



Wisconsin Ag News – Chemical Use

Potatoes – Fall 2022



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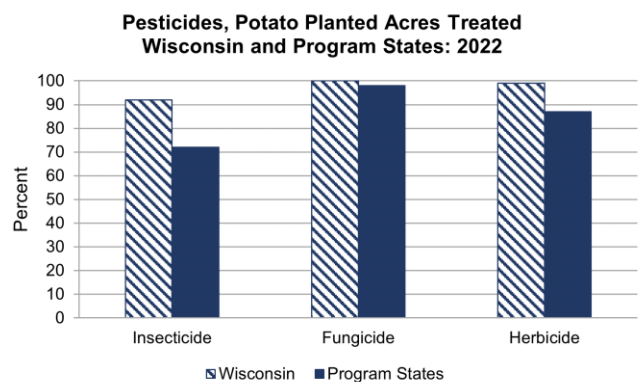
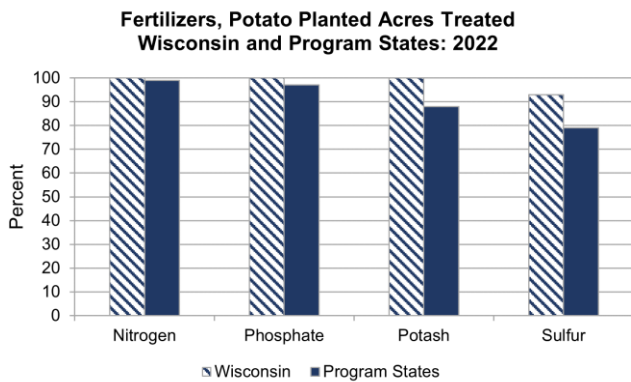
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The National Agricultural Statistics Service (NASS) Agricultural Chemical Use Program is the U.S. Department of Agriculture's official source of statistics about on-farm and post-harvest fertilizer and pesticide use and pest management practices.

In the fall of 2022, NASS collected data for the 2022 crop year, the one-year period beginning after the 2021 harvest and ending with the 2022 harvest, about chemical use and pest management practices used on potato production. The data was collected as part of the Agricultural Resource Management Survey (ARMS) and the results are presented here.

Fertilizer Use: Of the three primary macronutrients, potash was the most widely used on potato acres planted in Wisconsin. Farmers applied potash to 100 percent of planted acres at an average rate of 278 pounds per acre per year. Macronutrients nitrogen and phosphate were applied at an average rate of 182 and 92 pounds per acre per year, respectively. The secondary macronutrient, sulfur, was applied to 93 percent of acres planted to potatoes.

Pesticide Use: Fungicide active ingredients were applied to 100 percent of the potato acres planted. Chlorothalonil was the most widely used pesticide on potato acres and was the active ingredient with the greatest total amount applied. Herbicides and insecticides were applied to 99 and 92 percent of potato acres planted in Wisconsin, respectively.



Pesticide Use on Potatoes - Wisconsin and Program States: 2022

Active ingredient	Wisconsin			Program States ¹		
	Planted acres treated ² (percent)	Yearly rate (lbs per acre)	Total applied (1,000 lbs)	Planted acres treated ² (percent)	Yearly rate (lbs per acre)	Total applied (1,000 lbs)
Fungicide						
Azoxystrobin	42	0.197	6	55	0.174	80
Boscalid	52	0.315	11	25	0.279	58
Chlorothalonil	99	3.591	237	64	2.659	1,432
Mancozeb	26	4.652	82	38	3.148	1,003
Mefenoxam	37	0.357	9	48	0.264	105
Triphenyltin hydrox	46	0.341	11	11	0.281	25
Total ³	100		446	98		4,315
Herbicide						
Diquat dibromide.....	97	0.611	40	45	0.448	170
Linuron	43	0.663	19	16	0.772	104
Metribuzin	37	0.543	14	63	0.434	228
Pendimethalin.....	22	0.712	11	22	0.840	153
Rimsulfuron	44	0.018	1	28	0.028	7
S-Metolachlor	33	0.984	22	35	1.066	311
Total ³	99		151	87		1,770
Insecticide						
Abamectin	34	0.026	1	22	0.030	5
Chlorantraniliprole.....	9	0.059	(Z)	10	0.075	6
Lambda-cyhalothrin	15	0.028	(Z)	24	0.050	10
Spinetoram	28	0.066	1	4	0.076	2
Spinosad	21	0.110	2	2	0.103	2
Thiamethoxam	50	0.111	4	20	0.120	20
Total ³	92		13	72		908
Other Chemicals						
Total ³	19		1,030	26		24,972

(Z) Less than half of the unit shown.

¹ The 9 program states surveyed about Potatoes in the 2022 ARMS were Colorado, Idaho, Maine, Michigan, Minnesota, North Dakota, Oregon, Washington, and Wisconsin.

² Acres with multiple nutrients are counted in each category.

³ Total Fungicide, Herbicide, and Insecticide includes pesticides that are not listed in this table.

Fertilizer Use on Potatoes - Wisconsin and Program States: 2022

Active ingredient	Wisconsin			Program states ¹		
	Planted acres treated ²	Yearly rate	Total applied	Planted acres treated ²	Yearly rate	Total applied
	(percent)	(lbs per acre)	(1,000 lbs)	(percent)	(lbs per acre)	(1,000 lbs)
Nitrogen	100	182	12,200	99	178	147,700
Phosphate	100	92	6,100	97	132	107,600
Potash	100	278	18,600	88	215	157,800
Sulfur	93	63	3,900	79	77	51,000

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Scouting for diseases was the top pest management practice on potato acreage in Wisconsin.

Pest Management Practices on Potatoes - Wisconsin and Program States: 2022

	Wisconsin		Program states ¹	
	% of area planted	% of operations	% of area planted	% of operations
Avoidance				
Crop or plant variety chosen for specific pest resistance	61	53	42	36
Planting locations planned to avoid cross infestation of pests	71	63	40	51
Planting or harvesting dates adjusted	55	50	32	30
Rotated crops during past 3 years	98	94	99	98
Row spacing, plant density, or row directions adjusted	25	26	48	42
Monitoring				
Diagnostic laboratory services used for pest detection via soil or plant tissue analysis	61	46	48	42
Field mapping data used to assist decisions	25	18	21	16
Scouted -				
established process used	86	74	45	50
for pests due to a pest advisory warning	36	35	19	16
for pests due to a pest development model	58	57	26	22
for pests or beneficial organisms-not scouted	(Z)	3	(Z)	1
for pests or beneficial organism by conducting general observations while performing routine tasks	10	14	16	14
for pests or beneficial organism by deliberately going to the crop acres or growing areas	90	83	84	86
Scouted for diseases	99	96	99	98
by employee	0	0	0	0
by farm supply company or chemical dealer	0	0	0	0
by independent crop consultant or commercial scout	0	0	0	0
by operator, partner, or family member	100	100	100	100
Scouted for insects and mites	98	95	97	96
by employee	5	4	17	15
by farm supply company or chemical dealer	2	1	2	2
by independent crop consultant or commercial scout	74	68	32	38
by operator, partner, or family member	18	27	49	45
Scouted for weeds	98	94	97	96
by employee	5	6	18	17
by farm supply company or chemical dealer	2	1	2	2
by independent crop consultant or commercial scout	75	68	32	37
by operator, partner, or family member	18	24	48	45
Weather data used to assist decisions	89	87	82	83
Written or electronic records kept to track pest activity	91	82	80	81
Prevention				
Beneficial insect or vertebrate habitat maintained	4	9	12	14
Crop residues removed or burned down	9	10	9	9
Equipment and implements cleaned after field work to reduce spread of pests	84	77	89	89
Field edges, ditches, or fence lines chopped, sprayed, mowed, plowed, or burned	74	68	73	64
Field left fallow previous year to manage insects	6	3	9	8
Flamer used to kill weeds	(Z)	1	2	3
No-till or minimum-till used	8	5	10	10
Plowed down crop residue using conventional tillage	60	64	81	80
Seed treated for insect or disease control after purchase	65	52	89	84
Water management practices used	74	64	73	58
Suppression				
Beneficial organisms applied or released	(Z)	1	12	8
Biological pesticides applied	7	11	4	5
Buffer strips or border rows maintained to isolate organic from non-organic crops	29	30	14	15
Floral lures, attractants, repellants, pheromone traps, or biological pest controls used	(Z)	1	5	5
Ground covers, mulches, or other physical barriers maintained	55	55	59	66
Pesticides with different mechanisms of action to keep pest from becoming resistant to pesticides	97	84	79	79
Scouting data compared to published information to assist decisions	0	0	0	0
Trap crop grown to manage insects	8	4	3	4

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More information and data for the USDA NASS Chemical Use Program can be found at:

https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Chemical_Use/.