

Fenceline

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Livestock-Natural Resources

As we transition into spring and before livestock producers turn cattle in to summer pastures, selecting this year's fly control program should be considered. A thought to consider, did your fly control program work last year? If it did not, now is the time to consider a different method. There are many fly control options and strategies available to Kansas livestock producers to help manage the three fly species that economically impact grazing cattle; the horn fly, face fly and stable fly.

Horn flies are small in size, approximately 3/16" in length and are usually found on the backs, sides and poll area of cattle. During a warm summer afternoon they can be found on the belly region of cattle. Horn flies, both male and female flies, acquire more than 30 blood meals per day.

After mating the female fly will leave the animal to deposit eggs in fresh cattle manure. Eggs hatch within one week, and larvae feed and mature in the manure, pupating in the soil beneath the manure pat. Newly emerged horn flies can travel several miles searching for a host. The entire life cycle can be completed in 10 to 20 days depending upon the weather.

Economic losses associated with horn flies are estimated at more than \$1 billion dollars annually in the United States. Horn fly feeding causes irritation, blood loss, decreased grazing efficacy, reduced weight gains, and diminished milk production in mother cows. Additionally, horn flies have been implicated in the spread of summer mastitis.

Studies conducted in the U.S. and Canada have shown that horn flies can cause weight gain loss in cattle, and calf weaning weights can be negatively impacted from 4 – 15 percent. Studies conducted in Nebraska have established calf weaning weights were 10-20 pounds higher when horn flies were controlled on mother cows. The economic injury level (EIL) for horn flies is 200 flies per animal. Yearling cattle can also be affected by the horn fly; other studies have shown yearling weights can be reduced by as much as 18 percent. There are many insecticide control methods available to manage horn fly numbers; back-rubbers, dust bags, insecticidal ear tags and strips, pour-ons, oral larvicides, low pressure sprayers, mist blower sprayers, and individual portable methods.

Face fly adults closely resemble house flies except they are slightly larger and darker than the house fly. The face fly is a non-biting fly that feeds on animal secretions, nectar and dung liquids. The adult female face flies cluster around an animal's eyes, mouth and muzzle. Face flies will also feed on blood and other secretions around wounds caused by mechanical damage or other injury. Face flies are present throughout the summer but populations usually peak in late July and August. Face flies are most numerous along waterways, areas with abundant rainfall, canyon floors with trees and shaded vegetation, and on irrigated pastures.

Female face fly feeding causes damage to eye tissues, increases susceptibility to eye pathogens, and vector *Moraxella bovis*, the causal agent of pinkeye or infectious bovine keratoconjunctivitis. Pinkeye is a highly contagious inflammation of the cornea and conjunctiva of cattle. If coupled with the infectious bovine rhinotracheitis (IBR) virus, *M. bovis* can cause a much more severe inflammatory condition. Controlling face flies is essential in reducing most pinkeye problems.

Achieving adequate face fly control can be difficult because of their habit of feeding around the face and the significant time they spend off the animal. Control is maximized when the cattle receive daily insecticide applications by either dust bags, oilers, sprays, or an insecticide impregnated ear tag/strip. Ear tags/strips should be applied at the label recommended rate. Both cows and calves must be treated if control is to be achieved.

Pinkeye vaccines are available and should be considered if face flies and pinkeye have been a recurring problem. Currently, commercial and autogenous pinkeye vaccines are available; please check with your local veterinarian about the use of these products in your area. Stable flies are serious pests of feedlots and dairies and of pasture cattle. The stable fly is a blood feeder, mainly feeding on the front legs of cattle, staying on the animal long enough to complete a blood meal. Their bites are very painful; cattle will often react by stomping their legs, bunching at pasture corners, or stand in water to avoid being bitten.

The female stable fly deposits eggs in spoiled or fermenting organic matter mixed with animal manure, soil and moisture. The most common developing sites are in feedlots or dairy lots, usually around feed bunks, along the edges of feeding aprons, under fences, and along stacks of hay, alfalfa and straw. Grass clippings and poorly managed compost piles also may be stable fly developing sites. Winter hay feeding sites where hay rings are used can often be a source for larval development through the summer if the proper moisture is present.

The life cycle of the stable fly can take 14-24 days in Kansas, depending on weather conditions. While the source of early season stable flies on pastured cattle is not well understood some probably develop from larvae overwintering locally. Other early season flies may be migrants from southern locations, but evidence is lacking. Nevertheless, we do know that stable flies can move at least 10 miles or more. Stable flies cause similar weight gain losses to both pasture and confinement cattle. University of Nebraska research, recorded a reduction in average daily gain of 0.44 lbs. per head with animals which received no insecticide treatment compared to animals which received a treatment. The economic threshold of 5 flies per leg is often exceeded in our pastures.

The only adult management option available for the control of stable flies on range cattle is use of animal sprays. Sprays can be applied using a low pressure sprayer or can be applied with a mist blower sprayer. Weekly applications of these products will be required to achieve reduction in fly numbers. Sanitation or clean-up of wasted feed at winter feeding sites may reduce localized fly development.