



# Ornamentals & Turf

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## BAGWORMS

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During July and August, bagworms may defoliate arborvitae, junipers and other trees and shrubs. Bagworms are caterpillars that live inside spindle-shaped bags which they construct to protect themselves against birds and other enemies. These bags, composed of silken threads and bits of foliage, look so much like a part of the tree that they may go unnoticed until extensive damage has occurred.

Bagworms are most common in southern and central Indiana, but in recent years they also have been reported in northern Indiana. Early in June, the insects hatch from eggs which wintered in the old bags attached to tree branches. As soon as the young worms appear, they start to spin bags and continue to enlarge these as they feed and grow. The caterpillars crawl part way out of the bags to feed. If disturbed, they retreat safely inside, and it is almost impossible to pull them out. Each female bag can produce over 1,000 bagworms.

Bagworms mature in late August or early September. At this time the bags are about 2 inches long and can no longer be killed by pesticides. The worms then attach the bags firmly to branches or other objects and change into the adult stage. The wingless female never leaves the bag and is fertilized by the winged male. The eggs are laid in the bag where they pass the winter. There is only one generation each year.

### CONTROL MEASURES

Bagworms tend to be a problem on trees that are isolated or in urban settings. When bags are found in the tree, simply pick the bagworms off and drown them in a bucket of soapy water. This method is most effective before eggs hatch out of the bags in June.

Bagworms can be controlled by spraying them with insecticides after eggs have hatched. For best results, use a biorational pesticide listed in Table 1. The biorational materials will only kill caterpillars. In this way, the beneficial insects already on the plants can continue to feed on other pests and prevent them from causing problems (See E-42 Spider Mites on Ornamentals, E-29

Scale Insects on Shade Trees and Shrubs). Biorational pesticides are most effective when directed against worms in bags that are still small. Two weeks after application look for live bagworms to determine if additional treatment is needed. As bags approach their full size (2 inches), pesticides become less effective. Use one of the rescue materials listed in Table 1 to treat larger bags. To prevent other unwanted pests from causing problems later in the season, avoid use of these materials against smaller bagworms.



Young bagworm caterpillar hanging from tree



Adult female hanging from tree

Insecticide	Formulation	Amount per 100 gallons	Amount per gallon	Suggested Use	General Use Restriction (Check label) H=Homeowner C=Commercial
Acephate (Orthene)	75% S 15.6% EC	1/3 lb. 1 1/5 cup	1/3 tsp. 1 1/2 Tbsp.	Rescue	H,C
<i>Bacillus thuringiensis</i> (Kurstaki) (Dipel, Biotrol, others)	See label	See label	See label	Biorational	H,C
Bifenthrin (Talstar L&T and other site specific products)	0.7 F	5.5 - 10.9 oz.	1/3 - 2/3 tsp.	Rescue	C
Carbaryl (Sevin and others)	4 F 2 F	1 qt. 2 qt.	2 tsp. 4 tsp.	Rescue	H,C
Cyfluthrin (Tempo, Decathalon) (Bayer Lawn & Garden)	20 WP 0.75 EC	1.3 oz. -	- 1 Tbsp.	Rescue	C H (Bayer)
Deltamethrin (Deltagard T&O)	4.75% EC	4-8 oz.	1/4 - 1/2 tsp.	Rescue	C
Fluvalinate (Mavrik)	2 F	5 - 10 oz.	1/4 - 1/2 tsp.	Rescue	C,H
Lambda-cyhalothrin (Scimitar CS)	9.7% EC	1.5 - 5 oz.	-	Rescue	C
Malathion	57% EC	2 - 4 pt.	2 tsp.	Rescue	H,C
Permethrin (Astro EC) (Spectracide Bug Stop) (Eight)	36.8% EC 2.5% EC	4 - 8 oz. -	1/4 - 1/2 tsp. 2 Tbsp.	Rescue Rescue	C H
Spinosad (Conserve) Bulls-Eye Bioinsecticide Fertlome Borer, Bag worm, Leafminer & Tent Caterpillar Spray	SC SC	6 oz. -	1/2 tsp. 2 Tbsp. 2 Tbsp.	Biorational	C H H
Tebufenozide (Confirm)	23% EC	4 - 8	1/4 - 1/2 Tsp.	Biorational	C

Bagworm: *Thyridopteryx ephemeraeformis* (Haworth)

READ AND FOLLOW ALL LABEL INSTRUCTIONS. THIS INCLUDES DIRECTIONS FOR USE, PRECAUTIONARY STATEMENTS (HAZARDS TO HUMANS, DOMESTIC ANIMALS, AND ENDANGERED SPECIES), ENVIRONMENTAL HAZARDS, RATES OF APPLICATION, NUMBER OF APPLICATIONS, REENTRY INTERVALS, HARVEST RESTRICTIONS, STORAGE AND DISPOSAL, AND ANY SPECIFIC WARNINGS AND/OR PRECAUTIONS FOR SAFE HANDLING OF THE PESTICIDE.

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