



AGRICULTURAL CHEMICAL USE

NURSERY AND FLORICULTURE CROPS 2009

Overview

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 spring and summer of 2010, NASS conducted

the Nursery and Floriculture Chemical Use Survey to collect data about chemical use during 2009 for 19 nursery and floriculture production categories. The chemical use results of the survey are based on 1,606 usable reports from operations in six program states: California, Florida, Michigan, Oregon, Pennsylvania and Texas.

Nursery and Floriculture Production Categories

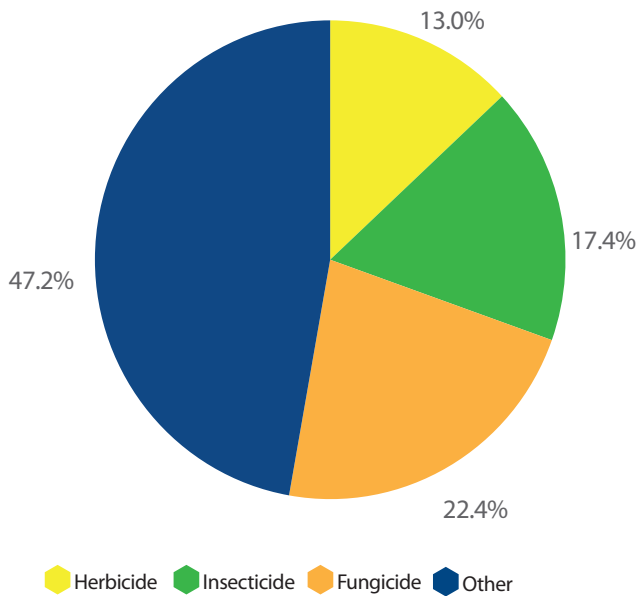
Nursery Categories	Floriculture Categories
Transplants for Commercial Vegetable and Strawberry Production	Cut Flowers
Nursery Propagation or Lining-out Stock	Flowering Plants
Broadleaf Evergreens	Bedding Plants
Coniferous Evergreens	Foliage Plants
Deciduous Shade Trees	Floriculture Propagation Material
Deciduous Flowering Trees	Cut Cultivated Greens
Deciduous Shrubs	Herbaceous Perennials
Fruit and Nut Plants	
Cut Christmas Trees	
Palms	
Ornamental Grasses	
Other Woody Ornamentals and Vines	



Pesticides

In 2009, a total of 350 unique active ingredients were used on nursery and floriculture crops in the six program states. A total of 3.89 million pounds of active ingredients were applied. In terms of total amount applied, other was the most common class of pesticide used on nursery and floriculture crops.

Total Pesticides Applied, by Class, 2009 Program States



Herbicides

Of the total active ingredients applied, herbicides accounted for 507,200 pounds, a decrease from 929,600 pounds in 2006. Glyphosate isopropylamine salt was the most widely used herbicide, at 196,200 pounds. Oryzalin was the second most commonly used herbicide with 83,300 pounds, followed by oxyfluorfen at 34,300 pounds.

Glyphosate isopropylamine salt was also the most widely used herbicide in terms of percent of operations using an active ingredient. Hexazinone and isoxaben were the second most widely used herbicides, both used by 9 percent of the operations.

Insecticides

A total of 677,500 pounds of insecticides was applied to nursery and floriculture crops in the program states in 2009. Based on total amount applied, petroleum distillate was the most widely applied insecticide accounting for nearly a third of the total amount of insecticides used. Acephate was the next most common insecticide at 87,700 pounds and third was petroleum oil at 76,200 pounds.

Top Pesticides Used, by Total Applied and Class, 2009 Program States

Active Ingredient	Rate per Application	Total Applied
	Lbs/Acre	Lbs
Herbicides	Glyphosate isopropylamine salt	196,200
	Oryzalin	83,300
	Oxyfluorfen	34,300
Insecticides	Petroleum distillate	223,200
	Acephate	87,700
	Petroleum oil	76,200
Fungicides	Mancozeb	367,400
	Chlorothalonil	159,700
	Thiophanate-methyl	90,400
Other	Methyl bromide	943,700
	Chloropicrin	433,500
	Dichloropropene	319,900

As a percent of operations using an active ingredient, acephate was the most commonly used insecticide. Imidacloprid was the second most commonly used insecticide with 31 percent of the operations reporting its use.

Fungicides

In 2009, growers applied 869,800 pounds of fungicides to floriculture and nursery crops. The three most commonly used were mancozeb, at 367,400 pounds; chlorothalonil, at 159,700 pounds; and thiophanate-methyl at 90,400 pounds. These three active ingredients accounted for 71 percent of the total pounds of fungicides applied to nursery and floriculture crops.

The top two fungicides, in terms of percent of operations, were chlorothalonil and thiophanate-methyl. Mefenoxam was third.

Other

Other chemicals comprised the most widely used pesticide class, accounting for 47 percent, or 1.84 million pounds, of the total pounds of active ingredients applied to nursery and floriculture crops in the program states in 2009. Other chemicals include active ingredients which were used as growth regulators, rodenticides, other

animal repellents, soil fumigants, biologicals/pheromones, disinfectants and slug/snail baits. The top two active ingredients were methyl bromide and chloropicrin, with a total of 943,700 and 433,500 pounds, respectively.

As a percent of operations, daminozide, paclobutrazol and uniconazole were the three most common other chemicals used on nursery and floriculture crops in 2009.

Top Pesticides Used, by Percent of Operations and Class, 2009 Program States

	Active Ingredient	Percent of Operations
Herbicides	Glyphosate isopropylamine salt	30
	Hexazinone	9
	Isoxaben	9
Insecticides	Acephate	38
	Imidacloprid	31
	Abamectin	27
Fungicides	Chlorothalonil	27
	Thiophanate-methyl	27
	Mefenoxam	19
Other	Daminozide	10
	Paclobutrazol	9
	Uniconazole	7



Pest Management Practices

Nursery and floriculture operations reported using several management practices to aid in the deterrence of pests through prevention, avoidance, monitoring and suppression.

Top Pest Management Practices by Percent of Operations, Program State Level, 2009

Top Practice		Total	California	Florida	Michigan	Oregon	Pennsylvania	Texas
		Percent of Operations						
Prevention	Infected plants or plant parts removed or pruned	82	68	72	94	90	89	70
Avoidance	Plant density adjusted	58	39	51	57	60	74	48
Monitoring	Scouted for pests (by general observations while performing routine tasks)	82	79	84	81	74	95	74
Suppression	Ground covers, mulches, or other physical barriers maintained	65	47	69	74	66	65	70




For More Information

The 2009 agricultural chemical use data for floriculture and nursery were published January 19, 2011 and are available through the Quick Stats database on the NASS website: www.nass.usda.gov.

To access the database directly, go to quickstats.nass.usda.gov and under **Sector**, select **Environmental**.

For assistance call the Agricultural Statistics Hotline at (800) 727-9540.

NASS will publish additional data from the Agricultural Chemical Use Program through 2011, including:

-  Post-harvest Wheat, 2010 Marketing Year - March 2011
-  Corn, Organic Corn, Upland Cotton and Fall Potatoes, 2010 Crop Year - May 2011
-  Vegetables, 2010 Crop Year - July 2011

