

# Collison covers latest in poultry insect control

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GETTYSBURG — Adams County poultrymen were given the latest information on insect control in poultry operations by Clarence Collison, assistant professor of entomology Extension at Penn State, during a recent program at the Adams County Extension Offices.

Collison outlined the three basic insect problems facing poultrymen including manure breeding flies, the poultry beetle complex, and the Northern Fowl Mite. An open question and answer period followed his presentation.

Manure breeding flies is the greatest nuisance to poultrymen according to Collison. Although flies cause no direct damage to layers, they can cause serious community relations problems since they are carriers of disease and filth.

In controlled environment houses, the flies are able to breed year round, particularly in high-rise deep pit houses where the average ambient temperature is 70 degrees. In non-controlled environment houses the problem is not only the house fly but also the little house fly with their greatest outbreaks being in the early spring and late fall.

Collison recommends that the solution to fly control is an integrated program of sanitation, which includes the proper disposal of dead birds and cracked eggs, manure management, and proper moisture control, with the latter the most crucial of the three.

According to Collison, flies can breed in manure with a 30-85 percent moisture level. Poultry manure has a 75 percent moisture content which makes it an ideal breeding ground for flies. Collison states that in houses where the scraper boards are run more often, the manure is spread in thinner layers and the moisture levels decrease.

"There's a lot more to fly control than cleaning out," Collison said.

Research has found that you are actually aggravating the problem by doing this since you raise the

ammonia levels in the house and ammonia actually increases fly production."

To control flies when the flock is taken out, Collison recommends a thorough cleaning, spraying residual insecticide, and leaving the house idle for awhile. However, it may not be possible to take the flock out. In this situation he recommends cleaning out the manure, spraying a residual insecticide on the walls, baiting the adult flies in the upper level, and then spraying again five weeks later.

"The second spraying is crucial," Collison said. "Anytime you just clean out and don't do the others, you'll have another fly outbreak in 2-3 weeks."

Collison went on to discuss the uses and the effectiveness of synthetic pyrethroids. New within the last year, synthetic pyrethroids, which all contain the active ingredient Permethrin, have a longer residual effect than do the standard insecticides.

Poultrymen don't need to apply as much of the synthetic pyrethroids, but they are more expensive. They are marketed under the names of Ectiban, Atroban, and Permethrin. The rights for Ectiban were sold last July. It is now marketed by Hess & Clark under the name Insectrin and by Ralston Purina as Hard Hitter. These materials are effective from 6-15 weeks depending on the formulations and con-

centrations used and the type of wall surface on which they are applied. Collison cautioned poultrymen to follow label directions carefully in regards to concentration. He recommends application at the rate of one gallon to 750 square feet.

However, the latest breakthrough in fly control is the use of the Insect Growth Inhibitor CGA-72662. Manufactured by CIBA-Geigy this synthetic growth regulator stops larvae from completing development into adult flies. The product known as Larvadex has virtually 100 percent effectiveness against the development of adult flies, Collison said.

According to Collison, Larvadex has been tested as a feed through, a water through, and as a topical application on manure. He relates that in studies conducted in 23 commercial houses there was no effect on feed consumption, water consumption, or egg production. Complete control of maggots was obtained in just two weeks after Larvadex was into the flock.

In the North, studies showed that a two-week feeding of Larvadex followed by having it in every third load of feed proved effective in fly control. In the South, continuous use is recommended. Since Larvadex is an insecticide it falls under the control of the EPA and non FDA.

Collison states that CIBA-Geigy has petitioned the Pa. Dept. of

Agriculture for an emergency registration of Larvadex as a feed through insecticide. This special registration is granted when emergency need is shown and no other product is currently available. Collison is hopeful that Larvadex will be registered by March or April. Collison says he tells that Larvadex should integrate nicely into fly-control programs, including sanitation and manure control plus its use could eliminate certain cost and control operations.

Also discussed was control of the lesser mealworm, the hide beetle, and the larder beetle. Beetles are responsible for structural damage in many poultry operations. Damp moldy feed, dead birds, and cracked eggs all provide that perfect feeding ground for beetles.

Collison relates that beetles are very hard to control since when going from larvae to the pupae stage, they bore into wood or wall surfaces and then emerge sometime later as adults. Collison recommends the use of Carbaryl (Sevin) in a 5 percent dust at the rate of 1 pound per 40 square feet or Rabon in a 50 percent wettable powder applied at 2.5 ounce per 100 square foot. Treatment is about a six-week cycle. Neither the Synthetic Pyrethroids or Larvadex has been effective against beetles.


The third insect problem discussed causes the greatest economic losses to poultry producers. Northern Fowl Mites

take a tremendous toll on the vitality of the birds they infest by causing anemia, lowering egg production by as much as 15 percent, lowering weight gains, and in extreme population on the bird, they can cause death. The vent area of the bird becomes infected first and supports the highest population.

Collison reviewed studies which have determined that Pa. poultry producers are using Sevin, Rabon, and Malathion almost exclusively for mite control. He expresses concern about these facts since the mites can establish a resistance to these over a given time and Northern Fowl Mite are already highly resistant to Malathion.

"We recommend that if you want to control mites, you'll have to mix up the insecticides that you're using," Collison says. "Also, you must use a detergent, Tide for example, as a wetting agent. You have to cover the entire bird and use enough pressure when applying the spray to part the feathers and wet the skin."

Collison also had news for poultrymen concerning mite control. As of Jan. 29, a State regulation was received for the marketing of Permethrin II and Overtime L/P. These are the only two formulations now labeled for direct application to birds. They are mixed in concentrations of 1 ounce to 5 gallons or 1 quart to 50 gallons and should be applied at 1-2 ounce per bird.



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