

## Cattle Pest Management

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Face and horn flies are the most common and most treated pests on livestock operations. Left untreated, these pests can cause significant loss in production. In the U.S., horn flies are estimated to cause an economic loss of \$1 billion annually.

While integrated pest management (IPM) is commonplace for controlling crop pests, similar concepts can apply to controlling livestock pests. These concepts include using the right type of control at the right time for the right duration to control pests effectively.

Many livestock producers apply pest control prior to pasture turnout, which may be optimal for control of some pests but not others. Horn and face flies typically are not present at pasture turnout and do not reach economic thresholds for applying control until midsummer.

Horn flies are gray and look like small houseflies. Horn flies bite and spend most of their time clustered around the head, shoulders and back of cattle. These blood-sucking flies feed up to 30 times per day. This constant biting causes cattle pain and stress, and can reduce the cattle's weight gains by as much as 20 pounds. The life cycle of a horn fly ranges from 10 to 20 days, depending on weather conditions. Populations typically peak in midsummer and early fall. When fly counts reach 200 flies per animal, the economic threshold has been reached and animals will have significant weight loss. The economic threshold is the pest density at which producers should take action to manage the pest.

Face flies look like large, dark house flies. They are nonbiting flies that feed on animal secretions, plant nectar and manure liquids. Face flies may transmit pathogens responsible for infecting the eye and causing keratoconjunctivitis, or "pinkeye," in cattle. The life cycle of a face fly is approximately 21 days. Populations tend to peak in late summer.

The first step to determining when to apply control is to properly scout pastures and cattle to determine fly type and fly populations. Horn flies typically rest on cattle throughout the day, whereas face flies land on the face of cattle for a meal and then retreat to nearby structures (forages, fences, etc.).

Ear tags contain insecticides that are released slowly into the animal's hair by movement, so ear tags should not be applied until fly populations are nearing the economic thresholds (typically from mid-June to July). Read insecticide labels carefully because recommendations can vary for the number of tags to apply (one or two), age of cattle that can be tagged and chemical class of active ingredient (pyrethroid, organophosphate or a combination). Rotating the class of insecticide each year and removing tags when they no longer provide effective fly control to help prevent flies from becoming resistant to the insecticides is recommended.

To achieve proper fly control, pour-on and sprays must be applied every two to three weeks throughout the fly season. Applying these products before pasture turnout likely will not be an effective fly control method. Additionally, avermectin pour-ons will have more impact on internal parasite loads later in the summer when internal parasite populations are greater.

Feed additive insecticides can be included in mineral formulations for the cattle. The additives pass through the animals' digestive system and destroy the developing fly maggots in the manure. These additives are effective in killing 80 to 90 percent of the developing fly larvae in animals that have consumed the product. Feed additives should not be offered until flies emerge in late June or early July. Continuous use of these products will speed up resistance in the fly populations.

Back rubbers, dusters and other means of delivering insecticides, as well as nonchemical fly traps and reliance on natural fly defense mechanisms (dung beetle control of larvae), also are

options. As with the other control methods, producers need to watch for economic thresholds and determine what control measure will work best in their operation.

When applying any type of pest control, be sure to carefully read the label prior to application. It is important to monitor populations to see if the product is achieving the desired level of control. If a product is not effective, the fly population may have developed a resistance to that type of insecticide and another method and/or product should be utilized.

Pest control can be costly. Producers can reduce costs by following principles of integrated pest management and applying the appropriate products at the appropriate time for the appropriate control of pest populations.

For more information, please contact the local K-State Research and Extension Office.

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