The Plant Doctor's LANDSCAPE TIPS

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BAG O' WORMS

Photo 1A & 1B: The bagworm produces "bag houses." The insects retreat into the houses and slam the door shut when threatened. The bags also protect the overwintering eggs. Note the abundant bags (Photo 1A) on decimated foliage and sparse bags on initial infestations (Photo 1B).

Photo 2: Most of the lower foliage was destroyed by the bagworm on this arborvitae. Next season, the bagworm will finish off the top.

Photo 3: Bag worms can be lethal to twigs and plants. The green twig in the center of this Photo would probably recover with new shoots next season. Unfortunately, much of the surrounding foliage is "crispy" and, hence, dead.

Photo 4: In this row of arborvitae, some of the plants are severely affected by the bagworm while others still appear "healthy". The concentration of infestations is due to the limited spread capabilities by the bagworm; females cannot fly. The insect spreads by crawling to adjacent foliage or plants or by wind dissemination of small silk-laden larvae.

INTRODUCTION:

Ever hear the phrases-"that ol' bag" or "the bag lady"? These phrases may have originated from The Bagworm, Thyridopteryx ephemeraeformis (Haworth), which is native to North America. The insect is reported to feed on over 100 different plants. Some of the more common plant hosts include conifers such as pine (Pinus), spruce (Picea), arborvitae (Thuja), and cedar/juniper (Juniperus). Deciduous hosts include black locust (Robinia), honeylocust (Gleditsia), sycamore (Platanus), sweetgum (Liquidambar) willow (Salix), apple (Malus), maple (Acer), elm (Ulmus), and birch (Betula). Bagworms receive their name from the bag-like "house" they create in which to hide when disturbed and in which to overwinter (Photos 1A and 1B). These bags may be mistaken for cones on some of the conifers. Larvae cause damage to plants by feeding on the foliage. In severe cases, the foliage may be entirely stripped from trees (Photo 2). Depending on severity, branches may be killed or may recover (Photo 3). Unfortunately, bagworm presence is often not noticed until feeding damage is extensive (Photo 4).

INSECT CYCLE:

Bagworms reside over winter as eggs inside the bags that served as cocoons for last year's female population. In late May to early June, the eggs hatch and larvae emerge from the bag to feed on foliage. As it feeds, each larva uses silk and bits of plant material to make a small bag to protect and camouflage itself during its feeding and growth. The silk may also serve for wind dissemination of small larvae for short distances. The caterpillars feed for about six weeks, dragging the bag around the plant as they feed (hence, the "bag lady"). They continue to enlarge the bag as they grow and withdraw into it if threatened. Older larvae are particularly destructive as they strip conifers of their needles. They generally stop feeding in August and attach their bags to twigs where they remain enclosed for about 4 weeks as pupae. In September and October, female moths (which cannot fly) attract male moths (which can fly) with pheromones for sparking and mating rituals. This insect must not be too fussy because the relationship is consummated through a tiny hole in the bottom of the female's bag house. Subsequently, the females lay several hundred eggs in her ole' bag, which serves as the "egg house" until spring.

MANAGING BAGWORMS:

There are several approaches that can manage bagworms. It is important to note that the bagworm has quite a few natural enemies. The enemies include parasitoids, insect predators and birds that can tear open the tough-skinned bags and feed on the larvae. Often however, the populations of bagworms explode beyond what natural enemies can manage. And, we do not often notice their activity until extensive damage is done. Where practical, a Master Gardener or "organic" approach can be adopted; this involves mechanically picking off the bags in the fall, winter and early spring and destroying the bags before the eggs have hatched in the late spring. This approach can be quite effective at reducing populations of bagworms on smaller plants. Chemical control can be quite effective if implemented properly. Insecticides should be applied when the larvae are very young, just after emerging from their overwintering bag house. Many insecticides should be effective. Older larvae and molting larvae are more difficult to exterminate with insecticides.

For more information, please feel free to email me at robertsd@msu.edu or contact a professional plant health-care provider. The author, MSU or MGIA do not endorse any particular products. If using pesticides, be sure to read and follow label directions.

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