Controlling bagworms

If you have observed damage happening in your trees or shrubs and see that the leaves have been eaten or are turning brown, there’s a good possibility you’re dealing with bagworms. They are commonly found on juniper and arborvitae species, which seems to be some of their favorite plants, though they can be found on several other species as well. They use over 100 different plants as their food source, including potted plants.

In some cases, bagworms on pine trees can be confused with small pine cones. Getting them under control is important. The best approach to control is gaining a better understanding of the worm itself.

Bagworms are a species of clear winged moths. The adult males develop into the moths and the females are wingless, have no functional legs, eyes, or antennae, are almost maggot-like in appearance and will never leave the bag. They’re relatively slow spreading because the female doesn’t fly, but our famous Oklahoma winds can blow the worms from plant to plant.

The bagworms overwinter in the bag that was put there by last year’s females. The bags start small and continue to grow as the larvae add fragments of the host plant foliage while they feed, but they remain in the bag.

They typically hatch in early June (or earlier depending on weather) and crawl out of their sacks and immediately begin to feed and create bags. Early August the mature larvae will attach the bag to the branch with silk and pupate in the bag for several weeks. Early in the fall, the female will release hormones that attract the males. After mating, the female can lay 500 or more eggs.

One way to control bagworms is to hand pick and destroy each bag before they hatch. This is a relatively easy way to manage them if the bags are within reach. If they are out of reach, several pesticides are labeled for control and are quite effective at this young stage of the insect’s life. If you wait until they get more mature, the insecticides used will be less effective.

For chemical control, try *Bacillus thuringiensis var. kurstaki* (*B.t.*), a bacterial insecticide that is reported to provide good control of young bagworms. Also effective are products that contain the active ingredient Spinosad. These insecticides must be ingested by the caterpillars to achieve kill, so be patient as it will take some time to see results. Repeat applications may be needed later in the summer to keep susceptible plants free of bagworms.

Late in the season, large, older larvae aren’t as susceptible to *B.t.* and spinosad. Thus, bagworms
must be sprayed with broad-spectrum, contact insecticides. Homeowners can look for products containing the active ingredients carbaryl (Sevin®) or malathion that are labeled for caterpillar control on ornamental plants. An arborist certified with the International Society of Arboriculture (ISA) should be hired to combat bagworm infestations on large trees with tall canopies. Contact your county Extension office for assistance with locating an ISA-certified arborist in your area.

If not controlled, bagworms can completely defoliate a plant, which usually kills a host plant like juniper. Broadleaf plants are not killed but may be weakened, leaving them more susceptible to attack from other pests.

###