The 2017 Agricultural Chemical Use Survey of fruit producers collected data about pesticide use and pest management practices on acres planted to 22 different fruit crops. NASS conducted the survey among producers in 12 states, focusing on the states that are major producers for the surveyed crops. (Fig. 1)

Data are for the 2017 crop year, the one-year period beginning after the 2016 harvest and ending after the 2017 harvest. Data are available online for all 22 fruit crops (see sidebar for how to access data for each fruit). This document highlights three fruits – apples, blueberries, and peaches, each produced in at least six geographically diverse states.

Pesticide Use

The pesticide active ingredients used on fruit are classified as herbicides (targeting weeds), insecticides (targeting insects), fungicides (targeting fungal disease), and other chemicals (targeting all other pests and other materials, including extraneous crop foliage).

Blueberry and peach growers applied fungicides most widely (to 90 and 84 percent of acres, respectively) followed by insecticides (87 and 82 percent). Apple growers applied fungicides, insecticides, and other chemicals nearly equally (88, 87, and 88 percent, respectively). (Fig. 2) The box on page 2 shows the top pesticides in each category applied to the featured fruits.
Pest Management Practices

The survey asked growers to report on practices they used to manage pests, including weeds, insects, and diseases. Fruit growers reported practices in three categories. Table 1 shows the most widely applied practices in each category.

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

### Table 1. Top Practices in Pest Management Category, 2017 Crop Year (% of planted acres, 22 fruits)

<table>
<thead>
<tr>
<th>Prevention</th>
<th>% of Planted Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigated the fruit acres</td>
<td>89</td>
</tr>
<tr>
<td>Cleaned equipment and implements after field work</td>
<td>79</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitoring</th>
<th>% of Planted Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scouted for insects and mites</td>
<td>99</td>
</tr>
<tr>
<td>Monitored weather to assist in decision making</td>
<td>89</td>
</tr>
<tr>
<td>Scouted for diseases</td>
<td>89</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suppression</th>
<th>% of Planted Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used pesticides with different mechanisms of action to keep pest from becoming resistant to pesticide</td>
<td>72</td>
</tr>
<tr>
<td>Compared scouting data to published information to assist in decision making</td>
<td>63</td>
</tr>
</tbody>
</table>

### Top Pesticides, by percent of planted acres, Selected Fruits, 2017 Crop Year

<table>
<thead>
<tr>
<th>% of Planted Acres</th>
<th>Avg. Rate for Year (lbs/acre)</th>
<th>Total Applied (lbs)</th>
</tr>
</thead>
</table>

#### Fungicides

- **Apples**
  - Sulfur: 42% 10.012 lbs/acre 1,173,000 lbs
  - Trifloxystrobin: 39% 0.109 lbs/acre 11,900 lbs

- **Blueberries**
  - Fenbuconazole: 56% 0.159 lbs/acre 6,300 lbs
  - Captan: 51% 4.998 lbs/acre 178,200 lbs

- **Peaches**
  - Propiconazole: 58% 0.219 lbs/acre 9,600 lbs
  - Captan: 38% 11.291 lbs/acre 327,800 lbs

#### Insecticides

- **Apples**
  - Chlorantraniliprole: 52% 0.130 lbs/acre 19,100 lbs
  - Spinetoram: 44% 0.150 lbs/acre 18,500 lbs

- **Blueberries**
  - Phosmet: 49% 1.808 lbs/acre 62,700 lbs
  - Zeta-cypermethrin: 47% 0.055 lbs/acre 1,800 lbs

- **Peaches**
  - Lambda-cypermethrin: 32% 0.099 lbs/acre 2,400 lbs
  - Chlorpyrifos: 25% 1.810 lbs/acre 36,300 lbs

#### Herbicides

- **Apples**
  - Glyphosate isopropylamine salt: 25% 2.059 lbs/acre 145,200 lbs
  - 2,4-D, dimethylamine salt: 15% 1.297 lbs/acre 52,600 lbs

- **Blueberries**
  - Flumioxazin: 21% 0.254 lbs/acre 3,800 lbs
  - Glufosinate-ammonium: 21% 1.408 lbs/acre 20,700 lbs

- **Peaches**
  - Glyphosate isopropylamine salt: 30% 2.302 lbs/acre 50,400 lbs
  - 2,4-D, dimethylamine salt: 26% 1.378 lbs/acre 27,400 lbs

#### Other Chemicals

- **Apples**
  - Mineral oil: 67% 31.960 lbs/acre 5,977,500 lbs
  - Gibberellins A4A7: 34% 0.024 lbs/acre 2,300 lbs

- **Blueberries**
  - Cuprammonium acetate: 10% 0.377 lbs/acre 2,500 lbs
  - Hydrogen peroxide: 7% 1.760 lbs/acre 8,900 lbs

- **Peaches**
  - Mineral oil: 51% 37.874 lbs/acre 1,303,600 lbs
  - Z-8-Dodecen acetate: 11% 0.113 lbs/acre 1,000 lbs

*Expressed in acid equivalent.*