Garden Insect Presentation

Master Gardener Presenter:

There are 3 documents associated with this presentation.

- Matching Test
- Answer Sheet
- Wrap-up Sheet

This presentation, and is best delivered to groups where they know each other, like clubs.

1. The one-page matching test is distributed first. This normally generates a lot of discussion between participants. Instruct participants to draw a line from the insect to the correct word in the center (this may seem obvious but someone always asks how to do it). Give them a few minutes to try to identify the insects.

2. Then distribute the 3 page answer sheet, which has insect pictures and associated information. This portion of the presentation is interactive – allow participants to share their experiences with the insects. Use your judgment on how much time to spend on each insect. You will spend more time on some insects than on others.

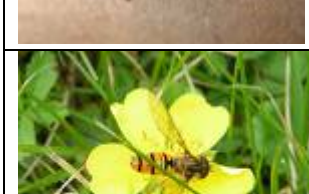
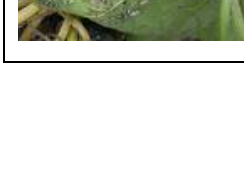
3. I wrap up the session by distributing the third document, which has some U of A info and a summary of insect controls. **Modify this page with pertinent info (i.e. change the date, group presenting to, presenter's name, Extension office location, etc.)**

The presentation takes 45 – 60 minutes, depending on the amount of discussion.

Note: The sheets with insects must be printed in color. You may modify the pictures and information based on current insect encounters.

Mary Barnes

Garden Insect Matching Test

	Aphid	
	Blister Beetle	
	Boxelder Bug	
	Cicada	
	Darkling Beetle	
	Fungus Gnat	
	Grub	
	Hover Fly	
	Lace Wing	
	Leaf Cutter Bee	
	Pill Bug	
	Sow Bug	
	Sphinx Moth	
	Spider Mites	
	Spittle Bug (spittle)	
	Squash Bug	
	Stink bug	
	Thrips	

Garden Insects

	Aphids • Suck on edible ornamentals; love tender leaves • Produce honeydew • Monitor for beneficials (lady bugs, lacewings, etc.) • Controls: insecticidal soap, high pressure hose, home Remedy
	Blister Beetles • Chewing mouth parts • Controls: carbaryl on beetles and host plants • Horses can die within 2 days if ingested; call vet immediately
	Boxelder Bugs • Feed on low vegetation & seeds on ground in spring & early summer; they move to seed bearing boxelder trees starting in mid July • Most abundant in hot, dry summer (late summer & fall); they look for winter protection in building cracks, foundations, siding, shingles • They do not reproduce in the home • No noticeable tree injury; they are just a nuisance • Controls: horticultural oil spray on host plants & surrounding area in spring to kill eggs; vacuum or sweep up; pesticide spray is last resort
	Cicadas • Emerge in July-Aug • Larvae suck juice from tree roots; adults lay eggs in slits in tree branches • Avoid planting new trees when present • Controls: tolerate them • Predators: birds
	Darkling Beetles • Eat decaying material, dead insects, feces, stored grain, & occasionally new growth • Control with fly swatter or vacuum; carbaryl in extreme conditions
	Fungus Gnats • Often found on house plants and in green houses; feed on roots • Control options: white fly sticky traps (catch adults); soil drench with BTi (Gnatrol); water well and next day pour solution of malathion or carbaryl concentrate mixed with water; beneficial nematodes; let soil dry out
	Grasshoppers • Lay eggs in soil; eat everything in site • Controls: carbaryl, Nolo bait, cover crops with row-cover cloth

Home Remedy: 1 TBSP non-detergent dish washing liquid or baby shampoo & 2 drops vegetable oil per 1 gal water – spray in evening

Garden Insects

	Grubs • Japanese Beetle, June Beetle, and Chafers lay eggs Jun-Aug – hatch in 2 wks as grubs; grubs feed on small soil particles & organic matter • Pesticides most effective when applied in Jul/Aug when grubs are young and near soil surface; older grubs are more resistant, and burrow deeper (4-8" in soil) during winter; they rise to surface in spring, feed on grass roots, become adults and lay eggs • Controls: parasitic nematodes, hand pick after rolling back lawn; may need chemical controls if more than 6 grubs / sf – imadacloprid (Merit), carbaryl (Sevin), or trichlorphon (Dylos) • Predators: ravens, skunks, raccoons, coyotes
	Hover Flies • Eat aphids and other soft-bodied insects • Beneficial – pollinates flowering plants
	Lace Wings • Beneficial – larvae feed on aphids, other small insects, eggs and mites
	Leaf Cutter Bee • Native to western US; essential for pollinating native plants; use leaf parts to make nests in soft rotted wood, like roses • Controls: insecticides are ineffective; cover plants with cheesecloth or loose netting when bees are most active; leave alone and live with some holes in leaves
	Pill Bugs • Beneficial – decompose organic matter • Nocturnal; may feed on young plants • Like moisture
	Sow Bugs • Beneficial - decompose organic matter • Nocturnal; may feed on young plants • Like moisture
	Sphinx Moths • Many varieties; feed on nectar producing plants such as sacred datura, petunias, thistles, evening primrose, honeysuckle, verbena, salvia, etc. Some feed on ash, catalpa, poplar, cottonwood, incense cedar, juniper, desert willow, & other trees in our area. Damage is not noticable. • Note: Tomato hornworm is a sphinx moth larva. Control hornworms by hand picking, neem, BT, or carbaryl.

Home Remedy: 1 TBSP non-detergent dish washing liquid or baby shampoo & 2 drops vegetable oil per 1 gal water – spray in evening

Garden Insects

	Spider Mites • Prefer roses and conifers; suck sap from undersides of leaves • Symptoms = flecking, discoloration (bronzing) & scorching of leaves • Can kill plants or cause serious stress • Controls: spray with water weekly; insecticidal soaps, oils, malathion, or kelthane (treatments won't kill eggs, so spray once a week for 3-6 weeks) • Predators: lady beetles, predatory mites, big-eyed bugs, predatory thrips • There are different species of mites for different plants (e.g. spruce, juniper, pines, arborvitae, honey locust, elm, mountain ash, oak, etc.) • Cautions: do not use petroleum or oil on Blue Spruce; insecticides destroy natural enemies; carbaryl & soil applications of systemics like Merit and Marathon have contributed to outbreaks because they killed predators
	Spittle Bugs (spittle) • Usually found on stems; white froth is protection from predators • Controls: high pressure hose, insecticidal soap, malathion, acephate (contained in Orthene – systemic insecticide for ornamentals)
	Squash Bugs • Suck and inject toxic substance • Symptoms: vines like squash and pumpkin turn black and are dry • Controls: insecticidal soap, neem, or permethrin when insects are small, as adults are difficult to kill; collect/destroy egg clusters on underside of leaves; trap and destroy adults in AM under board or burlap
	Stink bugs • Appear in spring to late fall • Can leave cosmetic scars on fruit • Control by hand picking; carbaryl or malathion are effective but seldom needed because usually not a serious problem
	Thrips • Sucking mouth parts; feed mostly when plants are blooming – also feed on pollen; overwinter as adults or pupae under ground litter • Controls: malathion, neem, home remedy; destroy infected buds and blooms • Predators: lady bugs

Home Remedy: 1 TBSP non-detergent dish washing liquid or baby shampoo & 2 drops vegetable oil per 1 gal water – spray in evening

THE UNIVERSITY OF ARIZONA
COLLEGE OF AGRICULTURE & LIFE SCIENCES
Cooperative Extension
Yavapai County

Date:
Presented to:
Presented by:

Garden Insects

General guidelines:

Type of Insect	Examples	Control Examples
Chewing Eat plant tissue such as leaves (resulting in uneven or broken margins), flowers, buds, twigs.	Larvae of moths and butterflies (caterpillars), beetles and their larvae (grubs), grasshoppers	**Stomach poison** *(must be ingested)* Examples: • Bt for caterpillars • Carbaryl *(either ingested or by direct contact)*
Piercing / sucking Suck juices from leaves, twigs, branches, flowers, or fruit (resulting in discoloration, drooping, wilting, general lack of vigor).	Aphids, thrips, mealy bugs, leaf hoppers, spider mites, scale, bugs	**Contact poison** *(kills by burning, asphyxiation, or paralysis)* Examples: • Insecticidal soap *(damages outer membrane causing dehydration & starvation)* • Insecticidal oil *(suffocates; primarily used on eggs and immature stages)* • Home remedy • Neem oil *(poison, repellent, deterrent to feeding)* • Carbaryl *(either ingested or by direct contact)*
Boring Tunnel in tree wood	Termites, bark beetles	Depends on insect

Caution: Carbaryl, insecticidal soaps and oils, and home remedy can harm beneficial insects.

Cooperative Extension

- Master Gardener, Prescott Cooperative Extension Office: 928-445-5690, ext 222
- Master Gardener, Camp Verde Cooperative Extension Office: 928-554-8992

- U of A Publications, Yavapai County Publications, Backyard Gardener Columns, Plant Database: extension.arizona.edu/yavapai/