



## ALPACA FACT SHEET #11

Welfare, Education & Training Reviewed 2018

# Alpacas and Parasites

Alpacas are susceptible to cattle, goat and sheep Bowel worms and Flukes, Coccidia and other parasites.

Some of the most common to cause problems in the UK are:

- Barber's Pole Worm (*Haemonchus contortus*)
- Nematodirus Battus
- Small Brown Stomach Worm (*Ostertagia ostertagi*)
- Black Scour Worm (*Trichostrongylus* spp)
- Liver Fluke (*Fasciola hepatica*)
- *Eimeria macusaniensis* (Large Coccidia)
- Mites (Chorioptic, Sarcoptic & Psoroptic)

Bowel Worm 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 bowel worm burden can be passing eggs in their faeces over winter with the eggs not hatching due to the cold, only to have millions of eggs begin hatching when the warm spring days arrive. This sudden arrival in the paddock of millions of larvae can result in sudden and severe bowel worm infestations with severe consequences.

### Effects of Bowel Worms

Bowel Worms are damaging alpacas whenever they are active. They affect alpacas in different ways and can cause tissue damage, the removal of protein, depression of appetite and scouring. Barber's Pole Bowel Worms can also cause severe anaemia which can sometimes be seen in the colour of membranes (eyes and gums). A relatively simple and quick test for anemia is to check against a Famacha scoring card.

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.

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



## ALPACA FACT SHEET #11

Welfare, Education & Training Reviewed 2018

and red blood cells resulting in anaemia. A lack of protein will affect fleece production, muscle growth, milk production, ovum and sperm production, metabolism, development and maintenance of immunity.

The depression of the 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 will cause the intestine to be irritated and produce excessive mucus while being excessively stimulated, with the passage of food too quickly resulting in scouring. The scouring will result in reduced nutrient uptake from the food consumed thus affecting all areas of growth and breeding.

### Effects of Liver Flukes

Liver fluke can affect alpacas in two ways: Acute which is rare and Chronic which is common in so called fluke areas. The acute form causes sudden death and fluke eggs will not be seen in the faeces. Eggs will only be seen in the chronic form which will cause weight-loss, ill-thrift and eventual death. Treatment should be discussed with your veterinary surgeon. The acute form must be treated with a product which is affective against the migrating larvae as well as against adults.

### Anthelmintic resistance

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

Bringing new animals into a herd is another very common way of introducing anthelmintic resistant worms. It is highly recommended to test, dose, then test again whilst all new arrivals to property are held in a quarantine area.

To prevent anthelmintic resistance occurring, grazing management strategies, faecal egg count monitoring, alternating the broad spectrum anthelmintics and advice from your veterinarian on local issues should all be employed.

Permissible levels of egg counts will vary depending on the age/condition of the animal and the type of worm. As a general rule it is common to treat alpacas with far lower egg counts than would normally be considered an issue with other livestock. Consultation with a veterinarian experienced with camelids to produce a treatment regime tailored for your own situation is highly recommended.

## ALPACA FACT SHEET #11

Welfare, Education & Training Reviewed 2018

### 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 hence 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 and other parasites. Rather than treating 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 treated. Consult with your veterinarian regarding appropriate anthelmintics and management practices for your farm.

### Products

There are currently no treatment products available that are licensed for use in Camelids, however their use under the direction of a veterinarian is permissible. Many sheep anthelmintics are in use to treat worms in camelids with good success. Treatments fall into different categories: broad spectrum, narrow spectrum, long acting and short acting.

Broad spectrum, short acting is the most common in regular use.

Consult with your veterinarian prior to using anthelmintics to determine the most appropriate for your farm. Some common anthelmintics used with alpacas include:

Trade Name	Component	Family	Spectrum	Duration	Target
Ivomec	Ivermectin	Macrocyclic Lactones (ML)	Broad	Short acting	Round Worms, Lung Worms, nasal bots.
Dectomax	Doramectin derivative of Ivermectin		"	"	"
Fasinex	triclabendazole		Narrow	Short Acting	Liver Fluke (3 stages)
Vecoxan	Diclazuril		Broad	Short Acting	Coccidia
Baycox	Toltrazuril				Coccidia (esp. E.Mac)
Cydectin	Moxidectin	Macrocyclic Lactones (ML)	Broad	Long acting on	parasites as listed above; but particularly for Barber's Pole and Brown Stomach Worms. Not good on bots.
Panacur	Fenbendazole	Benzimidazole (BZ)	Broad	Short acting.	Round Worms, Lung Worms, Tape Worms.
Virbamec	Abamectin	Macrocyclic Lactones (ML)	Broad	Short acting.	Round Worms, Lung Worms. More potent than Ivermectin.

**Disclaimer: The management practices detailed in this overview do not constitute veterinary advice. Any alpaca appearing to have an adverse condition should be assessed by a veterinarian.**

## ALPACA FACT SHEET #11

Welfare, Education & Training Reviewed 2018

### Further Reading

Graham Duncanson

Veterinary Treatment of Llamas and Alpacas

CABI Publishing; 2012

Costa, N.D. and Vaughan, J.L., Nutrition of the alpaca.

Proc Int Alpaca Industry Conference, Perth, Western Australia 1998 pp60-70.

Judson, G.,

Mineral and vitamin needs of alpacas. Proc Aust Camelid Vet Assoc, Perth, Western Australia 2000 pp45-58.

Van Saun, R.,

Nutrition. In: Camelid Medicine and Surgery, Post Graduate Foundation in Veterinary Science, Proceedings 278, 1996, pp 47-74.

Vaughan, J.,

Nutrition and Mating,

WA Central Region Conference Notes, June 2007

Managing Alpacas in Australia, Edition 3,

Australian Alpaca Association Ltd. 2008

British Llama Society/British Alpaca Society Poisonous Plants Leaflet - 2017

Gina Bromage

Llamas and Alpacas: A Guide to Management

The Crowood Press Ltd. 2006

David E Anderson, Meredyth L Jones & Matt D Miesner

Veterinary Techniques for Llamas and Alpacas

Wiley-Blackwell 2013

Eric Hoffman with contributing authors

The Complete Alpaca Book 2nd Ed revised

Bonny Doon Press 2006

Cebra, Anderson, Tibary, Van Saun, Johnson

Llama and Alpaca Care : Medicine, Surgery, Reproduction, Nutrition and Herd Health 1st Ed

Elsevier

The BAS would also like to thank Dr. Graham R Duncanson for his help in checking these documents

**Disclaimer: The management practices detailed in this overview do not constitute veterinary advice. Any alpaca appearing to have an adverse condition should be assessed by a veterinarian**