

Bagworm

Prepared by Jeri Gardner
Master Gardener, Class of 2004

Texas AgriLife Extension Service
Galveston County Office
Dickinson, TX 77539



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FIG. 1

Type Pest: chewing insect (*Thyridopteryx ephemeraeformis* Haworth)

Type Metamorphous: complete (egg, larva, pupa, adult stages)

Period of Primary Occurrence: March and May through October

- Eggs overwinter within bags and typically hatch in March but may do so as early as February during warm weather conditions
- Feeding larvae of all ages are found throughout the spring and summer
- Bagworm dispersal to new plants occurs when young caterpillars crawl onto nearby plants or hang from silk threads and spread by wind, known as ballooning (Fig. 8)



FIG. 2

Plants Affected

- Narrow-leafed evergreens (including junipers, cedars, and arborvitae) are favorite hosts
- Variety of hardwood trees in the Galveston-Houston area are commonly infested including bald cypress and oaks (Fig. 1)
- Variety of broadleaf shrubs are commonly infested including hollies, Texas mountain laurel, and pomegranate (Fig 4-5)



FIG. 3

Identifying Characteristics of Insect Pest

EGG STAGE (Fig. 7)

- Eggs are deposited in the female's bag inside her pupal cast skin

CATERPILLAR & PUPA STAGES (Fig. 2 & 3)

- Bagworm caterpillars are brown or tan, mottled with black
- Each caterpillar lives inside a carrot-shaped bag made of silk and bits of needles, bark, or twigs. Bags typically expand in size up to 2" long and ½" wide
- Infested plants appear to be adorned with Christmas tree ornaments (Fig. 4)
- Caterpillars partially emerge from the top opening of bag to feed and quickly draw back if disturbed



FIG. 4

ADULT STAGE

- Adult males are moths that emerge from bags to mate during August and September
- Pupal skins are often seen on the lower/bottom end of bags. Such bags contained male caterpillars that have pupated into adult moths that have left the bag (Fig. 6)
- Adult male moth is 1/2" (12.5 mm) in length with wingspan of 1 3/25" (24 mm), clear wings; hairy black bodies, and feathery antennae
- Male moths are nimble fliers and in the fall fly around infested trees in search of a mate
- Adult females mate while in the bag. Each female can lay a clutch of 500 – 1000 eggs. Adult females do not fly



FIG. 5

Description / Symptoms

- Bagworms incorporate leaves and other plant debris onto the silk sacs arranged in a crosswise or shingle fashion
- Young caterpillars feed on the outer layer of cells (epidermis) of leaves or needles
- Older caterpillars feed on all portions of leaves or needles except major leaf veins
- Caterpillars will also feed on developing seed pods of some shrubs such as Texas mountain larval (Fig. 5)
- Infested plants tend to develop more bagworms each year
- Bagworms may become abundant enough in some years to heavily or completely defoliate plants. Excessive defoliation may cause plant death during the following season



FIG. 6

Best Management Practices (BMP)

- Natural predators rarely control bagworms in urban environments (there are a few known parasites and predators that provide good control in forests)
- Some species of birds (e.g. sapsuckers and woodpeckers) are able to tear open the bags and feed on the larvae
- Bagworms are difficult to control because they are often unnoticed until mature
- Spray equipment must provide complete foliage coverage for effective control

NON-CHEMICAL CONTROL (Mechanical hand picking)

- For small evergreens, shrubs and small trees with very limited infestations, remove bagworms with scissors or a sharp knife
 - Avoid throwing the bags on the ground, as eggs may still hatch in the spring and larvae can crawl back into plants
 - Destroy bags by crushing and/or immersing in very soapy water



FIG. 7

BIOLOGICAL CONTROL (Use of Bt as a spray)

- The bacterium *Bacillus thuringiensis* (commonly known as Bt) is effective if it is used against young larvae
 - Applications should be made in April to control newly emerged caterpillars. Thorough coverage of all foliage is needed
 - Subsequent applications can be made for caterpillars emerging later in the spring (closely inspect plants for bagworm feeding activity)

CHEMICAL CONTROL

- Several insecticides provide effective control of bagworms
 - Thorough coverage of all foliage is needed because larvae are protected from contact by being in silk bags
 - Early sprays against young caterpillars are more effective than later applications against older caterpillars

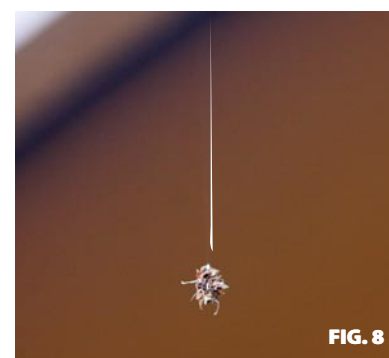


FIG. 8

The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by the Texas AgriLife Extension Service is implied.

Use pesticides only according to the directions on the label. Individuals who use chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. If the information does not agree with current labeling, follow the label instructions. The label is the law.

Always remember to read and heed six of the most important words on the label: "KEEP OUT OF REACH OF CHILDREN"

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Texas AgriLife Extension Service • Galveston County Office • 5115 Highway 3 • Dickinson, TX 77539
281-534-3413 • <http://aggie-horticulture.tamu.edu/galveston>