



Arkansas Plant Health Clinic Newsletter

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Bagworms

Bagworms are moths in the Family Psychidae. Their larvae feed on 50 families of deciduous and evergreen trees and shrubs (Rhainds et al. 2009). Severe infestations can seriously damage the beauty and health of host plants, especially arborvitae, fir, hemlock, juniper, pine, and spruce species. They live in a bag made from silk that the caterpillar produces. Pieces of plant debris are incorporated into the bag for camouflage. Female bagworms are wingless and never leave the bag. Males are black to brown with clear wings and have a flexible abdomen that can be extended into the female's bag for mating. After mating, eggs develop within the female, and she dies. There can be 300-1000 eggs in a single bag. The eggs overwinter in the bag until spring when larvae hatch, crawl out, and spin down from the bag by a strand of silk that often acts like a parachute to carry them to new hosts. Once they land, they begin making their own silk bags. Unless trees are touching or are very close to each other, the worms don't move from tree to tree. Many homeowners fail to notice them until they have matured and permanently glued themselves to a stem. At that point, they have

quit feeding and the damage has been done for the year.

Non-chemical control is best achieved in late fall or winter because the bags can be picked off the tree and destroyed. Be sure to remove the silk that binds the bag to the stem as it may cause girdling later. This is only effective if the number of bags is relatively low. Spring is the best time for chemical control because the larvae are small, actively feeding, and don't have the full protection of a completed bag yet.

Insecticides readily available to homeowners in Arkansas are:

- *Bacillus thuringiensis* (Thuricide, Biotrol XK, or Monterey B.t.)
- dinotefuran (Green Light with Safari)
- malathion (various)
- and other pyrethroids per label instructions

Restricted use insecticides or those not readily available to homeowners are:

- acephate (Orthene)
- acetamiprid (TriStar)
- azadirachtin (Azatin)
- *Bacillus thuringiensis* subsp. *kurstaki* (Biobit HP, DiPel, or Foray)
- bifenthrin (Talstar)
- bifenthrin + clothianidin (Aloft)
- bifenthrin + imidacloprid (Allectus)
- chlorantraniliprole (Acelepryn)
- fluvalinate (Mavrik)
- indoxacarb (Provaunt)
- novaluron (Pedestal)
- spinetoram + sulfoxaflor (XXpire)
- and spinosad (Conserve SC)



Bagworm Damage-Psychidae



Photo by Ricky Corder, University of Arkansas Cooperative Extension

Arborvitae Bagworm Injury-Psychidae



Photo by Sherrie Smith, University of Arkansas Cooperative Extension

Bagworm Damage-Psychidae



Photo by Ricky Corder, University of Arkansas Cooperative Extension

Green Bean

Occasionally we receive a bean sample with stem borer damage. Bean leaf beetle larvae (*Cerotoma trifurcata*), Lesser cornstalk borer larvae (*Elasmopalpus lignosellus*), Lima bean vine borer (*Monoptilota pergratialis*), Wireworms (*Elateridae* spp.), and Cucumber beetle larvae (*Acalymma vittatum* and *Diabrotica* spp.) have all been found to attack bean roots and stems. Symptoms of borer damage are stunting, wilting, and sometimes plant death. The damage also allows easy entry for root pathogens such as *Fusarium* and *Rhizoctonia*. M-Trak and pyrethrins will kill beetle larvae. Synthetic pesticides Carbaryl and cyfluthrin will kill adults of both beetles and



moths. Adult insects can also be handpicked in small plantings.

Green Bean Stem Borer- unidentified species



Photos by Justin Chlapecka, University of Arkansas Cooperative Extension

Petunia

A common problem of petunia is Phytophthora Stem Canker, caused by *Phytophthora parasitica*. Good soil drainage and adequate air circulation is **extremely important** in petunia plantings. Disease is favored by extended hot, wet weather, overhead irrigation, and too much nitrogen fertilizer. The first noticeable symptom is yellowing and wilting of the foliage. Stem lesions develop that are somewhat slimy to the touch. On petunia, the stems become brown and dry. Phytophthora can spread rapidly through a planting simply from the leaves of an infected plant touching the leaves of a nearby plant. Any wilting plants should be immediately removed from the planting. Overhead watering should be discontinued or limited to absolute necessity. Watering early in the day will allow foliage to dry. Fungicides are not very effective unless applied well in advance of disease development. Aliette fungicide has been found to suppress the disease when applied every 2 weeks as a foliar spray. The use of resistant species and cultivars is strongly recommended. Highly susceptible species of annuals include pansy, petunia, salvia, verbena, and annual vinca. Wax begonias and impatiens are slightly susceptible to Phytophthora. Resistant annuals include ageratum, alyssum, chrysanthemum, coreopsis, dianthus, geranium, lantana, French marigold, morning glory, portulaca, rudbeckia, and zinnia. The resistant species are tolerant of stem canker and may be tried in areas with a history of aerial Phytophthora.



Petunia Phytophthora Stem Canker-*Phytophthora parasitica*



**Photo by Sherrie Smith, University of Arkansas
Cooperative Extension**

Annual Vinca Phytophthora Stem Canker-*Phytophthora parasitica*



**Photo by Sherrie Smith, University of Arkansas
Cooperative Extension**

This bulletin from the Cooperative Extension Plant Health Clinic (Plant Disease Clinic) is an electronic update about diseases and other problems observed in our lab each month. Input from everybody interested in plants is welcome and appreciated.

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