

ASK THE EXPERT

DR. BALAKRISHNA RAO



Will B.t. eliminate bagworms?

Problem: We are having severe problems with bagworms on evergreens and locust plants. We are thinking of using a *Bacillus thuringiensis* biological control product. How effective is this material, and when is the best time to use it? (Pennsylvania)

Solution: Generally, bagworms on evergreen and other plants appear near mid-June. This is the time to treat.

Bacterial biocontrol products such as Thuricide, Dipel or Foray 48B Flowable concentrate can be used to manage bagworms. These B.t. products contain different *Bacillus thuringiensis* strains. The Foray 48B Flowable concentrate reportedly can give eight days of residual without using a spreader-slicker. This is about three days longer than other *Bacillus thuringiensis* Kurstaki formulations.

During the winter, removing the bags by hand is another way to manage next year's population. Eggs overwinter in the female bag. Remove, and then destroy or dispose of the bags in tightly sealed plastic trash bags. This sort of sanitation practice and biocontrol approach will help minimize the bagworm problem.

Mushroom control strategies

Problem: We are finding a large number of mushrooms growing around wolmanized wood. In this area, they had lots of trees which were removed before building the house. Is there any fungicide which can be used to eliminate the mushrooms? (New York)

Solution: The mushrooms you describe are growing on organic matter under the wolmanized wood. The organic matter's source is probably roots left behind after the trees have been removed. Another source would be leftover lumber from the house's construction.

The mushrooms can be hand-picked when found. To minimize the problem effectively, the underground buried objects need to be removed. This may be laborious and time-consuming. Another method is to fumigate the area. (This would kill the desirable plants or treat roots in that area, so be careful when using fumigants. Read and follow label specifications for better results.)

Paint for gypsy moths

Problem: Are there any paint applications which will eliminate gypsy moth eggs? (New Jersey)

Solution: Your idea sounds interesting. However, it may not work well because the paint may not penetrate deep enough to kill the eggs or prevent eggs from hatching because of hairs on the egg mass.

I am not familiar with any studies where this has been tried. Reports indicate that using materials like horticultural oil, vapor guard or some insecticides applied directly on the egg mass are not practical. One way to find out is to try it on a small egg mass.

Egg masses may be deposited at different heights on the tree. This may present a problem in treating all of them. Too, the

gypsy moth can produce silken threads and balloon from one tree to another, thus causing larvae re-infestation.

Another option is to scrape off the egg mass, where feasible, and destroy them. Again, with this approach, it may not be practical to reach and remove all egg masses and also manage the gypsy moth spreading from other areas.

You can also try wrapping valuable trees with burlap when spring comes. Gypsy moth larvae may take shelter underneath the burlap covers. Periodically inspect the wrapping and collect and destroy any gypsy moth caterpillars you find.

Managing white pine dieback

Problem: White pines in our area show 12- to 18-inch-long terminals that are dying back. They tend to bend like an inverted 'U' shape. (Pennsylvania)

Solution: From your description of the symptoms, the problem appears to be related to white pine weevil insect damage.

This insect is a very common pest of white pine in landscaping and in forest areas, attacking the terminal's new growth. Affected plant parts discolor and show dieback, curled into the shape of a shepherd's crook. Upon closer examination, minute holes about the size of the tip of a ballpoint pen can be seen. To further verify, remove the browned-out bark from the affected area and look for larval tunnelling and lots of sawdust-like frass. You may find yellowish larvae if the life cycle is not completed.

Larvae feed on the inner bark and sapwood of the leading branches and terminal shoots of the main trunk. The affected leader will be killed and the subsequent branches growing in that area will be destroyed or eventually will be killed.

Larvae pupate in woody chip cocoons and emerge as adults. The beetles begin to emerge in late July to late August, leaving distinct emergence holes in the bark. Adults feed on the bark of terminals before dropping to the litter to overwinter. On warm spring days, adults move from the litter to the tree tops to mate and lay eggs in the bark. This insect also attacks spruce. Treat valuable pines and spruces with insecticide.

To manage the problem, prune and destroy all infected branches in early spring. Applications such as Dursban, Ficam, lindane or methoxychlor can help manage the adults. Treat leaders when overwintering beetles appear, about mid-April to mid-May. Valuable plants also should be treated again between mid-August and mid-September.

Provide proper mulching, watering, fertilizing and pest management as needed to help improve plant health.

Balakrishna Rao is Manager of Technical Resources for the Davey Tree Co., Kent, Ohio.

Questions should be mailed to ASK THE EXPERT, LANDSCAPE MANAGEMENT, 7500 Old Oak Boulevard, Cleveland, OH 44130. Please allow 2 to 3 months for an answer to appear in the magazine.