

AN IPM PROGRAM FOR APHIDS ON ORNAMENTAL PLANTS

FOR LANDSCAPE PEST MANAGERS

KEY POINTS

- Aphids are a common pest on many plants and often trigger concerns from homeowners.
- Damage from aphids includes honeydew dripping, curling of leaves and stunting of new growth.
- Most plants can tolerate a low to moderate level of aphids without showing visible damage.
- A well-designed IPM program can effectively manage aphids with minimal use of pesticides.

Most broadleaf plants are susceptible to infestation by aphids. These insects feed by sucking plant juices while injecting saliva into the host plant, causing leaf curl or stunting of new growth. They secrete honeydew, a sugary liquid which gives a shiny appearance to the leaves and may drop on the ground below. Landscape managers can successfully manage this pest with low-risk pesticides such as dormant oil and insecticidal soap.



At left, rose aphids on the stem may trigger concern from customers. At right, larvae and pupae of ladybeetle. Plants should be visually inspected to confirm the presence of beneficial insects, as they provide some control of the aphid problem.

KNOW YOUR APHIDS

Aphids are soft-bodied insects with six legs. They vary greatly in colour and size. Adults have wings.

Many aphid species are found on trees and shrubs in the spring. Most overwinter as eggs which start hatching at the time plant buds open in the spring. The young aphids will feed on the plant for a few weeks. Typically, the adults leave in June for summer hosts such as grasses and weeds.

There are many predator insects which control aphid populations during warm summer weather. Treatments are seldom necessary during this time. However, treatments may be required in spring to manage the early infestations as the predators are less effective during cool weather and aphid populations continue to increase.

Designing an IPM program for aphids

The following table presents a sequence of actions at key times of the year. The emphasis is on plant health and rational pest management. Use it to develop an IPM program for your sites

Season (Phenological event)	Approximate time of year	Action
Winter (dormant)	November to March	While pruning, be on the look-out for clusters of aphid winter eggs. The eggs are typically oval, black and shiny, found between leaf buds and the stem.
Late winter (before bud break)	Early to mid April	Apply dormant oil on plants with a history of aphid problems. Use a high volume of water and ensure complete coverage of all plant parts. Do not apply on plants under stress or within 24 hours of freezing temperatures.
Spring (after bud break)	Late April	Inspect plants for early aphid infestations. Use a strong jet of water to dislodge young aphids found on leaves and stems. Use water and soap to wash sticky leaves.
Spring (early plant growth)	May	Apply insecticidal soap where monitoring indicates the aphid population is building. Use a 2% concentration, apply in high volume of water, ensure complete coverage. Soap works by contact only. A repeat application may be necessary in 7 to 14 days.
Spring (active plant growth)	May and June	Fertilize with a product of slow released action (prills, organic source, compost). Avoid excessive fertilization with nitrogen (the first number on the package). Aphids are most common on plants with lush new growth triggered by nitrogen.
Early summer (active plant growth)	June to early July	Assess the presence of beneficial insects on plants with an aphid problem. Inspect plants for presence of lady beetles, syrphid larvae and parasitic wasps. Purchase Aphidoletes from a commercial supplier. This predator is very effective.
Early summer (active plant growth)	June to early July	Manage severe aphid problems with the pesticides acetamiprid or pymetrozine. Use these insecticides with discretion as they are disruptive to beneficial insects. Spray plants with severe damage, in high profile areas or after a customer complaint.
Summer (reduced plant growth)	July and August	On plants with aphids, allow the plants to grow out of small infestations. If there is a concern or a severe outbreak, apply summer oil or insecticidal soap. Do not apply to weak or water stressed plants. Do not apply under hot temperatures.
Late summer (leaves turning colour)	September to October	Evaluate the IPM program for aphids on each property. Suggest the use of plants known to attract beneficial insects (alyssum, yarrow, daisy). Where aphids return every year, consider replacing the problem plants.

Reduced-risk pesticide products registered for aphids on ornamental plants (as of January 2014)

Product name	Active ingredient	Label	Rate in water	Notes
Dormant oil (various products)	mineral oil	All ornamentals	1 to 2 L / 100 L	Very low toxicity Safe to predaceous mites
Safer's Soap Opal Soap Neudosan	potassium salts of fatty acids	Shrubs, Trees Ornamental trees	2 L / 100 L	Fast acting but no residual Safe to beneficials
Purespray 13E (summer oil)	Mineral oil	Ornamental plants	2 L / 100 L	Label for summer spray Low toxicity, safe to beneficials
TriStar 70WSP Assail 70WP	acetamiprid	All ornamentals Crab apples	4.8 g / 100 L 8 to 12 g / 100 L	Fast acting, 7-10 days residual Low mammalian toxicity
Endeavor 50WG	pymetrozine	Outdoor ornamentals	10 to 20 g / 100 L	Slow acting. Safe to beneficials.