



# Minnesota Ag News – Chemical Use

## Potatoes – Fall 2022

Upper Midwest Region - Minnesota Field Office · 375 Jackson St Ste 610 · St. Paul, MN 55101 (651) 728-3113  
fax (855) 271-9802 · www.nass.usda.gov/mn

Cooperating with the Minnesota Department of Agriculture

May 15, 2023 - For Immediate Release

Media Contact: Dan Lofthus

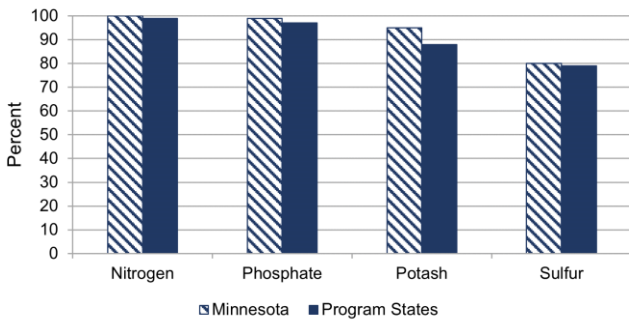
The National Agricultural Statistics Service (NASS) Agricultural Chemical Use Program is the U.S. Department of Agriculture's official source of statistics about on-farm and post-harvest fertilizer and pesticide use and pest management practices.

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.

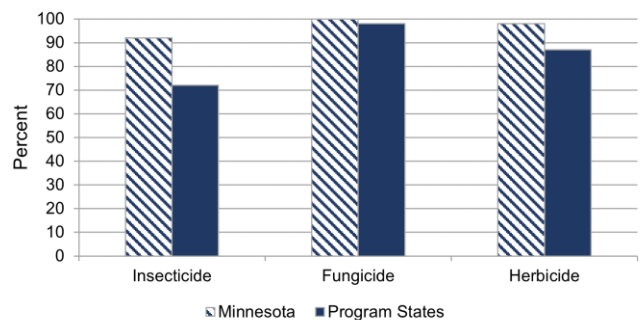
**Fertilizer Use:** Of the three primary macronutrients, nitrogen was the most widely used on potato acres planted in Minnesota. Farmers applied nitrogen to 100 percent of planted acres at an average rate of 269 pounds per acre per year. Macronutrients phosphate and potash were applied at an average rate of 113 and 304 pounds per acre per year, respectively. The secondary macronutrient, sulfur, was applied to 80 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 98 and 92 percent of potato acres planted in Minnesota, respectively.

Fertilizers, Potato Planted Acres Treated  
Minnesota and Program States: 2022



Pesticides, Potato Planted Acres Treated  
Minnesota and Program States: 2022



### Pesticide Use on Potatoes - Minnesota and Program States: 2022

Active ingredient	Minnesota			Program States <sup>1</sup>		
	Planted acres treated <sup>2</sup>	Yearly rate	Total applied	Planted acres treated <sup>2</sup>	Yearly rate	Total applied
	(percent)	(lbs per acre)	(1,000 lbs)	(percent)	(lbs per acre)	(1,000 lbs)
<b>Fungicide</b>						
Azoxystrobin .....	70	0.251	8	55	0.174	80
Chlorothalonil .....	97	5.213	237	64	2.659	1,432
Difenoconazole .....	55	0.190	5	38	0.124	40
Fluopyram .....	48	0.098	2	45	0.139	53
Mancozeb .....	81	4.561	174	38	3.148	1,003
Mandipropamide tech .....	52	0.195	5	35	0.138	41
Mefenoxam .....	54	0.281	7	48	0.264	105
Pyrimethanil .....	52	0.865	21	44	0.350	129
Total <sup>3</sup> .....	100		759	98		4,315
<b>Herbicide</b>						
Diquat dibromide.....	54	0.644	16	45	0.448	170
Linuron .....	20	0.731	7	16	0.772	104
Metribuzin .....	96	0.486	22	63	0.434	228
Rimsulfuron .....	42	0.041	1	28	0.028	7
S-Metolachlor .....	66	1.199	37	35	1.066	311
Total <sup>3</sup> .....	98		130	87		1,770
<b>Insecticide</b>						
Abamectin .....	35	0.032	1	22	0.030	5
Chlorantraniliprole.....	14	0.123	1	10	0.075	6
Clothianidin.....	59	0.240	7	9	0.159	12
Imidacloprid .....	9	0.298	1	22	0.310	57
Lambda-cyhalothrin .....	56	0.069	2	24	0.050	10
Thiamethoxam .....	71	0.162	5	20	0.120	20
Total <sup>3</sup> .....	92		73	72		908

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

<sup>2</sup> Acres with multiple nutrients are counted in each category.

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

## Fertilizer Use on Potatoes - Minnesota and Program States: 2022

Active ingredient	Minnesota			Program states <sup>1</sup>		
	Planted acres treated <sup>2</sup>	Yearly rate	Total applied	Planted acres treated <sup>2</sup>	Yearly rate	Total applied
	(percent)	(lbs per acre)	(1,000 lbs)	(percent)	(lbs per acre)	(1,000 lbs)
Nitrogen .....	100	269	12,600	99	178	147,700
Phosphate .....	99	113	5,300	97	132	107,600
Potash .....	95	304	13,600	88	215	157,800
Sulfur .....	80	33	1,300	79	77	51,000

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

<sup>2</sup> Acres with multiple nutrients are counted in each category.

Scouting for diseases, insects, and weeds were the top pest management practices on potato acreage in Minnesota.

## Pest Management Practices on Potatoes - Minnesota and Program States: 2022

	Minnesota		Program states <sup>1</sup>	
	% of area planted	% of operations	% of area planted	% of operations
<b>Avoidance</b>				
Crop or plant variety chosen for specific pest resistance .....	54	50	42	36
Planting locations planned to avoid cross infestation of pests .....	54	52	40	51
Planting or harvesting dates adjusted .....	25	16	32	30
Rotated crops during past 3 years .....	93	91	99	98
Row spacing, plant density, or row directions adjusted .....	18	12	48	42
<b>Monitoring</b>				
Diagnostic laboratory services used for pest detection via soil or plant tissue analysis .....	67	59	48	42
Field mapping data used to assist decisions .....	38	25	21	16
Scouted -				
established process used .....	66	59	45	50
for pests due to a pest advisory warning .....	11	11	19	16
for pests due to a pest development model .....	15	18	26	22
for pests or beneficial organisms-not scouted .....	(Z)	(Z)	(Z)	1
for pests or beneficial organism by conducting general observations while performing routine tasks .....	4	7	16	14
for pests or beneficial organism by deliberately going to the crop acres or growing areas .....	96	93	84	86
Scouted for diseases .....	100	100	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 .....	100	100	97	96
by employee .....	51	45	17	15
by farm supply company or chemical dealer .....	1	1	2	2
by independent crop consultant or commercial scout .....	18	13	32	38
by operator, partner, or family member .....	30	41	49	45
Scouted for weeds .....	100	99	97	96
by employee .....	51	45	18	17
by farm supply company or chemical dealer .....	1	2	2	2
by independent crop consultant or commercial scout .....	10	7	32	37
by operator, partner, or family member .....	38	46	48	45
Weather data used to assist decisions .....	74	77	82	83
Written or electronic records kept to track pest activity .....	80	75	80	81
<b>Prevention</b>				
Beneficial insect or vertebrate habitat maintained .....	14	11	12	14
Crop residues removed or burned down .....	(Z)	2	9	9
Equipment and implements cleaned after field work to reduce spread of pests .....	72	72	89	89
Field edges, ditches, or fence lines chopped, sprayed, mowed, plowed, or burned .....	50	44	73	64
Field left fallow previous year to manage insects .....	(Z)	3	9	8
Flamer used to kill weeds .....	(Z)	1	2	3
No-till or minimum-till used .....	1	2	10	10
Plowed down crop residue using conventional tillage .....	60	59	81	80
Seed treated for insect or disease control after purchase .....	65	61	89	84
Water management practices used .....	20	17	73	58
<b>Suppression</b>				
Beneficial organisms applied or released .....	2	1	12	8
Biological pesticides applied .....	8	8	4	5
Buffer strips or border rows maintained to isolate organic from non-organic crops .....	23	18	14	15
Floral lures, attractants, repellants, pheromone traps, or biological pest controls used .....	2	1	5	5
Ground covers, mulches, or other physical barriers maintained .....	81	74	59	66
Pesticides with different mechanisms of action to keep pest from becoming resistant to pesticides .....	85	81	79	79
Scouting data compared to published information to assist decisions .....	0	0	0	0
Trap crop grown to manage insects .....	14	12	3	4

(Z) Less than half of the unit shown.

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

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/](https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Chemical_Use/).