NASS *Highlights* May 2025 No. 2025-3

2024 AGRICULTURAL CHEMICAL USE SURVEY

Wheat

Twenty-two states . . .

. . . accounted for 95.1% of the 46.1 million U.S. acres planted to wheat in 2024.

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 in cooperation with USDA's Economic Research Service as part of the Agricultural Resource Management Survey. NASS conducted the wheat chemical use survey in the fall of 2024.

Access the Data

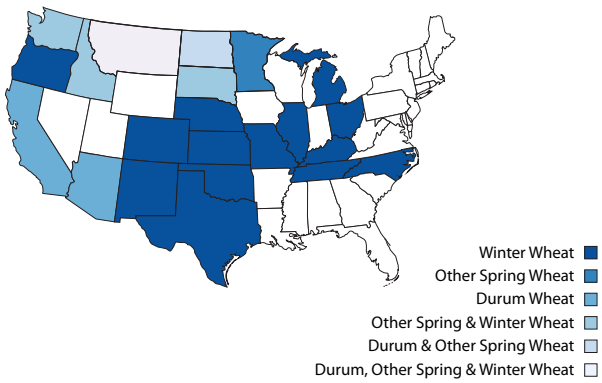
Access 2024 and earlier wheat chemical use data through the Quick Stats database (quickstats.nass.usda.gov).

- In Program, select "Survey"
- In Sector, select "Environmental"
- In Group, select "Field Crops"
- In Commodity, select "Wheat"
- 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 2024 Sorghum and Wheat heading. For methodology information, click "Methodology."

The 2024 Agricultural Chemical Use Survey of wheat producers collected data about fertilizer and pesticide use as well as pest management practices in growing wheat. NASS conducted the survey in 22 states that together accounted for 95.1% of the 46.1 million acres planted to wheat in the United States in 2024, including 93.3% of winter wheat acres and 100% of spring wheat and durum wheat acres. (Fig. 1 and Table 4)

Fig. 1. States in the 2024 Wheat Chemical Use Survey



The data are for the 2024 crop year, the one-year period beginning after the 2023 harvest and ending with the 2024 harvest.

Fertilizer Use

Fertilizer refers to a soil-enriching input that contains one or more plant nutrients, primarily nitrogen (N), phosphate (P_2O_5), and potash (K_2O). For the 2024 crop year, farmers applied nitrogen to nearly all acres planted to spring and Durum wheat (Table 1).

Table 1. Fertilizer Applied to Wheat Planted Acres, 2024 Crop Year

	% of Acres with Nutrient [a]	Avg. Rate for Year (lbs./acre/year)	Total Applied (mil lbs.)
Winter			
Nitrogen (N)	82	67	1,701.2
Phosphate (P_2O_5)	55	34	578.4
Potash (K_2O)	19	43	254.5
Spring			
Nitrogen (N)	94	99	992.1
Phosphate (P_2O_5)	80	38	322.7
Potash (K_2O)	27	25	71.7
Durum			
Nitrogen (N)	96	82	163.0
Phosphate (P_2O_5)	83	27	46.5
Potash (K_2O)	17	14	4.9

[a] Acres with multiple nutrients are counted in each category.

Pesticide Use

In the surveyed states, farmers used 107 different pesticide active ingredients on winter wheat acres, 83 different ingredients on spring (excluding Durum) wheat acres, and 64 on Durum wheat acres. These pesticide active ingredients are classified as herbicides (targeting weeds), insecticides (targeting insects), fungicides (targeting fungal disease), and other. Herbicides were used most extensively, applied to 60% of winter wheat planted acres, 91% of spring (excluding Durum) wheat acres, and 92% of Durum wheat acres. (Fig. 2) Table 2 shows the most widely applied herbicides for each wheat type.

Fig. 2. Pesticides Applied to Wheat Planted Acres, 2024 Crop Year
(% of planted acres)

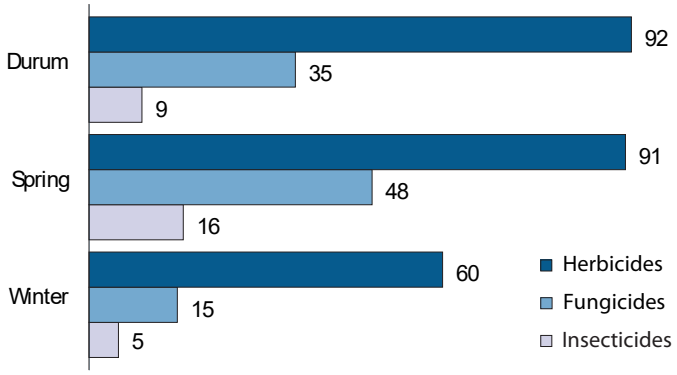


Table 2. Top Herbicides Applied to Wheat Planted Acres, 2024 Crop Year

Active Ingredient	% of Acres with Ingredient [a]	Avg. Rate for Year (lbs./acre/year)	Total Applied (lbs.)
Winter			
2;4-D; 2-EHE	19	0.520	2,981,000
Metsulfuron-methyl	15	0.005	22,000
Spring			
Bromoxynil octanoate	52	0.147	815,000
Fluroxypyr 1-MHE	43	0.102	464,000
Methanone	43	0.029	133,000
Durum			
Glyphosate isopropylamine salt	48	0.719	711,000 [b]
Fluroxypyr 1-MHE	47	0.091	89,000

[a] Acres with multiple ingredients are counted in each category.
[b] Expressed in acid equivalent.

Pest Management Practices

The survey asked growers to report on the practices they used to manage pests, defined as weeds, insects, or diseases. Wheat growers reported practices in four categories: prevention, avoidance, monitoring, and suppression (PAMS). Table 3 shows the most widely used practice in each category.

- Prevention practices involve actions to keep a pest population from infesting a crop or field.
- Avoidance practices use cultural measures to mitigate or eliminate the detrimental effects of pests.
- Monitoring practices observe or detect pests by systematic sampling, counting, or other forms of scouting.
- Suppression practices involve controlling or reducing existing pest populations to mitigate crop damage.

Table 3. Top Practice in Pest Management Category, 2024
(% of wheat planted acres)

	Winter	Spring*	Durum
Prevention: Used no till or minimum till	57		86
Prevention: Cleaned equipment and implements after field work		73	
Avoidance: Rotated crops during last three years	67	92	95
Monitoring: Scouting for weeds (deliberately, or by general observations while performing tasks)	80	97	96
Suppression: Maintained ground covers, mulches, or other physical barriers	60	67	55

*Excluding Durum

Table 4. Surveyed States: Acres of Wheat Planted, 2024

	Winter	Spring	Durum
U.S. Total (thousands of acres)	**33,390.0**	**10,625.0**	**2,064.0**
	(percent of total)		
Arizona			2.9
California			1.2
Colorado	6.3		
Idaho	2.3	4.2	
Illinois	2.4		
Kansas	22.2		
Kentucky	1.6		
Michigan	1.6		
Minnesota		11.5	
Missouri	1.9		
Montana	6.7	23.1	42.6
Nebraska	2.9		
New Mexico	1.1		
North Carolina	1.1		
North Dakota		50.4	53.3
Ohio	2.0		
Oklahoma	12.7		
Oregon	2.2		
South Dakota	2.4	6.2	
Tennessee	1.0		
Texas	17.4		
Washington	5.5	4.7	
Total, Surveyed States (percent of U.S. Total)	**93.3** (18 states)	**100.0** (6 states)	**100.0** (4 states)

Numbers may not add due to rounding.