.0
Phosphate		82	5.9	68	402	2,799.9
Potash		84	5.9	68	398	2,832.7
Sulfur		4	5.0	8	40	14.2

Pennsylvania: Snap Beans, Processed – Agricultural Chemical Applications, 2006 <sup>1</sup>

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
Herbicides					
Bentazon	13	1.0	0.539	0.539	0.7
Fomesafen	13	1.2	0.255	0.297	0.4
Glyphosate iso. salt	45	1.0	1.058	1.086	5.3
Halosulfuron	59	1.0	0.029	0.029	0.2
S-Metolachlor	88	1.0	1.023	1.071	10.2
Sethoxydim	5	1.3	0.338	0.443	0.3
Insecticides					
Acephate	21	1.1	0.591	0.629	1.5
Bifenthrin	28	1.0	0.062	0.064	0.2
Fungicides					
Boscalid	22	1.0	0.313	0.320	0.8

<sup>1</sup> Planted Acreage in 2006 for Pennsylvania was 10,900 acres.

Pennsylvania: Sweet Corn, Fresh – Agricultural Chemical Applications, 2006<sup>1</sup>

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
<b>Herbicides</b>					
2, 4-D, dimeth. Salt	2	1.0	0.505	0.505	0.2
Atrazine	70	1.1	1.524	1.666	23.4
Bentazon	2	1.0	0.654	0.654	0.3
Carfentrazone-ethyl	4	1.0	0.008	0.008	( <sup>2</sup> )
Glyphosate iso. salt	6	1.0	1.105	1.105	1.4
Halosulfuron	3	1.0	0.028	0.028	( <sup>2</sup> )
Mesotrione	25	1.0	0.121	0.121	0.6
Pendimethalin	37	1.0	1.603	1.609	12.1
S-Metochlor	62	1.7	1.815	2.998	37.4
<b>Insecticides</b>					
Chlorpyrifos	5	1.6	0.715	1.147	1.2
Cyfluthrin	11	1.8	0.022	0.039	0.1
Endosulfan	4	1.2	0.870	1.081	0.8
Esfenvalerate	5	1.1	0.039	0.044	( <sup>2</sup> )
Lambda-cyhalothrin	56	2.5	0.027	0.068	0.8
Methomyl	20	2.2	0.381	0.831	3.3
Permethrin	9	1.8	0.131	0.239	0.4
Tebupirimphos	7	1.0	0.183	0.183	0.3
Tefluthrin	2	1.0	0.031	0.032	( <sup>2</sup> )
Thiodicarb	7	1.7	0.620	1.044	1.5
Zeta-cypermethrin	2	2.9	0.024	0.071	( <sup>2</sup> )
<b>Fungicides</b>					
Propiconazole	17	1.0	0.082	0.082	0.3

<sup>1</sup> Planted Acreage in 2006 for Pennsylvania was 10,900 acres. <sup>2</sup> Total applied is less than 50 lbs.

Pennsylvania: Pumpkins – Agricultural Chemical Applications, 2006<sup>1</sup>

Active Ingredient	Area Applied	Applications	Rate per Application	Rate per Crop Year	Total Applied
	<i>Percent</i>	<i>Number</i>	<i>Pounds per Acre</i>	<i>Pounds per Acre</i>	<i>1,000 lbs</i>
<b>Herbicides</b>					
Clethodim	5	1.0	0.101	0.101	( <sup>2</sup> )
Clomazone	78	1.0	0.349	0.350	2.3
Ethalfuralin	65	1.0	0.783	0.784	4.4
Glyphosate iso. salt	52	1.0	1.428	1.480	6.6
Halosulfuron	15	1.1	0.034	0.037	( <sup>2</sup> )
S-Metolachlor	10	2.4	1.032	2.455	2.1
<b>Insecticides</b>					
Bifenthrin	49	2.0	0.049	0.096	0.4
Endosulfan	59	1.1	0.752	0.855	4.3
Esfenvalerate	5	1.9	0.035	0.067	( <sup>2</sup> )
Imidacloprid	11	1.1	0.134	0.149	0.1
Lambda-cyhalothrin	11	2.1	0.024	0.050	( <sup>2</sup> )
Methomyl	12	2.2	0.395	0.879	0.9
Permethrin	7	2.9	0.157	0.456	0.3
<b>Fungicides</b>					
Azoxystrobin	16	1.5	0.153	0.234	0.3
Boscalid	52	1.1	0.015	0.017	0.1
Chlorothalonil	83	1.8	1.434	2.586	18.2
Copper hydroxide	14	1.6	0.599	0.936	1.1
Copper resinate	5	2.9	0.061	0.176	0.1
Cymoxanil	9	2.1	0.102	0.215	0.2
Famoxadone	9	2.1	0.098	0.205	0.2
Mancozeb	15	1.5	1.587	2.420	3.1
Maneb	4	1.0	1.535	1.565	0.5
Mefenoxam	4	1.5	0.839	1.269	0.4
Myclobutanil	13	2.1	0.101	0.217	0.2
Pyraclostrobin	55	2.1	0.072	0.149	0.7

<sup>1</sup> Planted Acreage in 2006 for Pennsylvania was 10,900 acres. <sup>2</sup> Total applied is less than 50 lbs.

Pest Management Practices – Percent of Farms & Percent of Acres  
Utilizing Practice, Vegetables, 2006

Practice	Percent of Farms Utilizing Practice		Percent of Acres Utilizing Practice	
	PA	Program States <sup>1</sup> 2006	PA	Program States <sup>1</sup> 2006
<b>Prevention Practices:</b>				
No-till or minimum till used to manage pests	35	25	48	28
Remove or plow down crop residue	66	63	68	71
Clean implements after field work	47	55	60	68
Field cultivated for weed control	56	70	43	76
Field edges/etc. chopped, mowed/etc.	61	59	56	72
Water management practices	28	42	39	52
<b>Avoidance Practices:</b>				
Adjust planting/harvesting dates	18	18	15	26
Rotate crops to control pests	87	79	89	81
Planting locations planned to avoid pests	48	35	54	37
Grow trap crop to control insects	4	5	8	8
Crop variety chosen for pest resistance	48	37	51	43
<b>Monitoring Practices:</b>				
Scouting by general observation	69	72	74	87
Deliberate scouting activities	27	23	24	10
Field was not scouted	4	5	2	3
Established scouting process/insect trap used	30	37	40	60
Scouting due to pest advisory warning	24	16	24	23
Scouting due to pest development model	25	17	27	25
Scouted for weeds	93	91	97	94
Scouting for weeds was done by:				
Operator, partner, or family member	87	73	74	40
An employee	2	3	2	9
Farm supply or chemical dealer	4	6	10	15
Indep. crop consultant or comm.. scout	6	8	15	25
Other	1	10	( <sup>2</sup> )	10
Scouted for insects and mites	93	93	95	97
Scouting for insects or mites was done by:				
Operator, partner, or family member	85	65	72	31
An employee	2	3	2	9
Farm supply or chemical dealer	4	8	10	17
Indep. crop consultant or comm.. scout	8	10	16	29
Other	1	14	( <sup>2</sup> )	14
Scouted diseases	87	90	85	96
Scouting for diseases was done by:				
Operator, partner, or family member	85	66	69	31
An employee	2	3	2	8
Farm supply or chemical dealer	5	8	12	17
Indep. crop consultant or comm.. scout	8	10	17	30
Other	1	14	( <sup>2</sup> )	14
Records kept to track pests	30	37	38	62
Field mapping of pest problem	13	17	26	35
Soil/plant tissue analysis to detect pests	9	16	15	45
Weather monitoring	74	59	81	78
Biological pest controls	8	7	7	15
<b>Suppression Practices:</b>				
Biological pesticides	8	10	5	28
Beneficial organisms	1	6	1	11
Scouting used to make decisions	30	35	38	53
Maintain ground cover or physical barriers	61	43	75	45
Adjusted planting methods	20	24	23	23
Alternate pesticide with different MOA	51	36	49	63

<sup>1</sup> The 19 Program States include Arizona, California, Colorado, Florida, Georgia, Illinois, Michigan, Minnesota, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, South Carolina, Tennessee, Texas, Washington, and Wisconsin. <sup>2</sup> Percentage is less than 0.5