

Shade Tree Insect and Mite Pests
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Shade tree pests cause problems including:

- Nuisance
 - Defoliation
 - Tree structural damage
 - Death
 - Stress that increases susceptibility to other pests
- Pest control is difficult for many reasons

- Homeowners lack ability to identify pests and affected plants
 - Homeowners lack equipment to spray trees effectively
 - Homeowners lack resources or desire to control pests
- Pest control is difficult for many reasons

- Life cycles and control methods are not known
 - Neglected or abused trees become pest breeding sites
- Insect problems intensify if trees are stressed by

- Soil problems
- Pollution
- Diseases
- Planting disorders
- Water problems
- Other environmental problems

Aphids

- Host
 - Many Plants
- Symptoms
 - Leaves curl or twist in the spring
 - Honeydew on leaves or dripping from tree
 - Insects on leaves or branches
 - Growth of black, sooty mold

Aphids

- Control
 - Monitor predators including ladybugs, green lacewings, and others.
 - Do not spray if numbers of predators are developing.
 - Use spray oil, soaps, malathion, , or acephate (Orthene). Dormant oil controls early outbreaks.

Honeysuckle Witches'-Broom Aphid

- Hosts
 - Shrub honeysuckle
 - Description
 - Similar to other aphids
 - Cause overabundance of side shoots that resemble witches brooms
- Honeysuckle Witches'-Broom Aphid
- Damage
 - Curls leaves and causes formation of spindly side shoots
 - Control
 - Prune early in season
 - Resistant varieties

- Systemic insecticides (Orthene)
- Soil application (Merit)

Wooly Aphids

- Hosts
- Mainly conifers
- Apple wooly aphid -- apples and elms

- Description
- Secrete wax-like “wool” threads that cover body

Wooly Aphids

- Damage
- Galls
- Leaf Curl
- Honeydew covered with black mold
- Control
- Susceptible to carbaryl

Ash or Lilac Borer

- Larvae of clear-winged moth
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- Host
- Ash and lilac trees
- Symptoms
- Branches dying in tops of trees
- Large holes present in trunk or large limbs

Ash or Lilac Borer

- Control
- Prune out affected areas.
- Keep trees healthy by proper fertilization and watering.
- Spray with pyrethroids about May 20th.
- Pheromone traps used for proper spray timing.

Aspen Twig Gall

- Host
- Aspen trees and other poplars
- Symptoms
- Marble sized galls on small twigs
- Caused by the feeding of a small fly

Aspen Twig Gall

- Control
- Causes cosmetic damage so control is not usually warranted
- Remove and destroy infested branches.
- Spray when holes appear in galls, but spraying is NOT likely to be highly effective

Bark Beetles (Elms)

- Host
- Elm trees of all species
- Symptoms
- BB sized holes in trunk
- Transmit Dutch Elm disease (American elm susceptible)

- Galleries or tunnels under bark

Bark Beetles (Elms)

- Control
- Keep trees vigorous by watering and fertilization.
- Prune out dead or damaged wood.
- Spray after leaves emerge with pyrethroids.

Dutch Elm Disease Vectored by Elm

Leaf Beetle

Bark Beetles

- Host
- Many conifers
- Symptoms
- Feeding damage under tree bark often producing intricate galleries

- Trees show flagging, and eventual death with severe infestations

- May vector fungal diseases

Bark Beetles

- Control

- Keep trees vigorous.

- Remove dead and infested trees; these serve as breeding sites.

- Pyrethroid sprays on the trunks prior to egg laying are expensive but effective if timed correctly

Black Walnut Bark Beetle

- Host

- Black walnut

- Symptoms

- Death of trees

- Holes in bark

- Wilted branches

Black Walnut Bark Beetle

- Control

- Recommendations not yet established.

Boxelder Bugs

- Host

- Boxelder trees, other maples and ash

- Symptoms

- Insects feed on newly emerging seeds and foliage

- Insects collect in winter months on warm exterior walls

Boxelder Bugs

- Control

- Main complaint is insects invading buildings. Seal openings to prevent insect entry.

- Remove female boxelder trees.

- Spray immature insects with sevin or pyrethroids in the spring when they are small.

Bronze Birch Borer

- Host

- Most birch trees

- Symptoms

- Limbs dying in the tree tops

- D-shaped exit holes in trunk or large limbs

Bronze Birch Borer

- Control

- Keep birches vigorous with adequate water and fertilizer.

- Control iron chlorosis.

- Prune out dead wood.

- Apply pyrethroids to trunks and limbs in mid May when beetles emerge.

Eriophyd Mites

- Hosts

- Many species

- Symptoms

- Produces galls on leaves and twigs

- Galls often are misshapen and have unusual colors

Eriophyd Mites

- Control

- Usually not recommended because damage is largely cosmetic.

- Prevent plant stress.

- Select resistant species.

- Dormant oil sprays prevent some infestations.

Hackberry Nipplegall

- Host

- Hackberry

- Symptoms

- Prominent warty leaf galls on the underside of leaves, often covering the entire leaf

Hackberry Nipplegall

- Control
- Often controlled by parasitic wasps.
- Overwintering psyllids are important prey for birds.
- Chemical control is rarely necessary but acephate (Orthene) is highly effective

Leaf Beetle

- Host
- Elms
- Symptoms
- Leaves skeletonized or chewed by yellow and black striped 1/4 inch larva or yellow-tan and green striped beetles

Leaf Beetle

- Control
- Seal buildings to avoid invasion
- Use acephate (Orthene), sevin, malathion, when insects are feeding in May-June.
- Apply sevin as a trunk band (2-3 ft wide) when larvae begin to pupate
- Biological controls available. (M-one - BT for beetles)

Leaf Miner

- Host
- Birch, boxwood, lilac, poplar and others
- Symptoms
- Leaves browning
- Tunnels or tracking present in leaves when held up to the light
- Usually only cosmetic damage

Leaf Miner

- Control
- Ignore damage unless severe

- Spray timing very important. Spray with malathion or acephate (Orthene).

Leaf Rollers, Canker Worms

- Host
- Boxelder and many others; Gambel oak attacked by canker worms
- Symptoms
- Skeletonizes leaves of boxelder and will defoliate entire trees

- Worms often hang from trees on silken threads

Leaf Rollers, Canker Worms

- Control
- Outbreaks are cyclic.
- Ignore unless very severe.
- Spray with B.T. (Dipel), malathion and Sevin.

Locust Borer

- Host
- Black locust
- Symptoms
- Large holes
- Abundant sawdust
- Severe damage to trunk and larger limbs

Locust Borer

- Control
- Keep trees vigorous.
- Woodpeckers feed on larvae.
- Apply pyrethroids at 3 week intervals beginning mid August with 3 applications.

Peach Tree Borer

- Host
- All prunus species including fruiting forms
- Symptoms

- Holes or cast insect skins or gumming just above soil line
 - Tree declining without other apparent causes
- Peach Tree Borer
- Control
 - Apply pyrethroids to trunk and let puddle on soil the first week of July and August.
 - Don't let the spray touch fruit.

Pear or Cherry Slug

- Host
 - Pears, plums, cherry and others
 - Symptoms
 - Leaves are skeletonized
 - Upper surface of leaves are eaten away leaving net-like veins on surface
- Pear or Cherry Slug
- Control
 - Easily controlled with any common spray.
 - Ignore unless severe damage occurs.

Poplar Willow Borer

- Host
- Poplars, including aspen, willows
- Symptoms
- Large holes 3/8" in diameter in trunk and branches
- Dieback of branches
- Sawdust apparent in borer holes

Poplar Willow Borer

- Control
- Spray insecticide into actual borer holes.
- Remove dead wood

Sawflies

- Hosts

- Mainly conifers, also some deciduous
 - Description
 - Class, not a single species
 - Similar to caterpillar visually
 - Differentiated by six or more pair of prolegs on abdomen (caterpillars, 2-5)
 - Adults are stout-bodied, non-stinging wasp
- Sawflies

- Damage
- On conifers, damage occurs early in year before new growth develops
- Control
- Prune affected branches
- Oils
- Orthene
- Sevin

Scale

- Host
- Many trees
- Symptoms
- Limbs doing poorly
- Partial death of branches
- Small, raised areas on leaves or branches

Scale

- Control
- Use dormant oil plus or just prior to bud break.
- Use summer oils during growing season.
- Use sticky bands around limbs to identify crawler stage. These are susceptible to most insecticides

Seed Pod Gall Midge

- Host
- Honey locust trees

- Symptoms
- Leaves become swollen and look like seed pods

Seed Pod Gall Midge

- Control
- Ignore damage unless severe.
- Select tolerant varieties.
- Female midges overwinter in leaf or soil debris; rake leaves in fall.
- Chemical control is usually ineffective. Acephate (Orthene), applied gives some control every 1-2 weeks.

Shothole Borer

- Host
- Cherry, apple, hawthorne and many others
- Symptoms
- Declining tree health or lack of vigor that resembles drought
- BB sized holes in trunks or large limbs

Shothole Borer

- Control
- Keep tree growing vigorously.
- Spraying usually not effective.
- Prune out affected branches.

Spider Mites

- Host
- Many species
- Symptoms
- Brown discoloration of foliage occurring during hot weather
- Webbing sometimes present
- Use the paper-check for mites

Spider Mites

- Control
- Keep trees clean.
- Use dormant oil, summer oil, or soap sprays as needed.

- Use sprays of kelthane or vendex, oil or soap; will kill predators as well as damaging mites.

Spruce Spider Mite

- Hosts
- Spruce
- Juniper
- Pine
- Description
- Green, no spots on sides
- Orange eggs on needles and twigs

Spruce Spider Mite

- Damage
- Discoloration
- Needle drop
- Control
- Use dormant oil, summer oil, or soap sprays as needed
- Avoid using insecticides that kill their predators (Carbaryl, Malathion)

Spruce Gall Aphid

- Host
- Spruce and Douglas fir
- Symptoms
- Large swollen galls on new growth
- Primarily visual damage
- Damaged young spruce trees by preventing new growth

Spruce Gall Aphid

- Control
- Ignore damage.
- Prune out galls.
- Monitor white, cottony aphids on new growth.

- Sprays of sevin or pyrethroids as the new growth unfolds may be effective.

Stinkbug

- Host
- Birch trees
- Symptoms
- Small 1/4 to 3/8" insects with a disagreeable odor on leaves and seed pods

Stinkbug

- Control
- Mobile pest so control is difficult.
- New arrive even if others are destroyed.
- Acephate (Orthene) is registered for birch pests.
- Apply when problem occurs.

Sycamore Plant Bug

- Host
- Sycamore Trees
- Symptoms
- Numerous small holes throughout the leaves because the bugs feed on the developing buds.

Sycamore Plant Bug

- Control
- Common only in certain areas
- When you see damage it is too late for control.
- Most insecticides including oils work but are not recommended

Trunk Borer

- Host
- Many trees
- Symptoms

- Coarse excelsior-like borings around tree base

- Black swollen scars on trunk and limbs

- Interior limbs and trunks honey-combed with galleries

Trunk Borer

- Control
- Keep trees healthy and avoid stress.
- Many different kinds and life cycles make control difficult.
- Treat borers in holes if they are feeding.

Tussock Moth

- Hosts
- Ornamental Blue Spruce, rarely a forest pest

- Description

- One inch long gray to light brown caterpillar with tufts of brightly colored hairs along back

- Two longer and more slender tufts originate behind head, single tuft from posterior of body

Tussock Moth

- Damage

- Defoliation of tree

- Most commonly concentrated at top of tree, occurring in early June

- Control

- BT gives only fair results

- acephate, cyfluthrin, bifenthrin, fluvalinate, and carbaryl applied with first new growth give good results

Webworm, Tent Caterpillars

- Host

- Many species, especially poplar and willows

- Symptoms
 - Caterpillars groups in webs defoliate branches
 - Tent caterpillars occur in the spring
- Webworm, Tent Caterpillars
- Control
 - Ignore unless severe outbreak occurs.
 - Spray with B.T. (Dipel, Thuricide), sevin, or acephate (Orthene). Spray must penetrate webs.
 - Prune and destroy individual clusters.