Heavy Weevil Infestations Found In Alfalfa Fields

COLUMBIA, MO.

Alfalfa weevils have increased to threatening levels in central and northern Missouri, said a University of Missouri Extension entomologist. Farmers should scout fields for signs of damage so weevil populations can be managed.

"Alfalfa weevil larvae are two to three times the economic threshold in many fields," said Wayne Bailey. "On Wednesday, 100 percent of plants were showing signs of foliar damage in central Missouri."

The economic threshold is one larva per alfalfa stem, plus 30 percent of plants showing signs of feeding damage.

Bailey said that central and northern Missouri will likely see damage similar to recent problems in southern Missouri. Alfalfa farmers in all parts of the state, however, should scout fields to determine if weevils are present.

Alfalfa weevil larva(e). Clemson University - USDA Cooperative Extension Slide Series, Bugwood.org

"Problems can quickly develop and result in substantial loss of forage yield and quality," he said. "Warm temperatures allow for rapid larval growth and increased consumption of leaf tissues."

Most larvae in fields surveyed by MU Extension specialists were in early stages of growth. This means damage is limited to the upper whorl of leaflets, Bailey said. Damage increases, however, as the weevils mature.

"These larger larvae rapidly move about the plant, and they may consume significant amounts of leaf tissue," Bailey said.

Beyond yield losses, heavy defoliation weakens alfalfa plants and can lead to increased weeds in fields.

Farmers have several options. First, scouting fields to determine weevil numbers is essential, as this can influence management strategy.

To scout fields, farmers should pick five random locations and sample 10 alfalfa stems at each spot, for a total of 50 stems per field.

"This is best accomplished using a five-gallon bucket and a sharp knife," Bailey said. "Carefully cup the terminal of each alfalfa stem with your hand. Then cut the stem off near the soil surface and carefully place it inside the bucket. Tap it vigorously to dislodge any larvae."

Cupping the stem is necessary to ensure larvae don't drop off outside the bucket and cause a miscount. Weevils should be controlled if numbers have reached the economic threshold, Bailey said.

Applying a foliar rescue insecticide is the most common control strategy, he said. Farmers should read insecticide labels and use only those recommended for alfalfa weevil.

Other control options are early harvesting, grazing and biological control. The success of these options depends on number of larvae, stage of alfalfa growth and field conditions.

Early harvest can be used instead of an insecticide if alfalfa is within seven to 10 days of the normal harvest stage, Bailey said. "This season, early harvest may be a viable option as alfalfa plants have grown rapidly with the cool, wet conditions this spring."

Most larvae die during haying due to mechanical crushing or sun scorching after the alfalfa canopy is gone, he said. Fields still need to be monitored after harvesting to ensure larvae haven't returned.

Management-intensive grazing can reduce weevil larvae by 90 percent, Bailey said. This method requires a large number of cattle grazing on a small number of acres so that alfalfa growth is quickly eaten.

"This can effectively eliminate the risk from alfalfa weevil as long as most spring-laid eggs have hatched," Bailey said.

Grazing on wet fields, however, can be risky due to the potential for hoof damage. Cattle bloat is another risk. Farmers who opt for this strategy should wait until alfalfa plants are 6 to 8 inches tall and weevil numbers are at the economic threshold, Bailey said. Only the upper two-thirds of the alfalfa should be grazed so it can recover for the next cutting.

Biological control is a long-term strategy that uses a fungus or parasites to kill weevil larvae. Farmers can promote weevil parasites on their farms by using pesticides only when necessary, Bailey said.

However, farmers should not rely on biological control of alfalfa weevils this year, he said. "The wet conditions this spring seem to be having little effect on weevil numbers, and the cold weather isn't going to slow them down." Δ