Least-Toxic Solutions

- Monitor often for early detection and to determine if control is needed; natural predators may make treatment unnecessary
- For minor infestations, spray host plants with water at high pressure to dislodge aphids
- Introduce ladybugs or lacewings and other beneficial insects to your landscape after infestation has been identified – for best results follow release instructions carefully; best to release in an enclosed area
- Use sticky barriers to prevent ants from tending aphids and protecting them from natural predators
- Help control aphids with insecticidal soaps and horticultural oils
- Use a row cover to physically keep the aphids off vegetable crops while allowing air, light and water exchange
- Use natural or slow-release fertilizer to avoid excessive new growth
- Most aphids are host-plant specific and usually don’t move to other species

If You Must Use a Pesticide...

- Avoid systemic pesticides on vegetables and edible plants. Systemic pesticides are taken up by the plant and make its tissues and fluids toxic to foliage-feeding insects
- Non-systemic pesticides must be applied to all infested plant surfaces for best results, because they must come into direct contact with the insects
- Avoid applying broad spectrum pesticides - they destroy beneficial insects as well as pests and leave trees or shrubs unprotected if pests return
- Apply only to plants specified on the label - some formulations injure tender ornamental plants and new growth
- Mix according to directions and apply only recommended dosage
- Several pesticide applications may be needed for control at 7-10 day intervals, or as instructed by the product label
- Avoid overuse of chemicals – many pests have become resistant to certain pesticides

Identify before you buy

Need help diagnosing a plant problem? Call the Texas Agrilife Extension Service at 512-854-9600 and ask for the master gardener desk or email them at travismg@ag.tamu.edu
## Product Toxicity Comparisons

Evaluation of active ingredients only; does not include toxicity information on inert or “other” ingredients.

**Toxicity/Threat:**
- Low
- Low to Moderate
- High
- Highest
- NA: Not Applicable

**Hazards:**
- Human Acute Toxicity
- Human Chronic Toxicity
- Aquatic Life
- Birds, Bees, Pets
- Soil Mobility
- Environmental Persistence

### Table

<table>
<thead>
<tr>
<th>Product Name</th>
<th>active ingredient(s) / concentrations</th>
<th>Human Acute Toxicity</th>
<th>Human Chronic Toxicity</th>
<th>Aquatic Life</th>
<th>Birds, Bees, Pets</th>
<th>Soil Mobility</th>
<th>Environmental Persistence</th>
</tr>
</thead>
<tbody>
<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>
<td>Concern® Insect Killing Soap</td>
<td>Fatty acid soap 1%</td>
<td>○</td>
<td>?</td>
<td>○</td>
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<tr>
<td>Garden Safe® Fungicide 3-in-1 Ready-to-Use</td>
<td>Extract of neem oil 0.9%</td>
<td>○</td>
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<tr>
<td>Orange Guard® Home Pest Control</td>
<td>D-limonene</td>
<td>□</td>
<td>?</td>
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<tr>
<td>Green Light® Neem Concentrate</td>
<td>Clarified hydrophobic extract, of Neem Oil 70%</td>
<td>○</td>
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<tr>
<td>Maxide® Dual Insect Killer</td>
<td>Thiamethoxan 0.20 Lambda-cyhalothrin 0.04%</td>
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<tr>
<td>Green Light® Neem II Ready-to-Use</td>
<td>Pyrethrin 0.02% Piperonyl butoxide 0.20% Clarified hydrophobic extract of neem Oil</td>
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<tr>
<td>Ortho® Orthenex® Garden Insect &amp; Disease Control Concentrate</td>
<td>Acephate 4%, Triforine 3.25% Fenbutatin oxide 0.75%</td>
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<td>Concern® Multi-Purpose Insect Killer</td>
<td>Pyrethrins 0.24%; Potassium salt of fatty acid 20%</td>
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<tr>
<td>Bayer Advanced™ PowerForce® Mosquito Killer Plus Outdoor Fogger</td>
<td>Tetramethrin 0.15% Permethrin 0.15% Piperonyl butoxide 0.75%</td>
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<td>Bayer Advanced™ Complete Insect Dust Ready-to-Use</td>
<td>Permethrin 0.25%</td>
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<tr>
<td>Bayer Advanced™ Tree &amp; Shrub Insect Control Concentrate</td>
<td>Imidacloprid 1.47%</td>
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<td>Bonide® All Seasons® Horticultural Spray Oil</td>
<td>Petroleum oil 98%</td>
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<tr>
<td>GardenTech® Sevin® Ready-to-Use 5% Dust Bug Killer</td>
<td>Carbaryl 5%</td>
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<tr>
<td>Bayer Advanced™ 2 in 1 Systemic Flower Care</td>
<td>Disulfoton 0.1%</td>
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</table>

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 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. **Check labels carefully as trade names and active ingredients may change.**

Products rated by Grady J. Glenn, Ph.D., B.C.E., of the Pesticide Safety Education Program, Texas AgriLife Extension Service. The rating system was developed by Philip Dickey of the Washington Toxics Coalition.

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**Why Grow Green?**

The Grow Green program is based on Integrated Pest Management (IPM) principles that encourage the LEAST TOXIC approach to pesticide and fertilizer use. The goal is to reduce the amount of landscape chemicals that degrade water quality when they run off into waterways or leach into our groundwater.

Grow Green is a partnership between the City of Austin Watershed Protection Department and Texas AgriLife Extension Service. Call 512-974-2550 or 512-854-9600 for more information or visit our website at www.growgreen.org.