



The Mighty Mite

One of the more insidious parasites to afflict camelids has to be the mite – most inappropriately named considering the havoc it can wreak with its host. Of the three types of mite being referred to in this article, only one is considered host specific to llamas and alpacas and that is the *Sarcoptes scabiei*.

This mite spends its entire life cycle in the skin of the host. After the adult mites copulate on the skin's surface the fertilised female then burrows into the skin depositing eggs as she tunnels along. Males and unfertilised females may also burrow or they may follow the tunnels of the fertile female. Within three to eight days the eggs hatch and the larvae migrate to the surface of the skin and mature through the nymph stage becoming adults in four to six days. Within seven to fourteen days the entire life cycle is completed. While the mites themselves are not visible to the naked eye the animal will display outward signs of the affliction. These include hyperemia, papules and pustules that become encrusted and can cause the skin to thicken. An intense itching is present that can result in self-mutilation leading to a secondary bacterial infection with subsequent discharge. Lesions are primarily found between the toes, on the limbs, medial thighs, ventral abdomen chest, axilla and perineum of the female and the prepuce of the male. The *Sarcoptes scabiei* is found wherever llamas and their relatives are found and is diagnosed with the finding of sarcoptic mites on skin scrapings. The most effective treatment is Ivermectin at 0.2 mg/kg (1cc per 110 lbs) given subcutaneously at ten-day intervals.

Chorioptes sp. while it is found worldwide is rarely reported in llamas and alpacas. Its lifestyle is essentially the same as *Sarcoptes scabiei* except these mites do not burrow but live their entire lifecycle on the surface of the skin. Signs of this affliction are mild itching and hair loss with skin encrustations present. Lesions appear between the toes, on the hind legs, particularly the stifle region, the ventral abdomen, axilla and the ear tips. Chorioptic infestations do not produce the skin thickening common with sarcoptic mange. This too is diagnosed with the finding of chorioptic mites on skin scrapings. Numerous topicals are available for treatment with DMSO/Ivermectin (10gms:1ml) combination applied topically to lesions having been effective.

Psoroptes sp. also does not appear to be host specific. With this parasite its entire life cycle is completed on the host. Eggs are deposited on the skin at the edge of the lesions and there they hatch in one to three days, as long as the eggs remain in contact with the skin. If they become separated from the skin, perhaps by crusts, hatching can take one to two days longer. If detached from the body along with the fibre the eggs with either hatch in ten days or they will die. The larval stage lasts for two to three days during which time the larvae feed. They then migrate to the surface of the skin and mature through the nymph stage, which takes a further three to four days. The adult mites copulate soon after maturation. The female mite lives for thirty to forty days laying roughly five eggs per day. The life cycle may be as short as ten days but it is usually around three weeks.

The primary sign of the presence of *Psoroptes mange* in llamas and alpacas has been head shaking and the presence of a waxy exudate in the ears. A further sign is a lack of co-ordination. Diagnosis is made when ear mites are found on ear swabs. As with *Sarcoptes Scabei* the most effective treatment for *Psoroptes mange* is SubQ Ivomec administered subcutaneously plus two drops ivermectin diluted in saline instilled within each ear. It must be SubQ to stay in the system long enough as oral Ivomec will not be effective. The recommended method is a dosage of 0.2 mg/kg (icc per 110 lbs) given on day one and again ten days later to get the next generation. To be sure, a third dose can be give ten days after that. The important thing is to inoculate all animals, including cria, on the same schedule. If the breeder is not using this ten-day schedule at least once a year there can be no guarantee that the mites are not thriving on the animals.

Gail Vance of Dovecote Llamas & Alpacas in Qyama, British Columbia has first hand experience in dealing with mites: "We were checking our weanling cria very closely (one boy was really infected). There were no visible signs on the others. We gave our entire herd a dose of Ivomec and ten days later a second dose. Within days of the second shot we began to notice pink bald patches on a number of the weanlings' feet... .fibre was growing back in. These weanlings had mites and the evidence became visible only after two shots of Ivomec. There was no evidence before the shot..the mites were gone and the fibre was coming back in."

Each of these varieties of mites can be spread by physical contact but common rolling pits, dung piles, grooming tools, blankets or even clothing from an infected farm can spread them. Off-farm breedings or visiting studs, public events such as fairs or shows would also perfect sites for the spreading or contracting of these parasites. The mite is not something to be taken lightly.

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