



Fact Sheet

Bagworms

(Thyridopteryx ephemeraeformis)

Identification: The identification of bagworms can be tricky. This is due to the fact that they are camouflaged by a silk bag covered with portions of plant material. The cone shaped bag can be up to 2 inches long and is constructed from bits of foliage and debris from whatever plant the caterpillar chooses. Infestations often go unnoticed because the protective bags are mistaken for pine cones or other plant structures. Although the camouflaged bags may be difficult to spot, once noticed, it is easy to identify this insect pest as bagworm.

Life: The bagworm is the larval stage of a moth native to North America. The male develops into a rarely seen clear-winged moth while the female will never take flight. She will remain inside the bag until laying eggs and die shortly after. The eggs will remain inside this bag throughout the winter. In mid to late May the eggs hatch and the tiny larvae crawl out from the end of the bag in search of food. These larvae soon start the construction of their own bag while they carry it on their back like a tiny upside down ice cream cone. The larvae will increase their bag size as they grow to protect themselves from predators such as birds. In early August, after pupation, the males will emerge as moths. The females will remain in the bag and emit powerful pheromones to attract the male moths. After fertilization, the female will lay between 500 to 1000 eggs in a single mass within the bag. These eggs will then hatch in mid to late May to start the cycle once again.

Concerns: Bagworms are only a concern when found in high numbers on a plant. Because of the limited movement of the caterpillar, individual plants or rows of host plants can be heavily infested. New infestations away from the original may be possible if the larvae are able to balloon to a new host plant. Ballooning is the act of the larvae hanging down on a long silk strand that is caught in wind currents.

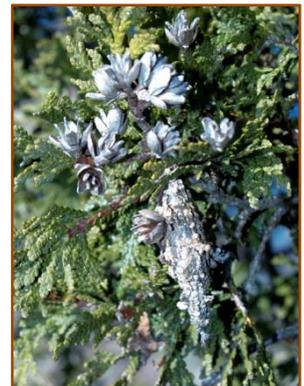
Trees and shrubs are harmed by the caterpillars feeding on foliage. When infestations are high, defoliation may stress or destroy the host plant. Bagworms attack over 120 species of broadleaf and evergreen trees and shrubs. Some of these hosts include juniper, arborvitae, cedar, spruce, honeylocust, maple, linden, oak, buckeye, willow, birch, elm and poplar.

Control: The preferred method of control is the manual removal and destruction of the bags before the eggs hatch. This can be done by hand picking the bags in the fall, winter or early spring and destroying them in soapy water or sealing them in plastic.

When manual removal is not practical, insecticides should be applied soon after the eggs have hatched. Another application after 2 weeks may be necessary for heavy infestations. Biorational materials should be used whenever possible in order to kill caterpillars but not harm beneficial insects. The following chart shows insecticides for use on bagworms:



Bagworm on Ohio Buckeye



Bagworm on Arborvitae



Bagworm on Blue Spruce



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Insecticide	Formulation	Amount per gallon	Suggested Use	General Use Restriction H=Homeowner C=Commercial
Acephate (Orthene)	75% S 15.6% EC	1/3 tsp. 1 1/2 Tbsp.	Later Stage Rescue	H, C
<i>Bacillus thuringiensis</i> (Kurstaki) (Dipel, Biotrol, others)	See label	See label	Early Stage Biorational*	H, C
Bifenthrin (Talstar L&T and other site specific products)	0.7 F	1/3 - 2/3 tsp.	Later Stage Rescue	H, C
Carbaryl (Sevin and others)	4 F 2 F	2 tsp. 4 tsp.	Later Stage Rescue	H, C
Cyfluthrin (Tempo, Decathalon) (Bayer Lawn & Garden)	20 WP 0.75 EC	- 5 Tbsp.	Later Stage Rescue	C H (Bayer)
Deltamethrin (Deltagard T&O) (Suspend SC)	4.75% EC	1/4 - 1/2 tsp.	Later Stage Rescue	H, C
Fluvalinate (Mavrik)	2 F	1/4 - 1/2 tsp.	Later Stage Rescue	H, C
Lambda-cyhalothrin (Scimitar CS)	9.7% EC	-	Later Stage Rescue	H, C
Malathion	57% EC	2 tsp.	Later Stage Rescue	H, C
Permethrin (Astro EC) (Spectracide Bug Stop) (Eight)	36.8% EC 2.5% EC	1/4 - 1/2 tsp. 2 Tbsp.	Later Stage Rescue	C H
Spinosad (Conserve) Bulls-Eye Bioinsecticide Fertilome Borer, Bagworm, Leafminer & Tent Caterpillar Spray	SC SC	1/2 tsp. 2 Tbsp. 2 Tbsp.	Early Stage Biorational*	C H H
Tebufenozide (Confirm)	25% EC	1/4 - 1/2 Tsp.	Early Stage Biorational*	C

*Biorational pesticides are derived from natural sources and have little or no adverse effect on beneficial organisms.

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.