Beware Poison: Oak Leaf Poisoning

Cases of Oak Leaf Poisoning have emerged again this autumn with some costly consequences for alpaca keepers. Here Alpaca World Magazine reminds readers of what they should look out for.

It is generally well know that acorns are a seasonal problem for most livestock, except pigs, and certainly most alpaca owners would remove any acorns that were in their paddocks in the early autumn months. However what may well be news to all alpaca owners is that the leaves of the oak tree can, in certain circumstance, also be highly toxic.

This has been seen on one farm where oak trees are present in the fields and where alpacas and their crias have grazed for many years without mishap. Although there were no acorns this winter two young crias have died and in post mortem examination the deaths have been attributed to the ingestion of oak leaves.

The first case involved a two month old cria that presented with signs of depression, anorexia and weight loss followed by diarrhoea. Despite supportive therapy and treatment aimed specifically at the causes of enteritis the cria sadly died and was sent for a full post mortem examination. This revealed severe congestion of the blood vessels in the kidneys and also the presence of large volumes of leaf material in the gut that the pathologists tentatively identified as oak. With a provisional diagnosis of kidney failure secondary to oak leaf poisoning in mind they ran checks on the urea levels in the aqueous humor of the cria's eye and indeed found that the levels were hugely elevated lending further support to their theory.

This was followed almost immediately by a second cria displaying similar signs although this one in particular had very runny eyes that were only half open. Unfortunately the urea and creatinine levels were massively raised in this animal too and despite aggressive fluid therapy this cria also died. Post mortem again revealed a large quantity of oak leaves within the stomach.

Tannic acid is the toxic agent in oak, and is present in high levels in acorns and also in fresh green leaves and buds. Clinical signs of poisoning take some days to appear after ingestion and poisoning is usually caused by long-term ingestion of large quantities over a period of several weeks. Death is usually brought about by chronic renal failure although secondary complications such as ulceration in the gut or pulmonary oedema can prevail.

The vets investigating these two deaths can only hypothesise that the unique cases this winter were due to a number of predisposing climatic conditions. A long, warm autumn has meant that leaves have not wilted on the trees, particularly oaks, but have remained relatively fresh and green and thus have contained higher levels of the poisonous tannins. Unusually high winds have meant a heavy fall of these still fresh leaves on to the ground allowing an opportunity for them to be ingested.

Adult alpacas have remained unaffected, probably due to their greater size requiring a much increased lethal dose rate, combined with their more selective grazing behaviour. However the crias at foot, which can often be seen mimicking their mothers' grazing activity as they follow on behind, have obviously found the oak leaves both easy to pick up and one can only assume relatively palatable.

There is no specific treatment for oak poisoning. Removal from the offending pasture is essential, followed by attempts to empty the gut either by gastric lavage or the administration of oral liquid paraffin in those showing clinical signs. Aggressive fluid therapy is also vital although mortality rate for this condition are very high. Obviously prevention is better than cure and so you are recommended to cast an eye over the trees that border your grazing and take appropriate steps to avoid exposure to acorns or fresh, green leaves.