

2014 AGRICULTURAL CHEMICAL USE SURVEY

Fall Potatoes

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 agricultural chemical use surveys as part of the Agricultural Resource Management Survey.

NASS conducted the chemical use survey of fall potatoes in autumn 2014.

Access the Data

Access chemical use data for fall potatoes through the Quick Stats 2.0 database (<http://quickstats.nass.usda.gov>).

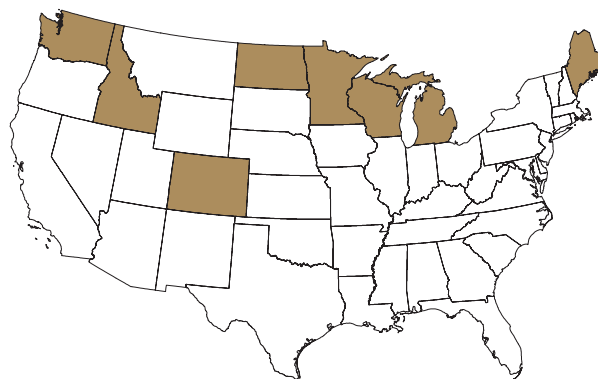
- In Program, select "Survey"
- In Sector, select "Environmental"
- In Group, select "Vegetables"
- In Commodity, select "Potatoes"
- Select your category, data item, geographic level, and year

For pre-defined Quick Stats queries, go to <http://bit.ly/AgChem> and click "Data Tables" under the 2014 Corn and Potatoes heading. For survey methodology information, click "Methodology."

The 2014 Agricultural Chemical Use Survey of potato producers collected data about fertilizer and pesticide use as well as pest management practices on acres planted to fall potatoes. NASS conducted the survey in eight states that together accounted for 88 percent of the 936,900 fall potato acres in the United States in 2014: Colorado, Idaho, Maine, Michigan, Minnesota, North Dakota, Washington, and Wisconsin. (Fig. 1)

Data are for the surveyed states for the 2014 crop year, the one-year period beginning after the 2013 harvest and ending after the 2014 harvest.

Fig. 1. States in the 2014 Fall Potato Chemical Use Survey



Fertilizer Use

Fertilizer refers to a soil-enriching input that contains one or more plant nutrients. The most widely applied nutrients to fall potatoes are nitrogen, phosphate, and potash. For the 2014 crop year, farmers applied nitrogen to 99 percent of planted acres, at an average rate of 205 pounds per acre, for a total of 166.1 million pounds. They applied phosphate to 97 percent of acres and potash to 90 percent. (Table 1)

Table 1. Fertilizer Applied to Fall Potato Planted Acres, 2014 Crop Year

	% of Planted Acres	Avg. Rate for Year (lbs/acre)	Total Applied (mil lbs)
Nitrogen (N)	99	205	166.1
Phosphate (P ₂ O ₅)	97	129	102.7
Potash (K ₂ O)	90	149	109.8

Pesticide Use

The pesticide active ingredients used on fall potatoes are classified in this report 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 96 percent of planted acres. Herbicides and insecticides were applied to 91 and 89 percent of planted acres, respectively. (Fig. 2)

The most widely applied active ingredient, metribuzin, is an herbicide; it was applied to 75 percent of planted acres. Chlorothalonil and mancozeb, both fungicides, were the next most widely applied. (Table 2) In the 2010 survey of chemical use on fall potato acres (conducted in the same eight states), the same three ingredients were the most widely applied pesticides.

Fig. 2. Pesticides Applied to Fall Potato Planted Acres, 2014 Crop Year
(% of planted acres)

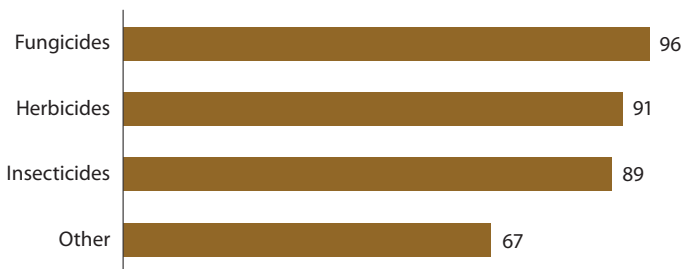


Table 2. Top Pesticides Applied to Fall Potato Planted Acres, 2014 Crop Year

Active Ingredient	% of Planted Acres	Avg. Rate for Year (lbs/acre)	Total Applied (mil lbs)
Metribuzin (herbicide)	75	0.399	0.3
Chlorothalonil (fungicide)	70	0.857	2.0
Mancozeb (fungicide)	61	1.231	1.8

Pest Management Practices

The survey asked growers to report on the practices they used to manage pests, including 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 involve observing or detecting pests through sampling, counting, or other forms of scouting.
- *Suppression* practices involve controlling or reducing existing pest populations to mitigate crop damage.

Scouting for diseases was the most widely reported monitoring practice, used on 99 percent of 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 (88 percent). Using pesticides with different mechanisms of action to keep pests from becoming resistant to pesticides was the most reported suppression practice (82 percent). (Table 3)

In every category except prevention, the same practice was also the top practice in 2010. The top prevention practice in 2010 was treating seed for insect or disease after purchase.

Table 3. Top Practice in Pest Management Category, 2014 Crop Year
(% of planted acres, fall potatoes)

Monitoring: Scouted for diseases (deliberately, or by general observations while performing other tasks)	99
Avoidance: Rotated crops during last three years	97
Prevention: Cleaned equipment and implements after field work	88
Suppression: Used pesticides with different mechanisms of action	82

Top States: Acres Planted to Fall Potatoes, 2014

U.S. Total	thousands of acres	% of U.S.
	936.9	100
Idaho	321.0	34.3
Washington	165.0	17.6
North Dakota	79.0	8.4
Wisconsin	64.0	6.8
Colorado	60.2	6.4
Maine	51.0	5.4
Michigan	43.0	4.6
Minnesota	43.0	4.6
Total, Surveyed States	826.2	88.2

Numbers may not add due to rounding.