



## EXTERNAL PARASITES

Winter is the season when external parasites rear their ugly head. This is when sheep are held in closer confinement and parasites are easily spread among penmates. External parasites that affect sheep are classified in three general groups: lice, keds and mites.

There are many species of lice that can infect sheep. Lice species are divided into two generally classifications. The group that feeds off of dead skin cells is commonly called chewing lice. The other group feeds off of sucking body fluid and is called suckling lice. The importance of the difference is in control. Ivermectin is only effective if the species of lice sucks body fluid. Treatment of chewing lice requires topical application of insecticides. Lice spend the majority of their life on the sheep. They can survive in the environment for only short periods of time. The ability to survive off the animal contributes to their rapid spread among penmates. Lice eggs (nits) are resistant to insecticides, therefore using a prolonged activity pour-on like Delice or Ultraboss gives a higher treatment success. If you are treating with a short-acting insecticide treatment should be repeated in one to two weeks. Sheep with wool loss should be inspected to see if there is evidence of nits. They are small (size of a pin head) and "glued" to the wool fibers. If you are unsure your Veterinarian can confirm the presence of nits by examining the affected wool under a low power microscope or magnifying glass. Adult lice are difficult to see with the naked eye but can be visualized with a magnifying glass as well.

Keds consist of only one species of insects. Many shepherds refer to keds as ticks, although technically they are not ticks as they have only 6 legs. They are actually a wingless fly. Keds spend all of their life on sheep. The males and female both suck blood from the sheep and cause itching, scratching, wool tags on fences, hide damage and poor fleece quality. Keds are only spread by direct contact. They are often seen at shearing as they are large enough to be seen with the naked eye. Treatment for keds is easy. Pouring with Delice pour on after shearing is highly effective. Since the keds suck blood injectable Ivermectin is also effective, but more costly. Keds are unique in that the female ked is larviparous. This means that the female ked does not lay eggs, instead the eggs and larvae mature inside the female ked and she lays pupae that then develop into adults. The pupae stage is resistant to pour-on and Ivermectin. Because most of the life cycle is sensitive to treatment one treatment will significantly drop the population. Two treatments 2 weeks apart are necessary for total eradication of keds.

Mites are different than lice or keds in that they burrow below the skin surface or in the wool follicles whereas lice and keds inhabit the surface of the skin and wool. As mites burrow they cause extensive

tissue irritation causing the sheep to itch frequently. This results in a scab or crusty lesions. Affected areas are often wool-less areas on the head or feet. If the lesion is in a woolled area the wool will fall out and the skin will be reddened or covered with a scab. Mite infections can be confirmed by having your Veterinarian do a skin scraping of affected areas. The skin scraping is examined under a microscope and if mites are seen they can be identified to the species which may help with control. Because mites survive off of body fluids injectable Ivermectin is very effective. Repeated administration 2 weeks apart may be necessary for problem cases. Topical amitraz, available in a dip call tactic is also very effective.

Treatment for ectoparasite control (lice, keds or mites) is always more effective and easier on shorn sheep. Many producers find that immediately after shearing is labor-efficient and in the upper Midwest this coincides with the time of the year that ectoparasites are a problem. If treatment of heavy woolled sheep is necessary be sure to part the wool so that the pour-on contacts the skin.