

INTERIOR PLANTSCAPES AND HOUSE PLANTS

K. Fry
Updated May 2005

The following use patterns are in accordance with labels on domestic class products registered for use on house plants and in interior plantscapes for ornamentals. Rates are given in terms of commonly available formulated products.

All chemicals may be phytotoxic to some plants or plant stages or under certain conditions. Consult label for additional information or refer to Alberta Agriculture, Food and Rural Development Garden Fax leaflet 270/621-1 "Susceptibility of Some Ornamental Plants to Pesticide Injury". If in doubt, spray a small area first and wait 4-5 days for signs of injury. Move plants outdoors to treat where practical.

For larger greenhouses and atria, biological pest control may be a practical alternative. See references page 105.

APHIDS

Cultural Control –

Use yellow sticky traps in greenhouses to catch incoming winged aphids. Screen windows and vents to exclude them. Prune off heavily infested growth. Pressure sprays with water are effective at reducing populations.

Biological Control –

Predators such as ladybird beetles (Family Coccinellidae), lacewings (Family Chrysopidae), and flower flies (Family Syrphidae) are effective. Parasitoids such as *Aphidius colemani*, *A. matricariae*, and *A. ervi* are effective if a nectar or sugar source is provided.

Chemical Control -

Active Ingredient	Rate	Comments
bendiocarb 80%	75-/100L	Apply to point of glisten. Repeat after 2-weeks only if required.
pyrethrins 2% + potassium salt of fatty acid 20%	5L/100L	Spray 30-45cm from plant. Ensure thorough coverage. Spray insects to wetting. Repeat at 7 day intervals if necessary.
soap 2% solution	ready-to-use	Apply directly to insects. Apply weekly for 2-3 weeks. Repeat as necessary.
soap 50.5% solution	20 ml/L	Ensure thorough coverage. Apply weekly for 2-3 weeks. Repeat as necessary.

FUNGUS GNATS

Cultural Control –

Wet soil high in organic matter favours fungus gnats. Allow soil to dry between watering. Remove rotting leaves and roots and re-pot if necessary in sterilized soil. A thin layer of sand or pebbles on the soil surface will discourage them.

Biological Control –

Predators such as the predatory mites *Hypoaspis miles* and *H. aculeifer* and the rove beetle *Atheta coriaria* (Family Staphylinidae) are effective when added to soil. The entomopathogenic nematodes *Steinernema feltiae* and *Heterorhabditis bacteriophora* are effective at reducing larval populations.

Chemical Control -

Active Ingredient	Rate	Comments
bendiocarb 80%	125g/100L	To be applied by Certified Pesticide Applicator only. Not to be used when anyone other than the applicator present. Apply to soil and repeat in 14-21 days. Buffer to pH 7 or lower.

MEALYBUGS

Cultural Control –

Prune off heavily infested foliage. Mist plants frequently. Remove large mealybugs before they lay white fluffy egg masses. Check roots if infestation persists.

Biological Control –

The predator *Cryptolaemus montrouzeiri* can be used for light infestations.

Chemical Control -

Active Ingredient	Rate (g AI/ha)	References
bendiocarb 80% WP	75-100 g/100 L	Apply to point of glisten. Repeat at 2-week intervals if required.
pyrethrins 2% + potassium salts of fatty acids 20%	5L/100L	Ensure thorough coverage. Spray 30-45cm distance from plant. Spray insects to wetting. Repeat 10-14 days later if necessary.

soap 2% solution	ready-to-use	Ensure thorough coverage. Repeat as necessary.
soap 50.5% solution	20 ml/L	Ensure thorough coverage. Repeat as necessary.

Restrictions -

Bendiocarb: Application restricted to certified pesticide applicators. Use a coarse, low pressure spray and allow to dry before allowing access to plants

SCALES

Cultural Control –

Prune off heavily infested foliage. Hand pick large scales. Mist foliage frequently.

Chemical Control -

Active Ingredient	Rate	Comments
bendiocarb 80%	37.5g/100L	Apply to point of glisten. Repeat at 2 week intervals if required.
pyrethrins 2% + potassium salts of fatty acids 20%	5L/100L	Repeat after 10-14 days if necessary.

SPIDER MITES

Cultural Control –

Mist underside of leaves frequently and avoid hot dry areas.

Biological Control –

Predators include the predatory mites *Phytoseiulus persimilis* and *Neoseiulus fallacis*, the predatory midge *Feltiella acarisuga* and the predatory beetle *Stethorus punctillum*. *N. fallacis* and *F. acarisuga* are effective outdoors as well as indoors.

Chemical Control -

Active Ingredient	Rate	Comments
Bifenazate 22.6%	133mL/400L	Ensure thorough coverage. Avoid wetting. Use caution on new foliage and young plants. Reduce pH to 7 or below.

pyrethrin 2% + soap 20.0%	5L/100L	Re-entry interval is 12 hours. Spray to wetting. Repeat weekly for 2-3 weeks if necessary.
soap 50.5%	20 ml/L	Ensure thorough coverage of underside of leaves. Repeat as necessary.

THRIPS

Cultural Control - Increase humidity and avoid high temperatures. Mist plants frequently. Keep cut garden flowers away from house plants as they are frequently infested.

Biological Control –

For use against pupae in soil; the predatory mites *Hypoaspis miles* and *H. aculeifer*, *Atheta coriaria*, or entomopathogenic nematodes *Heterorhabditis bacteriophora* or *Steinernema feltiae*. For use against larvae; the predatory mite *Amblyseius cucumeris* or *A. degenerans*. For use against the adult; the predatory bug *Orius insidiosus* or *O. tristicolor*. For use against larvae and adults; foliar applications of entomopathogenic nematodes formulated for foliar application.

Chemical Control -

Active Ingredient	Rate	Comments
bendiocarb 80%	62.5 g/100 L	Certified Applicators only. Restrict access until spray is completely dry. Apply to point of glisten. Repeat at 2-week intervals, only if required.
methoxychlor 240g/L	4mL/L	Ensure thorough coverage.
pyrethrins 2% + potassium salts of fatty acids 20%	5L/100L	Ensure thorough coverage. Avoid wetting. Use caution on new foliage and young plants.

WHITEFLIES

Cultural Control -

Hang yellow sticky traps in greenhouses to trap adults.

Biological Control –

Release the parasitoid *Encarsia formosa* or the predatory beetle *Delphastus pusillus* or the predatory bug *Dicyphus hesperus*.

Chemical Control -

Active Ingredient	Rate	Comments
bendiocarb 80%	62.5 g/100 L	Apply to point of glisten. Repeat at 2-week intervals, only if required.
pyrethrins 2% + potassium salts of fatty acids 20%	5L/100L	Spray at minimum distance of 50 cm from foliage. Repeat as necessary (adults only).

References -

1. Compendium of Pest Control Products Registered in Canada 1989. (Microfiche)
2. Alberta Agriculture, Food and Rural Development Garden Fax Leaflet 270/621-1, Susceptibility of Some Ornamental Plants to Pesticide Injury.
3. Pest Problems in Small Greenhouses and Indoor Plantings, Province of British Columbia, Ministry of Agriculture and Food, 1982.
4. Steiner and Elliott, Biological Pest Management for Interior Plantscapes, Alberta Environment Centre, Vegreville, Alberta. 1987.