



ENTFACT-503

### SHEEP PESTS

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#### Sheep Keds

Sheep keds are wingless, reddish brown biting flies that resemble, and are sometimes called, ticks. They use piercing-sucking mouthparts to feed on blood. Although sheep are the primary host, keds may feed on goats. This irritation makes the animals restless. Consequently, growth and weight gain, especially of lambs, can be reduced. Scratching to relieve the itching at feeding sites may damage wool quality. Heavily infested animals also may be more susceptible to diseases and other stresses. In addition, ked bites can cause hard nodules on the skin, a defect known as "cockles". These pimple-like blemishes cannot be completely flattened or covered with dyes.

This insect has a very unusual life cycle. At about weekly intervals, a single egg hatches inside the body of the female and the maggot-like larva grows in her body. The mature larva is expelled and glued to the animal's fleece. It forms a chestnut brown bean-shaped pupa that can be found stuck to the wool on the belly, shoulders, or thighs. About three weeks later, the adult fly emerges. Adults live three to four months and produce about 10 to 12 offspring.

Keds numbers in a flock are lowest during the summer and highest during the winter. They usually are spread from animal to animal by direct contact but keds can crawl to a new host. Keds can only survive off of the animal for about a week.

Sheep keds are readily controlled with insecticide dusts or sprays. Treatment is recommended immediately after shearing. About half of the adult keds and most of the larvae are removed with the fleece and better coverage is obtained on shorn animals. See ENT-22 "Insecticide Control on Sheep and Goats" for a list of current products. Keeping the flock free of keds requires isolating and treating newly purchased animals before they join the flock.

#### Sheep Nose Bots

Adult sheep bot flies are hairy yellow-brown insects about the size of a bumble bee. They follow sheep on warm, still, sunny days from late spring until autumn.

The flies dart at the sheep's head and deposit newly-hatched larvae near the nostrils. When under attack, sheep may shake their heads, stamp their feet, snort, and push their noses in the dust or between other animals or run.

The small, spiny bot larvae work their way up the nasal passage, feeding on mucus secretions as they go. They end up in the sinuses or other hollow spaces in the head where they can produce severe inflammations. The excess mucus, along with dust drawn into the air passages, causes sneezing, labored breathing, and predisposes animals to bacterial infections.

The bots remain in the head until they are fully grown, although they may migrate from cavity to cavity. They then work their way out through the nostrils or are sneezed out to the ground where they bury themselves and pupate in a few hours. In 3 to 6 weeks adult flies emerge from the pupae. The length of time the larva spends in the head is dependent upon the season. Usually the first generation in the spring remains in the head of sheep for 2 to 3 months. The adults from these (2nd generation) will deposit young in the fall and these will over-winter in the head until the first warm days of spring. Research has shown that over 90% of the sheep in Kentucky are infested with bots from October through February. The highest bot levels are seen in November and December.

Weight reductions of up to 4% have been attributed to bot infestations in some studies. Harassment by adult flies and the irritation caused by bots in the nasal passages are likely to affect production.

A systemic insecticide formulation containing ivermectrin is available to control this pest. See ENT-22 for more information.

Fleeceworms

Wool soiled by urine, scourings, or matted with blood from cuts or wounds is an attractive egg-laying site for several kinds of flies. The maggots that hatch from these eggs can develop in the soiled wool and, in some

cases, attack skin or muscle tissue. If the infestation continues, the resulting vile odor will attract more flies. Maggots working in the skin or in the wool next to the skin may loosen large patches of wool which either slough off or can be easily pulled off, exposing raw, maggot-infested flesh. If infestations are not checked immediately, a considerable amount of flesh and wool will be lost and the animal may develop an infection and die.

Infestations of wound maggots can be minimized by removing hazards that result in flesh wounds, such as barbed wire fencing, and by removing other sharp objects from pens, yards and pastures. It is not economically feasible to apply the insecticides as preventive treatments.

Flesh wounds, as well as castration and birthing wounds, should be dressed or protected against maggot infestation. Sheep should be checked periodically during warm, wet weather when these flies are active. Infestations can be treated with insecticide sprays, foams, or dusts, as necessary.