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SUMMER FLIES

Hay debris and manure from feeding rings in lots or pasture areas has the potential to breed one million flies per ring. The flies will most likely be house flies and stable flies. Cleaning up and dispersing those feeding rings does a lot to solve the problem. Recent research work done by Agricultural Research Service scientists at the Agroecosystem Management Research Unit (AMRU) at the University of Nebraska looked at four sectors of cattle production: dairy, cow/calf, pastured and range stocker, and animals on feed. They found that stable flies cost the U.S. cattle industry more than \$2.4 billion each year, due to reduced milk production in dairy cows, decreased weight gain in beef cattle, and lowered feed efficiency.

Stable flies are not only a problem in barnyards and stables for which they are named, but in pastures as well. AMRU entomologist David Taylor and his colleagues showed that this is partly due to the use of large bales of hay placed in fields as supplemental feed for cattle during winter. These feeding sites where wasted hay, manure and urine accumulate produce an ideal habitat for stable flies.

To find an easy, inexpensive, quick way to control stable flies, Taylor tested cyromazine, an insect growth regulator that interferes with molting and proper development of an insect's external skeleton. A single application of cyromazine sprinkled on a hay-feeding site reduced the number of emerging adult stable flies by 97 percent. The treatment took 10 minutes, cost \$10 per site and was effective for 10 to 20 weeks. The formulation we used was Neporex 2SG (Novartis Animal Health U.S., Inc.) applied at the rate of 25g / sq meter. Neporex is commercially available and labeled for fly control in livestock premises. The treatment should also be effective against house flies which breed in similar locations. What the research did not measure was if the treatment was effective at reducing stable flies on the animals. There are other breeding locations for stable flies on pasture where bale rings are not present.

As their name implies, stable flies have historically been associated with stables and barnyards. But over the last 30 years, they have become a significant pest in pastures too. Research indicates that the problem is partly due to the large bales of hay placed in fields as supplemental feed for cattle during the winter.

“The accumulation of wasted hay, manure, and urine at these feeding sites creates an ideal habitat in the pasture for stable fly larval development,” Taylor says. “We identified hay-feeding sites as producing a lot of flies, but we wanted to know how the timing of the flies coming off the sites correlates with adult population levels.”

In Nebraska, stable fly populations peak twice a year—in mid-June to July and again in September or October. Scientists determined that the hay-feeding sites are the primary sources of flies in the June-July peak.

Cleaning up infested sites has been the main stable fly control method, Taylor says. As for insecticide use, says Taylor, “This kind of habitat has an active microbial community that can break down most traditional insecticides very quickly. You might get a couple of days of control before the effectiveness wears off.”

The team found that using an insect growth regulator to interrupt the development of stable flies can be effective. In one study, Taylor used cyromazine to control immature stable flies. Cyromazine, a commercial product, has been used to control other species of flies, mainly in poultry production. It interferes with molting and inhibits proper development of the insect's external skeleton.

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