

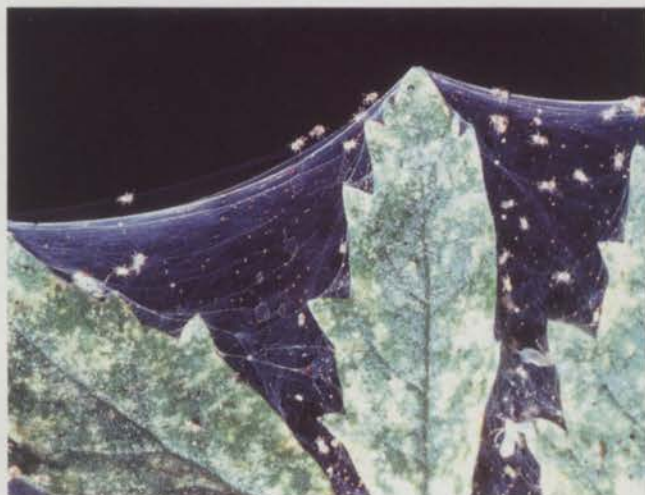
# SUMMER/FALL CONTROL OF ORNAMENTAL PESTS

Drought conditions have had a great impact on pest populations. Early detection is the key to successful control at this time.

by J. R. Baker, Ph.D., and D. G. Nielsen, Ph.D.



Plants infested with armored scales should be sprayed after all crawlers have hatched. The only way to determine when this has occurred is to check for crawler hatch and to overturn female coverings to make sure eggs are no longer present.



Woody plants, such as some euonymus varieties and roses, are frequently infested by two-spotted spider mites and tumid mites. These pests are dispersed on air currents and may appear suddenly in large numbers during hot, dry weather.

**T**he summer season (July through September) is when many of the most damaging landscape pests get down to serious business. Mimosa webworm, bagworm, fall webworm, Japanese beetle adults and second generation elm leaf beetle sometimes become common in early summer. All of these pests should be controlled when larvae are small to minimize damage and to maximize effectiveness of the insecticidal spray.

These pests are known as defoliators. This group includes caterpillars, which can be controlled with BT or one of the conventional products listed previously (under defoliators in spring).

Insecticide application by mist-blower, though cost effective, may result in unacceptable drift of sprays to neighboring properties. In addition, they should not be used when it's windy.

### Beetles prevalent

Japanese beetle adults feed on many kinds of trees, shrubs and roses in July and August. They are most easily controlled with weekly sprays of Sevin, Turcam/Dycarb, or one of the synthetic pyrethroids.

Area-wide grub control is the most effective way to reduce the number of Japanese beetle adults locally, thereby minimizing defoliation of nearby woody plants.

Second generation elm leaf beetles can cause significant defoliation if heavily infested trees are not sprayed or bark-banded with Sevin or a synthetic pyrethroid when first generation larvae begin to descend tree trunks.

Birch leafminer can be controlled during summer if trees are sprayed when second or third generation adults are mating and ovipositing. Remember, after egg laying has occurred and mines have begun to develop, only a systemic material like Orthene or Cygon will control leafminers.

Crawlers of several soft scales (Fletcher, cottony maple, cottony maple leaf, pine tortoise, wax and tulip tree) hatch in late June or early July

## INSECTICIDE/MITICIDE DIRECTORY FOR LANDSCAPE USES

COMMON NAME	TRADE NAME	COMPANY	USES
acephate	Orthene	Valent	aphids, bagworms, black vine weevil, cankerworms, eastern tent caterpillar, fall webworms, lace bugs, leaf rollers, scales, webworms.
<i>Bacillus thuringiensis</i> (Bt, BT)	Dipel SOK BT Thuricide	Abbott Nor-Am Sandoz	bagworms, cankerworms, fall webworms, gypsy moth, lo moth, loopers, mimosa webworm, cleander moth, omnivorous leafroller, saddleback caterpillar, tent caterpillars, tobacco budworm.
bendiocarb	Ficam Dycarb Turcam	Nor-Am Mallinckrodt Nor-Am	bagworms, black vine weevil, cankerworms, eastern tent caterpillar, fall webworms, Japanese beetles, momosa webworm, yellownecked caterpillar.
bifenthrin	Talstar	FMC	aphids, bagworms, black vine weevil, caterpillars, fall webworms, Japanese beetles, lace bugs, leafhoppers, leafminers, leaf rollers, loopers, mealybugs, spider mites, whiteflies.
carbaryl	Sevin	Rhone-Poulenc	bagworms, cankerworms, eriophyid mites, Japanese beetles, June beetles, lace bugs, leafhoppers, leaf rollers, mealybugs, sawflies, scales, tent caterpillars.
chlorpyrifos	Dursban	Dow	aphids, bagworms, clearwing and flatheaded boreis, eastern tent caterpillar, fall webworms, leafhoppers, lilac borer, mealybugs.
fenitrothion	Sumithion	Sumitomo	fall webworms, mealybugs, southern red mites.
fluvalinate	Mavrik	Sandoz	aphids, caterpillars, leafhoppers, lygus bugs, mites, whiteflies.
lindane	Lindane	Drexel	borers, lace bugs, leafminers, spittlebugs.
malathion	Malathion	Cyanamid	aphids, bagworms, Japanese beetles, lace bugs, mealybugs, scales.
methoxychlor	Marlate	Kincaid Enter.	cankerworms, Japanese beetles, leafhoppers, tent caterpillars.
oil	Hort oils etc.	several	scales, especially armored scales, mealybugs, red spider mites, whitefly larvae.
oxamyl	Vydate	Dupont	aphids, black vine weevil, Japanese beetles, leafhoppers, leafminers, mealybugs, mites, scales, whiteflies.
oxythioquinox	Morestan	Mobay	mites, mite eggs, whiteflies.
phosmet	Imidan	ICI Americas	aphids, cankerworms, eastern tent caterpillar, fall webworms, Japanese beetles, leaf tiers, mealybugs, mimosa webworms, woolly apple aphid, woolly beech aphid.
propargite	Ornamite	Uniroyal	spider mites.
soap	Insecticidal	Safer, Inc.	aphids, adelgids, balsam woolly aphid, Cooley spruce gall aphid, mealybugs, pine needle scale, psyllids, sawflies, spider mites, spruce spider mite, spruce woolly aphid, whiteflies.
trichlorfon	Dylox, Proxol	Mobay, Nor-Am	bagworms, leafminers, lygus bugs, stink bugs, webworms.

SOURCE: Drs. Baker and Nielsen

(up to a month earlier in the South).

Crawlers and settled nymphs are susceptible to many scalcicides, including Sevin, Orthene, diazinon, Dursban, Turcam/Dycarb, and synthetic pyrethroids in early July. A single, thorough-coverage, hydraulic spray should provide excellent control.

### Scale vulnerability

Settled first nymphs and other nymphal stages of soft scales are vulnerable to contact insecticides because they are not protected by cast skins and wax. Sprays to control soft scales should always be applied after all eggs have hatched to minimize the impact of pesticides on lady beetles

and other predatory insects, to minimize insecticide usage and to maximize control.

Second generation pine needle scale, euonymus scale, and white peach scale crawlers hatch during early July through the first of August. Two sprays at a 10 to 14 day interval may be required to control pine needle scale and white peach scale because crawlers hatch over a two to three week period.

Summer generation of euonymus scale crawlers hatch over an even longer period, so three applications at 10-day intervals are required for adequate control.

Aphid infestations should be controlled before they are abundant

enough to produce copious amounts of honeydew or do irreversible damage to leaves. If aphids are allowed to build up in high numbers, plant growth may be distorted and leaves may fall prematurely.

Once honeydew and sooty mold are present they may persist long after aphids have been controlled by pesticides or natural enemies. Also, honeydew attracts yellowjackets and other stinging wasps, creating an additional nuisance.

Most kinds of aphids are vulnerable to contact sprays whenever they are active.

Spider mites can be controlled whenever they are active by spraying twice at a 5-day (South) or 10-day (North) interval. If trees are receiving repeated applications of Sevin to control other insects, be especially watchful for mite buildup.

### Control of mites

Sevin selectively kills natural enemies of mites, thereby contributing to increases in spider mite population density.

Woody plants like some euonymus varieties and roses are frequently infested by two-spotted spider mites and tumid mites. These pests are dispersed on air currents and may appear suddenly in large numbers during hot, dry weather. When detected in potentially damaging numbers, they should be controlled as previously mentioned.

The second and third applications to control black vine weevil adults should be made in July and August. In the South, Japanese weevil and Fuller rose beetle can be controlled with Orthene as a spray and drench in July. A single spring application will not control black vine weevil or other weevils that attack landscape plants.

### The injection option

White barked birches infested with bronze birch borer can be controlled during the summer by injecting trees with Inject-A-Cide B (Bidrin) using microinjection technology developed by the J.J. Mauget Co. Installation must be done by an experienced professional.

This is an extremely effective stop-gap measure that can be used to save infested birches that are diagnosed as infested after it is too late to begin bark/foilage sprays in spring. Infested birches should be watered thoroughly and weekly during summer and fall droughts and fertilized in the fall after the first hard frost. The following year, bark/foilage sprays should be used as indicated earlier.

Injection should not be used annually on a preventive basis.

The peachtree borer (a clearwing moth) can be controlled with a single application of Dursban or lindane in late June (in the North) or late August (in the South). The second application of Dursban or lindane for control of lesser peachtree borer (also a clearwing moth) can also be made at this time to protect infested ornamental flowering fruit trees.

## FALL

### (September-October)

The defoliators Mimosa and fall webworms reach their highest population density and cause most defoliation during late summer and early fall. They should be controlled as soon as first generation larval webs are detected in early summer. However, both pests are still susceptible to larvicides in late August and early September. If Bt is to be used, it must be applied when the caterpillars are small to achieve desired results.

Magnolia and tulip tree scale crawlers are produced in late August and early September. Infested trees should be sprayed when goldenrod is in full bloom (early September). A single, thorough-coverage, hydraulic

spray with one of the aforementioned scalicides will provide excellent control. Both magnolias and tulip trees can be severely stunted or even killed by heavy infestations of these pests.

Galls on spruce turn brown and open in August and September. After galls open, adelgids are vulnerable to contact insecticides. Adelgids on spruce, Douglas fir, and pine remain

## Using pesticides judiciously is top priority

We all share the responsibility to manage pesticide use more wisely. We can do that by following these steps:

- **Use insecticidal sprays** only after determining that a pest species is present at a density that will cause plant damage if the infestation is ignored and the pest is in a stage vulnerable to pesticide treatment.

- **Treat only infested plants** in the landscape rather than spraying all woody plants on the property. This is a biologically and financially rational approach, because most kinds of plants are resistant to most insect or mite pests.

- **Make the effort** to continually

inspect your properties for pest problems. By doing so it's more likely that only a small part of a plant or a single plant will be infested when the pest's presence is first detected.

As more tree care specialists begin to adopt this process of landscape management and pest control, use of pesticides for managing our precious urban and community tree populations will be reduced, pest control will become more effective, the acquisition of resistance to insecticides by pests will be lowered and beneficial insects and mites can assume a larger role in maintaining pest species below damaging levels. □



# “Who Would've Thought Just One

Duosan® broad-spectrum fungicide combines both contact and systemic ingredients to kill and prevent a wide range of diseases on turf, trees, shrubs, and flowers.

Duosan goes to work immediately, and keeps on working, giving you immediate curative disease control plus preventive

activity for up to two weeks. And the synergistic action provides

a higher level of disease control than would be achieved by using

#### DUOSAN CONTROLS MAJOR TURF DISEASES

Dollar Spot	Fusarium Patch
Anthracnose	Leaf Spots
Brown Patch	Red Thread
Copper Spot	Rust



The peachtree borer (a clearwing moth) can be controlled with a single application of Dursban or lindane in late June (in the North) or late August (in the South).

vulnerable to insecticidal sprays until the following spring when new buds open.

Attempts to control **root weevil** larvae should be made in early September or October. A single drench with Turcam/Dycarb should be effective against larvae established in soil surrounding roots of field plants. Turcam/Dycarb, Orthene, or Furadan 4F

can be used to control larvae established in containers, using one pint of solution per gallon of container volume.

#### Maintenance important

The best way to minimize insect damage is to maintain healthy trees and shrubs. Trees should be planted at sites where they can be expected to

survive and thrive, and they should be watered during the first year after planting and subsequently whenever soil moisture becomes low. Proper pruning, fertilization, mulching, and aerification will promote plant vitality, helping trees and shrubs to help themselves against opportunistic pests.

When a pest is detected on a valuable landscape plant, it must be properly identified, its vulnerable stage(s) determined, control practices learned and a determination if direct control measures are warranted. If intervention is justified, the pest should be controlled with minimal impact on non-target organisms.

Remember, coverage and timing are often more important than the pesticide chosen for an insect or mite control program. In all cases, read the label on the pesticide container and follow all instructions to make sure you comply with the law.

Rational pesticide use does not constitute a threat to the quality of our urban environment. Informed landscape managers can use a combination of horticultural practices and pesticidal treatments to enhance the vitality and quality of our urban and community forests. **LM**



# Fungicide Could Do So Much."

either ingredient separately.

So you save all the time, labor and material costs of applying separate products. And you achieve

real control over a wider range of turf and ornamental disease

problems with just a single product—Duosan.

Contact your

Sierra distributor today and order Duosan. Or call us toll-

free at 1-800-492-8255.

**SIERRA**  
Tournament Condition  
Every Day

#### DUOSAN CONTROLS MAJOR ORNAMENTALS DISEASES

Anthracnose	Stem & Twig Blight
Blackspot	Downy Mildew
Flower Spot & Blight	Powdery Mildew
Leaf Spot & Blight	Scab and Rust



Circle No. 152 on Reader Inquiry Card