

# Experimental Fungus Controls Pesky Beetles In Poultry House

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The technology to kill beetles using the naturally occurring fungus was developed and tested in houses in North Carolina, though some are being used in Ohio. Houses are treated with the fungal agent before bringing new flocks in.

The fungus is formulated in an oil emulsifier and applied with normal spray equipment. The material has advantages because it can be administered even under tight water restrictions.

In tests conducted by JABB (the company founded by J.J. Arends and partner, Bill Black, vice president), the material is particularly effective on the darkling beetles. The insects are killed about 3-5 days after contact with the spores.

"We started in high-rise layers," noted Arends. The goal was not to eliminate the beetles, but to "get the numbers of them

in the houses as low as possible and maintain them at a low level," he said.

"However, we found that we could control the beetles with regular applications of the fungus, thus eliminating the damage caused by the beetles in the houses."

With broilers and turkeys, control of the beetle has been difficult. The birds enjoy eating the larvae first, then the adult beetles, and then the feed.

Arends mentioned one producer who has used the material as part of a small scale exemption use permit, replacing commercial insecticides. Using the fungal agent worked for this grower.

"One grower has had no insect problems in the house in five years, and has used no pesticide," Arends said.

With broilers, it's important to treat prior to each flock.

Compared to commercial in-

secticides, through data on seven flocks, both gave the same kind of control.

The fungus is not harmful to humans, livestock, or pets. If ingested, it is digested like a protein, Arends noted.

In layers, the fungus was used monthly. It was applied with rotating foggers. A visual evaluation was made monthly.

Samples were taken, including at cleanup.

Hide beetles have proven a challenge. The beetles are interested more in a high protein food source, including dead chickens and eggs. "They have no interest in flies, and are not important for fly control," said Arends.

The manure pack proves the ideal home for the beetles. A pack that measures a foot to 18 inches or higher acts as a sponge for the beetles. They enjoy the dry manure, an "ideal environment," noted Arends. "It has

the perfect temperature, no predators, lots to eat — it's the Hilton they never thought they'd see."

Beetles can populate quickly and prove to be a pest not only to the growout or other poultry manager, but to neighbors.

The fungus lasts only about 21 days. A fogger is used to apply the material in a heavy fog, enough to ensure contact with the beetles. The hide beetles are "really sensitive to the fungal material," Arends said.

Ohio has requested that the material be given an EPA registered Sect. 18. For commercial use, the product is continuing to gain approval by EPA as a biopesticide.

The material is safe because it

is insect-specific.

"We're not worried about dogs or kids eating it," said Arends. The material is digested like a protein. And after about three weeks, the fungus is gone.

One development: the fungus has shown ample effectiveness against house flies, another pest that challenges poultry house management experts.

In one experiment, according to Arends, after three days of fungus exposure, fly populations began to drop. On day five, 80 percent of the flies were eliminated. By day 10, all the flies were dead.

Growers may have high expectations, but using the product for flies, so far, looks good, Arends noted.



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