There are many types of beetles in the Austin area, many of them beneficial. The two most common groups of pest beetles are listed below.

**Flea Beetles:**

**Attack:**
Many vegetables including cucumbers, tomatoes, peppers and eggplant, potatoes and corn

**Damage:**
“Shot gun” pattern feeding damage on leaves and may also spread diseases such as potato blight and bacterial wilt. Larvae feed underground on roots

**Flea Beetle Solutions:**
- Irrigate efficiently. Drought stressed plants are more susceptible to damage
- Try companion planting with catnip, sage and mint to repel beetles
- Plant trap crops (mustard is good)

**Cucumber Beetles:**

**Attack:**
All members of the squash and cucumber family

**Damage:**
Minimal feeding damage, however they spread diseases such as bacterial wilt and squash mosaic virus that can kill plants

**Cucumber Beetle Solutions:**
- Choose disease resistant squash plants such as Cougar, Destiny III, Liberator III, Sunglo and Sunray
- Use trellises to get plants off the ground and mulch heavily around plants

**Least Toxic Solutions For All Beetles**
- Use floating row cover
- Remove dead plant materials and debris from garden
- Treat soil with beneficial nematodes
- Check for damage early and often during the growing season

**helpful beetles:**
These beetles are beneficial and cause no damage in the garden. They feed on aphids, caterpillars and other garden pests.

**Identify before you buy**
Need help diagnosing a plant problem? Call the Texas AgriLife Extension Service @ 512-854-9600 and ask for the Master Gardener desk or email them at travismg@ag.tamu.edu
### Toxicity/Threat:

- **Low**
- **Low to moderate**
- **High**
- **Highest**
- **NA not applicable**
- **Unknown toxicity**
- **Banned by EPA**
- **Earth-wise**

### Product Toxicity Comparisons

<table>
<thead>
<tr>
<th>Product Name</th>
<th>active ingredient(s) / concentrations</th>
<th>human toxicity</th>
<th>aquatic life</th>
<th>birds, bees, pets</th>
<th>soil mobility</th>
<th>environmental persistence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Light® Home &amp; Garden Insect Spray</td>
<td>Thyme oil .33% Clove oil .33% Sesame oil .33%</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Bonide® Hot Pepper Wax Ready-to-Use</td>
<td>Capsaicin and related capsaicinoids 0.184%</td>
<td>?</td>
<td>?</td>
<td>?</td>
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</tr>
<tr>
<td>Safer® BioNEEM</td>
<td>Azadirachtin 0.09%,</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
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</tr>
<tr>
<td>Garden Tech™ Rose &amp; Flower Insect Spray</td>
<td>Pyrethrins .02%, Piperonyl butoxide 0.20%</td>
<td>?</td>
<td>?</td>
<td>?</td>
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<tr>
<td>Spectracide® Triazicide® Once and Done!™ Insect Killer2 Concentrate</td>
<td>Gamma-cyhalothrin 0.25%</td>
<td>?</td>
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</tr>
<tr>
<td>Ortho® Bug-B-Gon® Max® Lawn &amp; Garden Insect Killer Concentrate Ready-to-Spray</td>
<td>Bifenthrin 0.3%</td>
<td>?</td>
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</tr>
<tr>
<td>Bayer Advanced™ PowerForce® Multi-Insect Killer Concentrate</td>
<td>Cyfluthrin 0.75%</td>
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<tr>
<td>Bayer Advanced™ Complete Insect Killer Dust for Gardens Ready-to-Use</td>
<td>Carbaryl 0.126%</td>
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<tr>
<td>Diatect® Garden and Floral Insect Control</td>
<td>Silicon dioxide 82.9% Pyrethrin 0.2% Piperonyl butoxide 1.0%</td>
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<tr>
<td>Ortho® Bug- B-Gon® Max® Garden Insect Dust</td>
<td>Permethrin 0.25%</td>
<td>?</td>
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<tr>
<td>Bayer Advanced™ Complete Insect Dust Ready-to-Use</td>
<td>Permethrin 0.25%</td>
<td>?</td>
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<tr>
<td>Bayer Advanced™ Tree &amp; Shrub Insect Control Concentrate</td>
<td>Imidacloprid 1.47%</td>
<td>?</td>
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<tr>
<td>Bayer Advanced™ Complete Insect Killer for Soil &amp; Turf Ready-to-Spread Granules</td>
<td>Imidacloprid 0.15% Beta-cyfluthrin 0.05%</td>
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<tr>
<td>Ortho® Bug-B-Gon® Max® Garden &amp; Landscape Insect Killer Ready-to-Use</td>
<td>Esfenvalerate 0.0033%</td>
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<tr>
<td>Eliminator® Sevin® 5% Dust</td>
<td>Carbaryl 5%</td>
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</tr>
<tr>
<td>GardenTech® Sevin® Ready-to-Use 5% Dust Bug Killer</td>
<td>Carbaryl 5%</td>
<td>?</td>
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</tr>
</tbody>
</table>

**Why Grow Green?**

The Grow Green program educates Austin area residents on the LEAST TOXIC approach to pest management and responsible fertilizer use. Our goal is to reduce the amount of landscape chemicals that “runoff” into our waterways or leach into our groundwater and degrade water quality.

The City of Austin and the Texas AgriLife Extension Service provide this information as a comparative reference only. Listing of specific product trade names does not constitute an endorsement of its use. Many other pesticides and pesticide products are available and may be suitable for use other than those listed in these tables.

Products rated by Grady J. Glenn, Ph.D., B.C.E., of the Agricultural and Environmental Safety Program, Texas AgriLife Extension Service who can be reached for questions at 979-862-1035. The rating system was developed by Philip Dickey of the Washington Toxics Coalition.

www.growgreen.org

**Watershed Protection Development Review**

512-974-2550

AgriLIFE EXTENSION

Texas A&M System

512-854-9600

04/09