

**ORNAMENTAL INSECT CONTROL FOR HOMEOWNERS
OUTDOOR ORNAMENTAL INSECT CONTROL**

| Pest | Insecticide and Formulation* | Amount Formulation Per Gallon Spray | Remarks and Precautions |
|--|---|--|---|
| Aphid | acephate | | Follow label directions. |
| | acetamiprid | | Follow label directions. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |
| | bifenthrin | | Follow label directions. |
| | cyfluthrin | | Follow label directions. |
| | dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Per label directions. |
| | horticultural oils | 1%-2% | Follow label directions. |
| | imidacloprid (Bayer Advanced) | | Follow label directions. |
| | insecticidal soap | 1%-2% | Thorough coverage is necessary. Spray must contact pests to be effective. Repeat spray three times at 5- to 7-day intervals. |
| | malathion (various) pyrethrin/pyrethrum pyrethroids (various) | ready to use and concentrate | Follow label directions. Follow label directions. Follow label directions. |
| Azalea Leaf Miner | acephate (Orthene TTO) | 1 tsp | Per label directions. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |
| | dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Per label directions. |
| | imidacloprid (Bayer Advanced) | | |
| Bagworm | <i>Bacillus thuringiensis</i> (Biotrol WP, Thuricide, Sok-Bt) | 2 tsp | Per label directions. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |
| | malathion (various) | | Per label directions. In winter, hand-pick and burn if only a few bagworms are present. |
| | pyrethroids (various) | | Per label directions. |
| Beetles (foliage feeding such as elm leaf beetle) | acetamiprid | | Follow label directions. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |

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| Beetles (cont.) (foliage feeding such as elm leaf beetle) | carbaryl dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Apply to foliage when injury first noted. Per label directions. |
| | imidacloprid (Bayer Advanced) | | Follow label directions. |
| Borers (various kinds) | dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Dinotefuran is effective against flat-headed borers and some clear-winged moths only. |
| | imidacloprid (Bayer Advanced) | | Imidacloprid is effective against flat-headed borers and some clear-winged moths only. |
| | permethrin | per label | Apply to trunk and lower limbs in spring as per label directions. |
| Boxwood Leaf Miner | acephate (Orthene, etc.) 75S | 2 tsp | Per label directions. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |
| | dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Per label directions. |
| | imidacloprid (Bayer Advanced) | | Per label directions. |
| | malathion (various) | | Per label directions. |
| Caterpillars (such as armyworm, cutworm and looper) | acephate | | Follow label directions. |
| | acetamiprid | | Not for cutworm control. Follow label directions. |
| | <i>Bacillus thuringiensis</i> (Dipel, Thuricide) | | Follow manufacturer's suggestions. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |
| | bifenthrin | ready to use | Follow label directions. |
| | carbaryl | | Follow label directions. |
| | cyfluthrin | | Follow label directions. |
| | pyrethroids (various) | ready to use and concentrate | Follow label directions. |
| Holly Leaf Miner | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |
| | dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Per label directions. |
| | imidacloprid (Bayer Advanced) | | Spray in late spring to kill larvae in mines. Per label directions. |

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| Japanese Beetle (adults) | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |
| | carbaryl (Sevin) 50WP | 2 Tbsp | Treat as needed. Repeat applications as necessary. |
| | imidacloprid (Bayer Advanced) | | Per label directions. |
| | malathion (various) | | Per label directions. |
| Lace Bug | acephate (Orthene, etc.) | 1 tsp | Apply in early spring when nymphs of first generation are present. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |
| | dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Per label directions. |
| | imidacloprid (Bayer Advanced) | | Per label directions. |
| | malathion (various) | | Per label directions. |
| Mealybug | acephate | | Follow label directions. |
| | acetamiprid | | Follow label directions. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |
| | bifenthrin | ready to use | Follow label directions. |
| | cyfluthrin | | Follow label directions. |
| | dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Per label directions. |
| | horticultural oil | 1%-2% | Coverage is important. Spray must contact pests. |
| | imidacloprid (Bayer Advanced) | | Follow label directions. |
| | insecticidal soap | 1%-2% | Thorough coverage is necessary. Spray must contact pests to be effective. Repeat spray three times at 5- to 7-day intervals. |
| | malathion (various) | | Follow label directions. |
| pyrethroids (various) | ready to use and concentrate | Follow label directions. | |
| Plant Bugs Leafhopper | acephate | | Follow label directions. |
| | acetamiprid | | Follow label directions. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |

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| Plant Bugs Leafhopper (cont.) | carbaryl | | Apply to foliage as needed. |
| | cyfluthrin | | Follow label directions. |
| | dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Follow label directions. Leafhoppers ONLY. |
| | imidacloprid (Bayer Advanced) | | Per label directions. |
| | insecticidal soap | 1%-2% | Thorough coverage is necessary. Spray must contact pests to be effective. Repeat spray three times at 5- to 7-day intervals. |
| | malathion (various) | | Follow label directions. |
| | pyrethroids (various) | ready to use and concentrate | Follow label directions. |
| Rose Midges | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |
| Rose Slugs | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. |
| Scale Insects | acephate | | Follow label directions. |
| | acetamiprid | | Follow label directions. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. Effective against crawler stages. |
| | bifenthrin | | Follow label directions. |
| | carbaryl | | Follow label directions. |
| | cyfluthrin | | Follow label directions. |
| | dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Per label directions. |
| | horticultural oils | 1%-2% | Follow label directions. |
| | imidacloprid (Bayer Advanced) | | Follow label directions. |
| | insecticidal soap | 1%-2% | |
| | malathion (various) | | Follow label directions. |
| pyrethroids (various) | ready to use and concentrate | Follow label directions. | |
| Slug and Snail | iron phosphate (Slug-Go) | | Follow label directions. |
| | methaldehyde | | Attention should be given to moist areas or water leaks. DO NOT use in home gardens. |
| | Mesurool 2B | 1 lb/100 sq ft | Follow label directions. |

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| Sowbug and Pillbug | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. Effective against crawler stages. |
| | carbaryl | follow label directions | Clean up breeding and hiding places; i.e., treat any mulched area of ornamental shrubbery. |
| | malathion (various) | | Follow label directions. |
| Spider Mite | bifenthrin 0.012% | ready to use | Follow label directions. |
| | horticultural oil | 1%-2% | |
| | insecticidal soap | 1%-2% | Coverage is important. Spray must contact pests to be effective. |
| | malathion (various) | | Follow label directions. |
| Stalk Borer | carbaryl | follow label directions | Treat as often as needed beginning when first damage is noted. DO NOT allow ragweed to grow near flower beds. |
| Thrips | acephate | | Follow label directions. |
| | acetamiprid | | Follow label directions. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. Effective against crawler stages. |
| | carbaryl | | Follow label directions. |
| | cyfluthrin | | Follow label directions. |
| | dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Per label directions. |
| | imidacloprid (Bayer Advanced) | | Follow label directions. |
| | insecticidal soap | 1%-2% | Thorough coverage is necessary. Spray must contact pests to be effective. Repeat spray three times at 5- to 7-day intervals. |
| | malathion (various) | | Follow label directions. |
| pyrethroids (various) | ready to use and concentrate | Follow label directions. | |
| Whitefly | acephate | | Follow label directions. |
| | acetamiprid | | Follow label directions. |
| | beta-cyfluthrin 0.0015% + imidacloprid 0.012% (Bayer Advanced Dual Action Rose & Flower Insect Killer Ready-To-Use) | ready to use | Follow label directions. Effective against crawler stages. |
| | bifenthrin | ready to use | Follow label directions. |
| | cyfluthrin | | Follow label directions. |
| | dinotefuran (Ortho Tree & Shrub Insect Control Granules 2.0%) | | Per label directions. |

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| Whitefly (cont.) | horticultural oils | 1%-2% | |
| | imidacloprid (Bayer Advanced) | | Follow label directions. |
| | insecticidal soap | 1%-2% | |
| | malathion (various) | | Follow label directions |
| | pyrethrins/pyrethrum | | Follow label directions |
| | pyrethroids (various) | ready to use and concentrate | Follow label directions. |

*Numerous products containing insecticide are available to homeowners. Products containing the same insecticide may vary in the concentration of the active ingredient. Always consult the product label for information on rate of application. Insecticides that may be available to homeowners are listed in the **HOMEOWNER INSECTICIDE PRODUCT LIST** section beginning on page 317.

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Note: Many formulations of insecticides for use in the home are combinations of active ingredients. The following list of insecticides is given as a guide to determine which pests an active ingredient is effective in controlling. Many pyrethroids and other compounds are now off label, and there may be several brand names for different chemicals. Only the active ingredient of insecticides is listed. Other compounds, especially oils, contain a mixture of oils, and these are listed under the general category of oils. The trade names below are only examples of several different formulations available and are not given as recommendations. Check the label on the insecticide container to determine what plants can be treated and the active ingredients present in the product. When possible, place plants outdoors or in an area not likely to come in contact with people, pets or food while making insecticide application. If plants cannot be moved outside for treatment, follow label precautions for indoor treatment.

| Insecticide and Formulation* | Rate | Comments |
|-------------------------------------|---|--|
| bifenthrin | Ortho Houseplant and Garden Insect Killer, other Ortho products | as directed mealybugs, mites, whiteflies, aphids |
| cyfluthrin | Bayer Advanced Home Pest Control | as directed gnats, centipedes, earwigs, scorpions Follow label directions. |
| horticultural oil | SunSpray Ultrafine, Saf-T-Side, Superior Oil, Golden Natural Spray Oil, Volck Oil; found in Green Light products and others | 1%-2% scale, whiteflies, mites Coverage is important; spray must contact pests to be effective. |
| imidacloprid + fertilizer | Bayer Advanced Garden 2-in-1 Plant Spikes | as directed aphids, mealybugs, whiteflies |
| insecticidal soap | M-Pede and Safer's Soap | 1%-2% aphids, mealybugs, scale, thrips, mites, whiteflies Coverage is important; spray must contact pests to be effective. |
| pyrethrins, pyrethrum | Pyrethrum (aerosol); found in several Safer products, Garden Safe | as directed aphids, mealybugs, thrips, whiteflies |

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