The Agency of Agriculture is publishing new annual reports for commercial pesticide usage data. The Agency has taken many steps to create these reports for the public and we hope you find them useful. A few notes about the data are below.

**Data Determinations**

For the purposes of reporting the following treatment groups include these types of pest control:

<table>
<thead>
<tr>
<th>Treatment Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal</td>
<td>Moles, vole control</td>
</tr>
<tr>
<td>Aquatic</td>
<td>Invasive vegetation/pest control (permitted); also includes sewer root control</td>
</tr>
<tr>
<td>Biocides / Disinfectants</td>
<td>Industrial water cooling systems, mold remediation, and commercial and industrial disinfectants</td>
</tr>
<tr>
<td>Birds</td>
<td>Starlings and pigeons (permitted)</td>
</tr>
<tr>
<td>Corn, Field, &amp; Forage</td>
<td>Commodity crops; corn, soybeans, small grains, and grasses</td>
</tr>
<tr>
<td>Forestry</td>
<td>Vegetation management and forest insect pest control</td>
</tr>
<tr>
<td>General Pest Control</td>
<td>Residential and commercial structural pest (rodents, insects) control</td>
</tr>
<tr>
<td>Golf Courses</td>
<td>Vegetation management and turf pest control (permitted)</td>
</tr>
<tr>
<td>Greenhouse / Nursery</td>
<td>Plant propagation and Christmas tree production</td>
</tr>
<tr>
<td>Highway &amp; Railway</td>
<td>Rights-of-way vegetation management</td>
</tr>
<tr>
<td>Lawn Care &amp; Ornamentals</td>
<td>Commercial and residential landscaping</td>
</tr>
<tr>
<td>Mosquito</td>
<td>Outdoor treatments of larvicide and adulticide (excludes residential treatments)</td>
</tr>
<tr>
<td>Produce Production</td>
<td>Fruits and vegetable pest control</td>
</tr>
<tr>
<td>Utilities &amp; Wood Treatment</td>
<td>Rights-of-way corridor vegetation management and wood pole preserva- tion activities in the corridor</td>
</tr>
</tbody>
</table>
In order to calculate usage as consistently and accurately as possible the following determinations were made:

- Chemical names of active ingredients were translated to the most known name, this included synonyms, racemic mixtures/enantiomers.
  
  \[ For \text{example, 2,4-dichlorophenoxyacetic acid was reported as 2,4-D; and o/s-metolachlor mixture was reported as metolachlor.} \]

- All liquids were calculated at 10lbs to the gallon unless the volume weight was specified on the product label.
- The acid equivalents of an active ingredient were used when stated on the label.
- Aerosols were considered as liquids -unless specified on product label
- Gels were considered solids -unless specified on product label
- Foggers were considered liquids -unless specified on product label
- Foams were considered solids -unless specified on product label
- When a single amount was listed for multiple counties the amount was divided equally between the counties listed.
- When multiple categories were listed the product was added to the first category listed

**Data Limitations**

The data collected is self-reported by applicators. Reporting errors have been found and corrected in usage amount, EPA number, product name and county of application.

The usage data was reviewed:

- 2018 = 100% *
- 2011, 2015-2017 = 40%
- 2010, 2012-2014 = 25%

\* with complete secondary review

**Summaries**
Most common active ingredients by treatment type, 2010-2018:

Most Common Active Ingredients Used in Biocides/Disinfectants, 2010-2018

- 2,2-Dibromo-3-nitrilopropionamide
- Dazomet
- N-Alkyl (60% C14, 30%C16, 5%C12, 5%C18)dimethyl benzyl ammonium chloride
- Sodium hypochlorite
- Sodium Orthophenylphenate
- Methylene bis(thiocyanate)
Most Common Active Ingredients Used in Forestry Management, 2010-2018

- Bacillus thuringiensis subsp. Kurstaki
- Glyphosate
- Triclopyr

Active Ingredient (lbs)

<table>
<thead>
<tr>
<th>Year</th>
<th>Bacillus thuringiensis subsp. Kurstaki</th>
<th>Glyphosate</th>
<th>Triclopyr</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
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<td>2011</td>
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<td>2017</td>
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<td>2018</td>
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</tbody>
</table>
Most Common Active Ingredients Used in Golf Courses, 2010-2018

- 2,4-D
- Chlorothalonil
- Imidacloprid
- Iprodione
- Mancozeb
- Mineral oil
- Propiconazole
- Thiophanate-methyl

Active Ingredient (lbs)

- Year:
  - 2010
  - 2011
  - 2012
  - 2013
  - 2014
  - 2015
  - 2016
  - 2017
  - 2018
Most Common Active Ingredients Used in Highway and Railway, 2010-2018

Active Ingredient (lbs)

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<tbody>
<tr>
<td>Aminocyclopyrachlor</td>
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<td>Aminopyralid</td>
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<tr>
<td>Glyphosate</td>
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<td>Triclopyr</td>
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Most Common Active Ingredients Used in Mosquito Control, 2010-2018

* Represents usage from applicators that solely treat for mosquitos. Other applicators that may treat for mosquitos are not included in this dataset.
Most Common Active Ingredients Used in Aquatic Control, 2010-2018

* Does not include active ingredients used for sewer root control
Active ingredient by treatment type, 2010-2018:

Glyphosate Usage by Treatment Type, 2010-2018

- Corn, Field & Forage
- Forestry
- Golf Courses
- Greenhouse/Nursery
- Highway & Railway
- Lawn Care & Ornamentals
- Produce Production
- Utilities & Wood Treatment
Statewide usage of active ingredient, 2010-2018:

Statewide Atrazine Usage, 2010-2018
Statewide Chlorpyrifos Usage, 2010-2018

Chlorpyrifos (lbs) vs. Years

- 2010: 20 lbs
- 2011: 20 lbs
- 2012: 100 lbs
- 2013: 20 lbs
- 2014: 70 lbs
- 2015: 10 lbs
- 2016: 20 lbs
- 2017: 150 lbs
- 2018: 30 lbs
Statewide Glyphosate Usage, 2010-2018

Year

Glypohosate used (lbs)
Statewide Imidacloprid Usage, 2010-2018

Year


Imidacloprid (lbs)
- Low Risk = active ingredients of minimal risk, “25B products”, or those registered as biopesticides

** The increased usage in 2016 was garlic.

*** This data does not include mineral oil or sodium bromide