

### Suggested Pesticides for Insect and Mite Management on Woody Ornamentals.

Read the label to avoid plant injury. If treating citrus or other edible crop plants, be VERY CERTAIN the plant species is on the label and observe harvest restrictions. Also see **ENY-338, 'Insect Management on Landscape Plants'** by E. Buss and D. Short. Check our web site for more information and fact sheets <http://collier.ifas.ufl.edu/> . Refer to fact sheets on specific pests for 'Window-of-Control' (timing), current recommendation and number of applications.

PEST	Products
<b>Aphids</b>	horticultural soap; Bayer Advanced Garden* as a soil drench, bifenthrin <sup>1/</sup> or cyfluthrin <sup>2/</sup> , etc.
<b>Bark beetles, borers, palm</b>	permethrin***; bifenthrin <sup>1/</sup>
<b>Beetles, leaf</b>	spinosad**; bifenthrin <sup>1/</sup> or cyfluthrin <sup>2/</sup> , Sevin™ (carbaryl); etc.
<b>Caterpillars</b>	spinosad**; <i>B. t.</i> ; permethrin***; Sevin™ (carbaryl); etc.
<b>Galls</b>	rarely cause serious damage; permethrin*** for twig galls as adults emerge
<b>Hibiscus midge</b>	Bayer* soil drench/1x/year and bifenthrin <sup>1/</sup> or cyfluthrin <sup>2/</sup> foliar monthly (the foliar sprays will minimize budworm, whitefly, mealybug, but not mites, see mite recommendation below)
<b>Lace bugs</b>	Bayer* soil drench; horticultural soap; bifenthrin <sup>1/</sup> or cyfluthrin <sup>2/</sup> ; etc.
<b>Leafminers</b>	spinosad** for citrus leafminer and other Lepidoptera; bifenthrin <sup>1/</sup> or cyfluthrin <sup>2/</sup> for ornamentals only.
<b>Mealybugs</b>	horticultural soap; Bayer* soil drench; bifenthrin <sup>1/</sup> or cyfluthrin <sup>2/</sup> , etc. Pink hibiscus mealybug is very difficult to control- use systemic soil drench only to conserve the good bugs..
<b>Mites</b>	horticultural <i>mineral</i> (paraffinic grade) oil; Ortho Rose Pride Orthonex Insect & Disease Control contains hexakis, a miticide
<b>Scales</b>	horticultural mineral (paraffinic grade) oil at a 2% concentration when immatures present; <b>but for Asian sago scale (<i>Aulacaspis</i> scale)</b> , an armored scale, use soil applications of Safari (dinotefuran by Valent Corp.) or Green Light Tree & Shrub Insect Control Safari 2G; however, Bayer Advanced Garden™ Tree & Shrub Insect Control* root drench is better for soft scale species. Do not use systemic on plants which bees or butterflies typically visit.
<b>Thrips</b>	horticultural mineral (paraffinic grade) oil; Bayer* soil drench; spinosad**
<b>Slugs, snails</b>	slug baits with metaldehyde; beer baits, coffee grounds(?)
<b>Weevil, Sri lanka</b>	Knock adults into soapy water; bifenthrin <sup>1/</sup> or other pyrethroid such as Triazicide (lamda cyhalothrin) or Bonide Caterpillar killer (L-cyhalothrin); no product labeled for fruit trees
<b>Whiteflies</b>	horticultural mineral (paraffinic grade) oil; long-term- imidaclopid * soil treatments or dinotefuran soil or bark treatments.

\* The product (ai=active ingredient) in Bayer Advanced Garden™ Tree & Shrub Insect Control, (ai=active ingredient) is with imidaclopid and clothianidin (Merit™75 WP is the professionals' product name). Follow directions carefully. **Do not use systemics on plants which bees or butterflies typically visit.**

\*\* **Spinosad** is in a ferti-lome® product called 'Borer, Bagworm, Leafminer & Tent Caterpillar Spray '(0.5% spinosad); also Conserve-Naturalyte by Southern Ag. Conserve (Dow AgriScience) is the professional product.

Pyrethroid based products may cause mite flare-ups, such as:

\*\*\* Real Kill™ and Spectracide Bug Stop™ both contain 2.5% permethrin.

<sup>1/</sup> Bifenthrin is available from Ortho® as Rose & Flower Insect Killer (0.012% active ingredient).

<sup>2/</sup> Cyfluthrin is available from Bayer in 2 products called Multi-Insect Killer at 0.003% ai and 0.75% ai.