



2016 AGRICULTURAL CHEMICAL USE SURVEY

Fall Potatoes

Eight states . . .

. . . accounted for 90 percent of U.S. acres planted to fall potatoes in 2016.

About the Survey

The Agricultural Chemical Use Program of USDA's National Agricultural Statistics Service (NASS) is the federal government's official source of statistics about on-farm and post-harvest commercial fertilizer and pesticide use and pest management practices. NASS conducts field crop agricultural chemical use surveys as part of the Agricultural Resource Management Survey. NASS conducted the fall potato chemical use survey in fall 2016.

Access the Data

Access fall potato chemical use data through the Quick Stats 2.0 database (quickstats.nass.usda.gov).

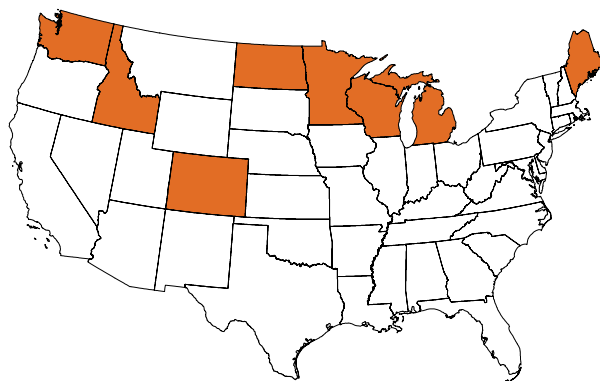
- In Program, select "Survey"
- In Sector, select "Environmental"
- In Group, select "Vegetables"
- In Commodity, select "Potatoes"
- Select your category, data item, geographic level, and year

For pre-defined Quick Stats queries, go to bit.ly/AgChem and click "Data Tables" under the 2016 Corn and Potatoes heading. For methodology information, click "Methodology."

The 2016 Agricultural Chemical Use Survey of potato producers collected data about fertilizer and pesticide use as well as pest management practices in growing fall potatoes. NASS conducted the survey in eight states that together accounted for 90 percent of the 920,800 acres planted to fall potatoes in the United States in 2016: Colorado, Idaho, Maine, Michigan, Minnesota, North Dakota, Washington, and Wisconsin (Fig. 1).

Data are for the 2016 crop year, the one-year period beginning after the 2015 harvest and ending after the 2016 harvest.

Fig. 1. States in the 2016 Fall Potato Chemical Use Survey



Fertilizer Use

Fertilizer refers to a soil-enriching input that contains one or more plant nutrients. Farmers applied nitrogen to 98 percent of planted acres, at an average rate of 233 pounds per acre, for a total of 182 million pounds in the 2016 crop year. They applied phosphate to 92 percent of fall potato planted acres, potash to 90 percent, and sulfur to 76 percent. (Table 1)

Table 1. Fertilizer Applied to Fall Potato Planted Acres, 2016 Crop Year

	% of Planted Acres	Avg. Rate for Year (lbs/acre)	Total Applied (mil lbs)
Nitrogen (N)	98	233	182.1
Phosphate (P ₂ O ₅)	92	155	118.1
Potash (K ₂ O)	90	172	128.5
Sulfur (S)	76	78	49.4

Pesticide Use

The pesticide active ingredients used on fall potatoes are classified as herbicides (targeting weeds), insecticides (targeting insects), fungicides (targeting fungal disease), or other chemicals (targeting all other pests and other materials, including extraneous crop foliage). Fungicides were used most extensively, applied to 97 percent of planted acres. Herbicides and insecticides were applied to 94 and 82 percent of planted acres, respectively. (Fig. 2)

Among fungicides, chlorothalonil and mancozeb were the most widely applied active ingredients (used on 79 and 56 percent of planted acres, respectively). The most widely used herbicide was metribuzin (68 percent of planted acres). (Table 2)

Fig. 2. Pesticides Applied to Fall Potato Planted Acres, 2016 Crop Year
(% of planted acres)

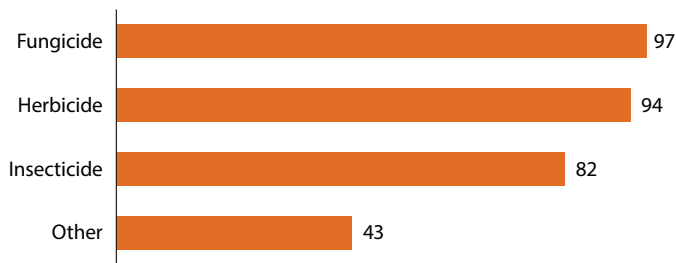


Table 2. Top Pesticides Applied to Fall Potato Planted Acres, 2016 Crop Year

Active Ingredient	% of Planted Acres	Avg. Rate for Year (lbs/acre)	Total Applied (mil lbs)
Chlorothalonil (fungicide)	79	3.598	2.4
Metribuzin (herbicide)	68	0.447	0.3
Mancozeb (fungicide)	56	4.232	2.0

Pest Management Practices

The survey asked growers to report on the practices they used to manage pests, which the survey identifies as weeds, insects, and diseases. Fall potato growers reported practices in four categories:

- *Prevention* practices involve actions to keep a pest population from infesting a crop or field.

- *Avoidance* practices use cultural measures to mitigate or eliminate detrimental effects of pests.
- *Monitoring* practices observe or detect pests by sampling, counting, or other forms of scouting.
- *Suppression* practices involve controlling or reducing existing pest populations to mitigate crop damage.

The most widely reported monitoring practice was scouting for diseases, used on 98 percent of fall potato planted acres. Among avoidance practices, crop rotation was practiced on 97 percent of planted acres. The most widely used prevention practice was cleaning equipment and implements after field work to reduce the spread of pests (86 percent). Using pesticides with different mechanisms of action to keep pests from becoming resistant to pesticides was the most reported suppression practice (70 percent). (Table 3)

These practices were also the top practice in each category in 2014, when NASS last conducted the fall potato chemical use survey.

Table 3. Top Practice in Pest Management Category, 2016 Crop Year
(% of planted acres, fall potatoes)

<i>Monitoring</i> : Scouted for diseases (deliberately, or by general observations while performing other tasks)	98
<i>Avoidance</i> : Rotated crops during last three years	97
<i>Prevention</i> : Cleaned equipment and implements after field work	86
<i>Suppression</i> : Used pesticides with different mechanisms of action	70

Surveyed States: Acres Planted to Fall Potatoes, 2016

U.S. Total	thousands of acres	% of U.S.
	920.8	100
Idaho	325.0	35.3
Washington	170.0	18.5
North Dakota	80.0	8.7
Wisconsin	65.0	7.1
Colorado	57.1	6.2
Maine	47.0	5.1
Michigan	47.0	5.1
Minnesota	40.0	4.3
Total, Surveyed States	831.1	90.3

Numbers may not add due to rounding.