



## 2013 AGRICULTURAL CHEMICAL USE SURVEY

# Rice

### About the Survey

The Agricultural Chemical Use Program of the National Agricultural Statistics Service (NASS) 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. NASS conducts field crop agricultural chemical use surveys as part of the Agricultural Resource Management Survey.

NASS conducted the rice chemical use survey in fall 2013, collecting data about fertilizer and pesticide use, as well as pest management practices, for the 2013 crop year. The 2013 crop year for rice began in 2012 immediately after harvest of the previous crop and ended in 2013 with harvest of that year's crop.

### Access the Data

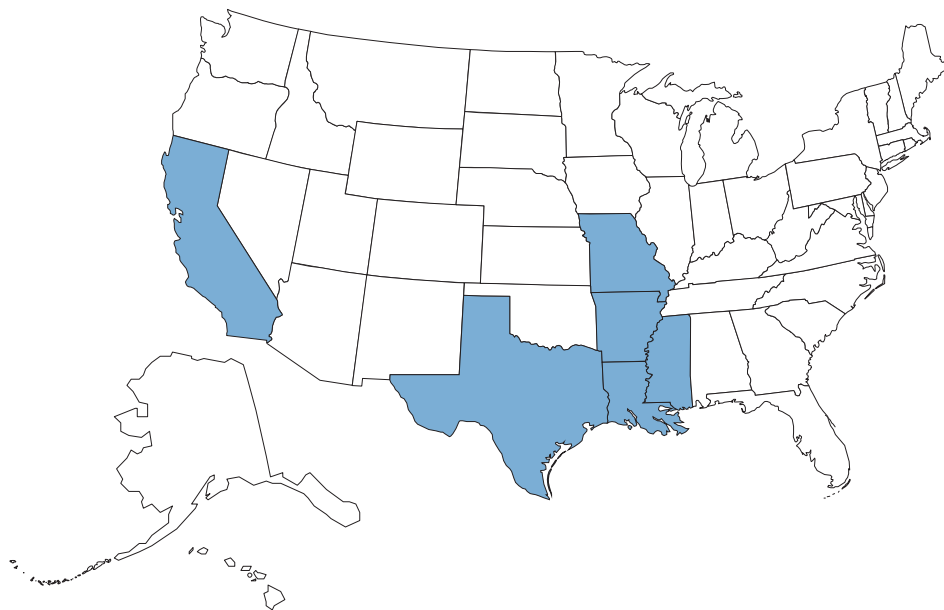
Access rice chemical use data through the Quick Stats 2.0 database (<http://quickstats.nass.usda.gov>).

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

For methodology information, go to <http://bit.ly/AgChem> and click "Methodology" under the 2013 Peanuts and Rice heading.

NASS conducted the 2013 Agricultural Chemical Use Survey among rice producers in six states: Arkansas, California, Louisiana, Mississippi, Missouri, and Texas (Fig.1). These states accounted for virtually all of the rice acreage planted in the United States in the 2013 crop year. All 2013 rice chemical use data refer to these "program states."

**Fig. 1. Rice Chemical Use Survey: 2013 Program States**



### Fertilizer Use

Nitrogen (N), phosphate ( $P_2O_5$ ), and potash ( $K_2O$ ) were the most widely used fertilizer materials on rice. Farmers applied nitrogen to 97 percent of planted acres, at an average rate of 174 pounds per acre for the 2013 crop year. They applied phosphate to 75 percent of rice planted acres, at an average rate of 54 pounds per acre, and potash to 54 percent of planted acres. (Table 1)

In 2006, the last crop year for which NASS conducted the rice chemical use survey, nitrogen was applied to 97 percent of planted acres, followed by phosphate (67 percent) and potash (54 percent).

**Table 1. Fertilizer Applied to Rice Planted Acres, 2013**

	% of Planted Acres	Crop Year <sup>a</sup> Average Rate (lbs/acre)	Total Applied (mil lbs)
Nitrogen (N)	97	174	421.9
Phosphate (P <sub>2</sub> O <sub>5</sub> )	75	54	101.3
Potash (K <sub>2</sub> O)	54	69	93.5

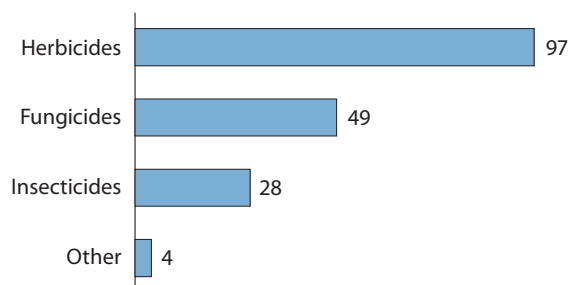
<sup>a</sup> The period starting immediately after harvest of the previous year's crop and ending at harvest of the current year's crop.

## Pesticide Use

The pesticide active ingredients used on rice are classified in this report as herbicides, fungicides, insecticides, or other chemicals. Herbicides were used most extensively, applied to 97 percent of planted acres (Fig. 2). Fungicides and insecticides were applied to 49 and 28 percent of planted acres, respectively. Among herbicides, clomazone was the most widely used (55 percent of planted acres), followed by imazethapyr ammonium salt and propanil (Table 2). In 2006, herbicides were applied to 95 percent of planted acres.

**Fig. 2. Pesticides Applied to Rice Planted Acres, 2013**

(% of planted acres)

**Table 2. Top Herbicides Applied to Rice Planted Acres, 2013**

Active Ingredient	% of Planted Acres	Crop Year <sup>a</sup> Average Rate (lbs/acre)	Total Applied (lbs)
Clomazone	55	0.379	523,000
Imazethapyr ammonium salt	44	0.108 <sup>b</sup>	119,000 <sup>b</sup>
Propanil	43	4.500	4,779,000
Quinclorac	30	0.361	266,000

<sup>a</sup> The period starting immediately after harvest of the previous year's crop and ending at harvest of the current year's crop.

<sup>b</sup> Expressed in acid equivalent.

## Pest Management Practices

The survey asked growers to report on the pest management practices they used on rice, with pests defined as weeds, insects, or diseases. Rice growers reported practices in four categories of pest management strategy:

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

Scouting for weeds was the most widely reported monitoring practice, used on 97 percent of rice planted acres. The most used prevention practice was chopping, mowing, plowing, or burning field edges, etc. (65 percent of planted acres). Among avoidance practices, crop rotation was practiced on 46 percent of planted acres. The most used suppression practice was comparing scouting data to published information when deciding whether to take measures to manage pests (30 percent). (Table 3)

The same practices were also the top practice in their categories in 2006.

**Table 3. Top Practice in Pest Management Category, 2013 and 2006**

(% of rice planted acres)

	2013	2006
Prevention: Chopped, mowed, plowed, or burned field edges, etc.	65	54
Avoidance: Rotated crops during last three years	46	57
Monitoring: Scouted for weeds (deliberately, or by general observations while performing tasks)	97	98
Suppression: Compared scouting data to published information when deciding whether to take measures to manage pests	30	32