

## Alpaca parasites – worms

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**Australian alpacas are affected by camelid-specific worm species, as well as sheep and cattle worms. Parasitic gastroenteritis can lead to diarrhoea and/or anaemia, ill thrift, loss of production (reduced growth, less wool production, poor fertility) and death of alpacas. Alpacas of all ages are affected by worms in all climatic zones of Australia, across all farm sizes, throughout the year.**

The eggs are passed out in the faeces and can remain in the paddock for long periods, until warm moist conditions are present and they begin to hatch into infective larvae. Alpacas with a worm burden can be passing eggs in their faeces over winter with the eggs not hatching until warm spring days arrive. This sudden arrival in the paddock of millions of larvae can result in sudden and severe worm infestations with serious consequences.

### Drench resistance

Anthelmintic resistance (AR) is now recognised as an important threat to the health, productivity and welfare of alpacas globally as limited information is available on appropriate dose rates and routes of administration of anthelmintics used in alpacas.

Drench resistance is common in sheep and an increasing problem in alpacas. This occurs when some of the worms can survive the chemical used in the drench. This can result in persistent worms within the herd causing sub clinical production losses or in the extreme, severe production losses and deaths. Overuse of the same drench or under dosing are two common causes of drench resistance occurring.

Many de-wormers used to treat alpacas are ineffective (likely due to resistance of worms to the active ingredients). Farmers are encouraged to use de-wormers having at least two chemicals/actives when treating alpacas for worms. *Seek veterinary guidance as necessary.*

Weigh alpacas to determine appropriate dose of a de-wormer. Calibrate drench guns to ensure accurate dosage. Farmers should monitor efficacy of de-wormers by performing faecal egg counts (FEC) 10-14 days after deworming to ensure efficacy ( $\geq 95\%$  reduction in FECs). Bringing new animals into a herd is another very common way of introducing drench resistant worms. It is highly recommended to drench and quarantine all new arrivals to the property.

To prevent drench resistance occurring, grazing management strategies, FEC monitoring, alternating the broad-spectrum drenches and advice from your veterinarian on local issues should all be employed. As a guide, consider treatment when FECs are above 300 eggs per gram (epg) for alpacas less than a year old or above 100 epg for older alpacas.

### At risk animals

Healthy adult alpacas with strong immune systems are generally able to cope with some larvae in the paddock and hence worms in the gut, assisted by alpacas using communal dung piles. When the health of the alpaca is below optimum the immune system will not be able to cope with the larvae (and resultant worms) ingested from the paddock. Late pregnant and post-partum females are under stress and hence their immune systems are compromised and are at risk of a worm infestation.

Cria have immature immune systems and are at risk of picking up worms. Rather than drenching cria, grazing them on clean paddocks is preferred unless severe worm burdens are present. Most weanlings suffer some separation stress and are susceptible hence they should be drenched. Consult your veterinarian on appropriate drenching and management practices for your farm.

## Drench Products

There are currently no drenches available that are registered for use in alpaca, however their use under the direction of a veterinarian is permissible. Many sheep drenches are in use to treat worms in alpacas with good success. Drenches fall into different categories: broad spectrum, narrow spectrum, long acting and short acting. Broad spectrum, short acting is the most common in regular use.

To optimise health and production of alpacas, farmers should monitor worm burdens in their herds by:

- regularly performing FECs, particularly in weaners and tuis or when alpacas lose weight, decrease body condition or exhibit diarrhoea or anaemia.
- identifying worm species on each farm using larval culture or DNA testing of alpaca faeces.
- performing FECs in co-grazing cattle, sheep and goats simultaneously as they share many worm species.
- interpreting FEC results in conjunction with respect to individual farm management (stocking rates, season, pasture length, body condition, and age of alpacas).
- using alternate methods (such as FAMACHA®) to assess the severity of anaemia caused by blood-sucking nematodes (e.g. Barber's pole worm)

Currently, no de-wormer is registered for use in alpacas in Australia, so all use is off-label and must be used with caution. Withholding periods from other livestock species do not necessarily apply to alpacas. Consult with your veterinarian prior to using drenches to determine the most appropriate for your farm.

Newly introduced alpacas should receive an effective de-wormer ("quarantine drench") prior to entry into the herd. Grazing management and pasture spelling are important adjuncts to worm control programs to minimise the need for deworming and delay the development of AR. Alpaca farmers are encouraged to modify current practices to improve the health and welfare of alpacas in their care and reduce the risk of worm resistance in commonly used de-wormers on their farms by following the above recommendations

Alpaca farmers are encouraged to regularly seek information from Wormboss ([www.wormboss.com.au](http://www.wormboss.com.au)) as alpacas share several Gastro Intestinal Nematodes with sheep and goats.

\* FAffa MALan CHART (named after the person who developed it)

**Disclaimer: Currently no products are approved for use in camelids in Australia. Consult with your veterinarian for advice on what to use for your situation. Withholding periods for camelids are unknown**

## Effects of worms

Worms affect alpacas in different ways and can cause tissue damage, the removal of protein, depression of appetite and scouring. Barber's Pole Worms and Liver Flukes also cause anaemia.

Tissue damage may be temporary or permanent. To repair the tissues requires protein, carbohydrates and structural elements that need to be diverted away from production or growth.

The removal of protein occurs when round worms penetrate the lining of the gut, for example to seek a blood vessel to feed from. They remove protein from the bloodstream or the gut lining or ingested feedstuff for their own metabolism. Barber's Pole (*Haemonchus contortus*) is a blood-sucker and is able to remove blood proteins and red blood cells resulting in anaemia. A lack of protein affects fleece production, muscle growth, milk production, ovum and sperm production, metabolism, development and maintenance of immunity. The depression of appetite can vary from small reductions that are unnoticed but affect the production of the animal, to large reductions up to half the normal daily intake. Severe untreated reductions in appetite will result in the wasting and eventual death of the animal. Worms in the small intestine irritate the intestine and cause excessive mucus production while being excessively stimulated; therefore the passage of food is too quick resulting in scouring. The scouring will result in reduced nutrient uptake from the food consumed affecting all areas of growth and breeding.