

Kansas State University Extension Entomology Newsletter

For Agribusinesses, Applicators, Consultants, Extension Personnel & Homeowners

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September 27, 2024, No. 28

News Corner

- Clover Mite
- Fall brings horse bot flies

NEWS CORNER

Clover Mite

The clover mite, *Bryobia praetiosa*, is a nuisance pest because they enter homes, apartments, or commercial buildings in extensive numbers, resulting in concerns about how to manage clover mite populations once inside and how to prevent them from entering buildings.

The clover mite life cycle consists of an egg, larva, protonymph, deutonymph, and adult. The life cycle can be completed in approximately 30 days. There are no male clover mites. Hence, clover mite females produce eggs without mating, which is known as parthenogenesis. Clover mite females can lay up to 70 eggs during their life span. Bright red eggs are laid in the cracks and crevices of concrete walls, foundations, inside walls, or underneath the bark of trees near the base. The larvae that emerge (eclose) from eggs are red with six legs.



Figure 1. Clover mite adult with front legs protruding forward (Raymond Cloyd).

Clover mite adults are about 1/32 of an inch (0.79 millimeters) long, red brown, with eight legs. The long pink front legs extend forward in front of the head (Figure 1). Clover mite adults live up to seven months depending on temperature. Adults feed on more than 200 plant types, including: apple, clover, elm, freesia, grass, honeysuckle, and ivy. Clover mite populations can be extensive in well fertilized turfgrass located near foundations, and their feeding

Kansas Insect Newsletter

September 27, 2024, No. 28

can cause turfgrass to appear silvery or frosty. Although all life stages can overwinter, in general, clover mites overwinter as eggs in protected locations, such as, in wall voids inside homes or other buildings. There are one to two generations per year in Kansas.

Clover mites are active in the fall and early spring, entering homes and buildings from the south and west sides that are heated by the sun. In addition, well fertilized turfgrass growing near foundations increases the potential for clover mites to enter homes or buildings. Clover mites enter homes and buildings during droughts or cold weather. Once inside, clover mites gather in large numbers in corners (Figure 2) and usually die from dehydration within two to three days.



Figure 2. Clover mites inside the corner of a building (Raymond Cloyd).

Clover mites are generally a nuisance pest. They do not bite humans or transmit diseases. Clover mites will leave a red stain when purposely or accidentally crushed on walls or curtains.

Clover mite management involves the following:

- 1) Remove turfgrass near home and building foundations.
- 2) Place an 18 to 24 inch (45.7 to 60.9 centimeter) wide band of an inorganic mulch, such as, pea gravel around the foundation of homes and buildings, or in planting areas (Figure 3).
- 3) Mow turfgrass regularly and as short as possible.
- 4) Avoid excessive watering and over fertilization of turfgrass, especially with water
1. soluble, nitrogen based fertilizers, which encourages succulent growth.
- 5) Remove weeds from around the foundation of homes or other buildings. In addition, remove leaves from planting areas and debris or rocks located around the foundation.
- 6) Remove or limit the growth of ivy or other host plants around the foundation.
- 7) Choose plants for foundation plantings that do not attract clover mites. Examples include: arborvitae, barberry, chrysanthemum, geranium, juniper, marigold, petunia, rose, salvia, spruce, yew, and zinnia.
- 8) Seal cracks or openings in the foundation and around window seals.
- 9) Ensure window screens fit tightly and there are no holes.



Figure 3. Pea gravel placed in a planting area to reduce clover mites from entering (Raymond Cloyd).

- 10) Use a vacuum cleaner to collect clover mites without crushing them. Discard the clover mites outdoors and clean the bag afterward.
- 11) Place sticky tape inside homes near window seals to capture clover mites that enter (Figure 4).

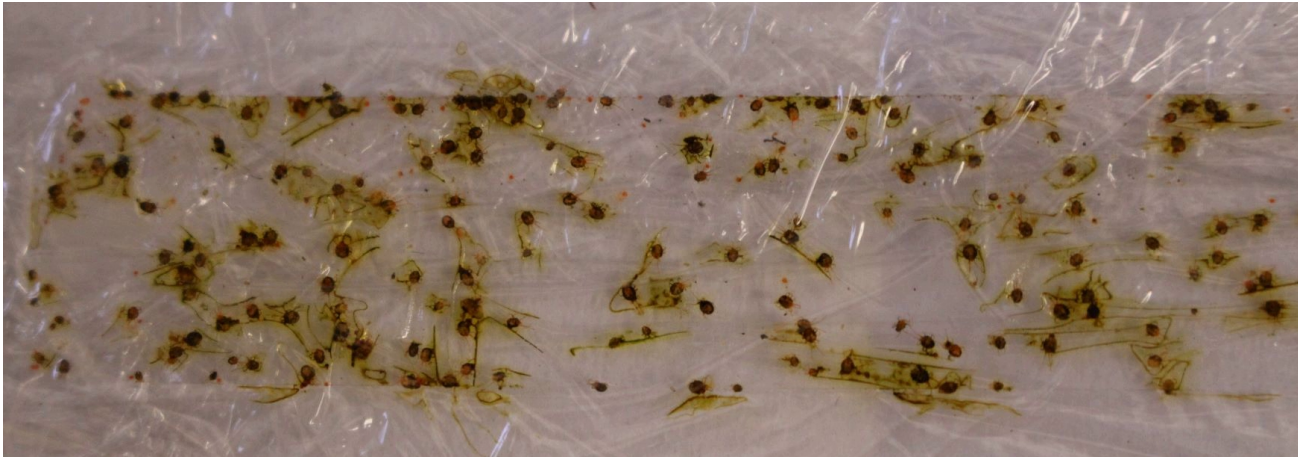


Figure 4. Clover mites captured on sticky tape (Raymond Cloyd).

Pesticides labeled for mites can be applied around the perimeter of homes or buildings to kill clover mites, which will reduce the number of clover mites entering homes and buildings. Apply pesticides 10 feet (3.0 meters) away from the foundation and up to the bottom of windows. Also, treat cracks and crevices in concrete foundations. In addition, apply a pesticide starting from the foundation to the edge of any turfgrass. Do not apply pesticides inside homes or buildings. If necessary, consult a pest management professional for recommendations on perimeter treatments of pesticides to prevent clover mites from entering homes or buildings.

For more information on clover mite, refer to the following extension publication:

Clover Mite (MF915 Revised November 2022)

<https://www.bookstore.ksre.ksu.edu/pubs/MF915.pdf>

Raymond Cloyd – Horticultural Entomology/Plant Protection

HOME

Fall brings horse bot flies

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 1). 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 2).

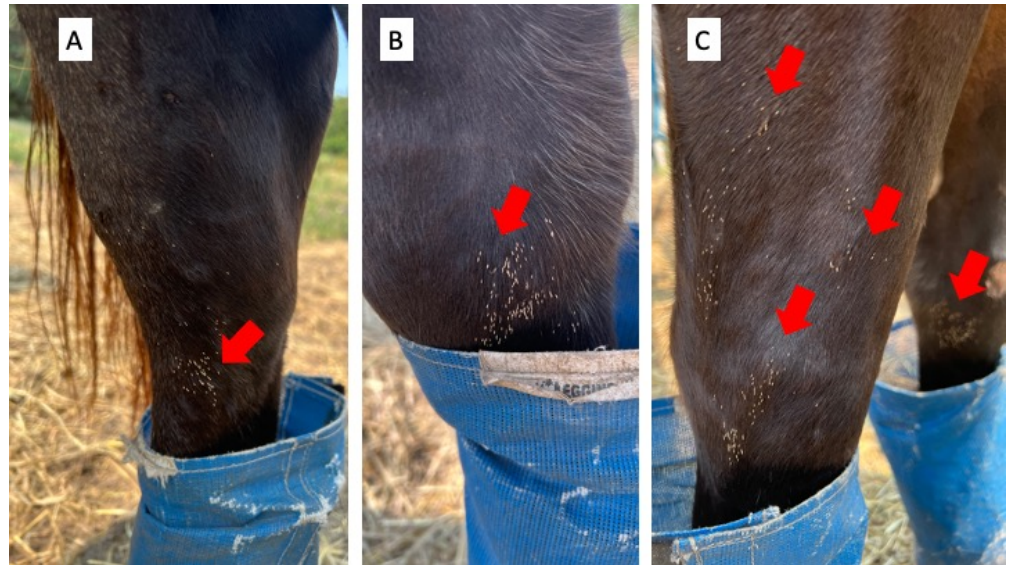


Figure 1. Horse bot fly eggs laid in batches attached to hair on the hind (A) and front (B and C) legs of a horse. This horse had well over 700 eggs in total.



Figure 2. Removed horse bot fly eggs still attached to horsehair. 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.

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 3) 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 3. A bot fly knife can be used to remove bot fly eggs from horsehair by scraping downwards with the direction of hair growth.

Cassandra Olds – Veterinary and Medical Entomology

HOME

Kansas Insect Newsletter

September 27, 2024, No. 28

Sincerely,

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Kansas State University Agricultural Experiment Station and Cooperative Extension Service

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