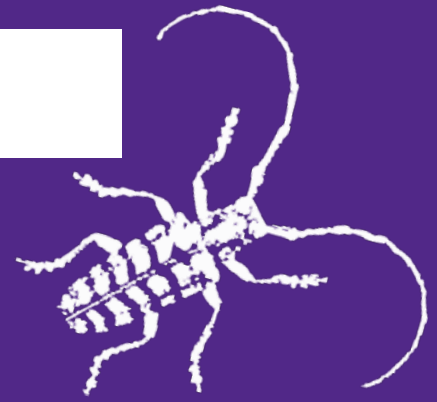


# Kansas State University Extension Entomology Newsletter

For Agribusinesses, Applicators, Consultants, Extension Personnel & Homeowners

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August 23, 2024, No. 23

## Learning Corner

- Late summer and fall insect pest control in livestock

## LEARNING CORNER

### Late summer and fall insect pest control in livestock

As we move into the latter part of the growing season, it is time to consider late summer and fall pests as well as your plans for next year. Both stable and horn fly populations tend to decline over the dry, hot part of summer but can resurge in late summer into fall if sufficient rainfall occurs. Horn flies are found on the back and belly of the animals and stay constantly associated with the cattle host (Figure 1A) making topical insecticides (pour-ons, sprays and ear tags) effective control methods, with appropriate rotation. Stable flies in contrast feed preferentially on the legs of the animal (Figure 1B) for a short period of time (2-4 minutes), 1-2 times a day. This low contact time with the host makes chemical control difficult to achieve. Decaying hay and plant material is a primary breeding for stable flies, pay special attention to hay bale and feed wastage and surrounding crop fields.



A



B

Figure 1: Horn flies on cattle back and belly (A) and stable flies often seen on legs (B) are a common problem for pastured cattle. Stable flies can also be a significant problem in feedlot and dairy systems.

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House fly populations will continue to increase through the summer and can be a significant problem for feedlots and dairies. Minimize feed wastage spilled over bunkers and keep pens well scraped, paying special attention to areas around feed bunkers, water stations and under fence lines. Baits and traps can be useful against house flies, make sure the traps are placed away from buildings such as offices as they will attract flies to the location. Fall can also see face flies trying to enter barns and buildings for a place to overwinter. Sealing off cracks and crevices can remove these overwintering spots. If a second fall fly population boom occurs, any early season on-animal interventions applied are unlikely to still be effective this late in the season. If reapplying products within the same season, do not change insecticide group. Typing your insecticide active ingredient into this website will tell you which group it belongs to (<https://irac-online.org/mode-of-action/classification-online/>).

Larvae of the cattle grub (Figure 2A) should be treated in fall or early winter using oral medications or pour-ons. Treatment should not be carried out in January or February due to the potential for severe reactions. Lice populations also tend to thrive in cooler weather, watch out for patches of hair loss and rubbing, indicative of lice problems. Part the hair, especially along the neck and back of the animal and look for small cream insects about 1/16<sup>th</sup> of an inch (Figure 2B). If large numbers of lice are observed, pour-on treatments can effectively treat lice infestation. Treatment must be repeated after two weeks to target any nits that were not killed after the first treatment.

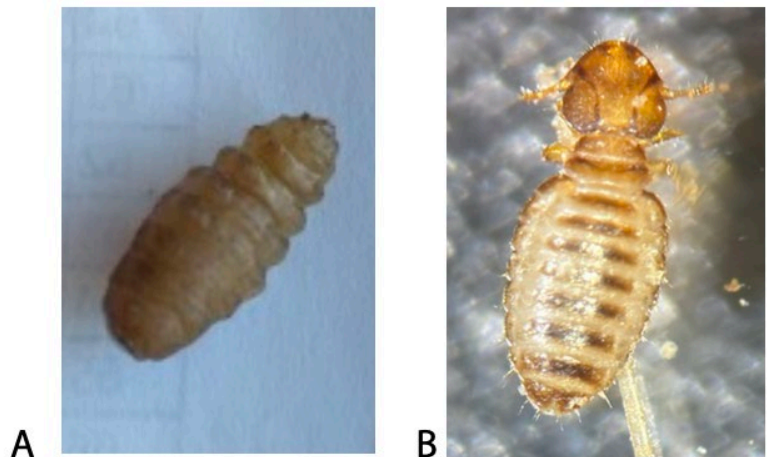


Figure 2: Cattle grub larva (A) and cattle biting louse (*Bovicola bovis*) (B), a common lice species found on cattle.

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Horse owners may be noticing the appearance of small yellow eggs laid on the legs of their horses. All four legs can be targeted but higher egg numbers are normally observed on the front legs (Figure 3). These eggs are laid by the horse bot fly, *Gasterophilus intestinalis* (DeGeer) with each female laying between 150 and 1000 eggs! Eggs are glued to the hair shaft and multiple eggs can be laid on a single hair strand (Figure 4).

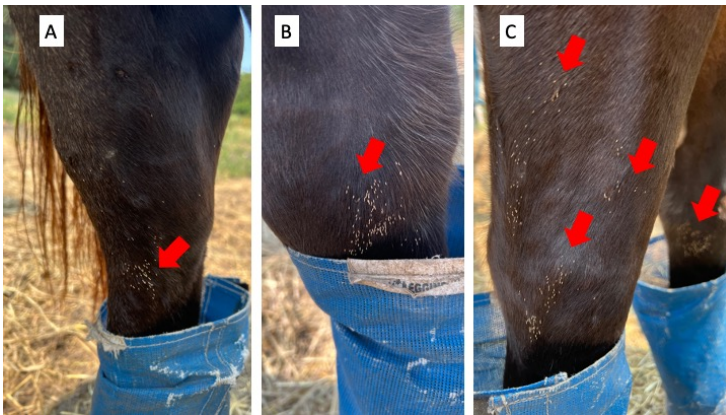


Figure 3: Horse bot fly eggs laid in batches attached to hair on the hind (A) and front (B and C) legs of a horse. This horse had well over 700 eggs in total.



Figure 4: Removed horse bot fly eggs still attached to horse hair. Multiple eggs can be laid on a single hair strand. These eggs were removed prior to hatching as the egg casing remains intact and closed.

Eggs hatch within 10 days, stimulated by horse licking and increased humidity. Larvae enter the horse mouth and imbed in the tissue where they remain for roughly 28 days. After molting, second stage larvae exit mouth tissues and are swallowed, thereby moving the stomach. The larva can remain in the stomach for 9-12 months where it molts into the third and final larval stage. After maturing the third instar detaches from the digestive tract and is passed out in the feces. The larva will burrow into the soil and pupate where it will remain for 1-2 months. As horses tend to create manure piles, the number of flies pupating in an area can become significant. Adult flies can cause significant fly worry, adverse reactions to flies can result in horses injuring themselves trying to escape from attack. Under high numbers, reduced grazing can result in weight loss. Significant mouth irritation can occur when first instar larvae burrow into oral tissue and although horses can tolerate low levels of stomach parasitism, large numbers can cause blockages, colic and reduced nutrient uptake.

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Control can be achieved through a combination of sanitation, egg removal and correctly timed oral dewormer. Removing eggs immediately will significantly reduce the risk of a horse consuming larvae and initiating the infestation cycle. A simple and inexpensive (\$3-7) bot egg knife (Figure 5) can be used to physically remove eggs from the legs.

Deworming one month after eggs were noticed will kill any second instar larvae that may have been consumed and now reside in the stomach. A second round of dewormer can be administered 6 months after the first dose to remove any third instar larvae. Removing manure piles from the site can reduce the number of adult flies emerging.



Figure 5: A bot fly knife can be used to remove bot fly eggs from horse hair by scraping downwards with the direction of hair growth.

HOME

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**Sincerely,**

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