

## Tick survival in Alpacas - Pippa Smith

Paralysis tick (*Ixodes Holocyclus*) is an insidious parasite endemic to the East coast of Australia. While research into the development of a paralysis tick vaccine continues <sup>1</sup> the only treatment currently available for afflicted animals is the use of a high cost Anti Toxin serum treatment which only appears to be effective in the early stages of tick engorgement and can result in significant side effects for the animal including subsequent damage to the pulmonary artery.

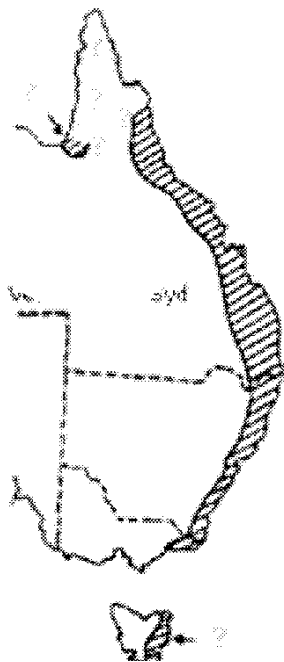
In Queensland, the onset of the rainy season is generally recognised as the time at which most vigilance is required to ensure the safety of animals. For the first time in a number of years, we experienced several frosts during the Winter and were optimistic that this may interrupt the Tick cycle sufficiently to give us a little respite when the tick season<sup>1</sup> began with Spring rains. We have been in drought for a considerable period, with not even a hint of moisture in the air. We had previously observed a regime of vaccinations with Ivermectin every month during 'the season', but had not begun these because, apart from becoming increasingly concerned about the potential for tick resistance, we were not convinced of the effectiveness of this drug for *Ixodes Holocyclus*.

To our dismay, we started having tick problems well before any sign of rain. In recent months we have had 3 animals affected. The first, a five year old pregnant female was found to have a semi-engorged tick behind her ear. We observed her sitting a lot more than usual. She would keep up with the herd but sit at every opportunity. She was feeding a 4 month old cria and with the onset of the paralysis stood for only a few seconds at a time to be suckled. We removed the tick and brought her in to our hospital yard where she could be observed more closely. On veterinary advice we chose not to administer the anti toxin, as the animal was still very alert, keen to drink and eat (although we rationed solid food very carefully as we monitored respiration and heartbeat.). As the toxin took hold, she was weaker and unable to stand even though the persistent cria insisted on nuzzling her udder while she was recumbent. At no stage did her breathing appear laboured or her appetite diminish, but it was almost 10 days before she stood again, and a further week before she was moving freely.

According to our vets (yes, we consulted two of them!), the first 48 hour period is the most critical. So when a second animal, another 3 year old pregnant female succumbed with a fully engorged tick, we followed the same advice, with the same result. In both cases, subsequent ultrasounds indicate that the foetus is still developing normally. Our third case was a two week old cria. This time we observed her trembling and stumbling as she followed her mother. Close inspection revealed a small tick, only partially engorged, but equally able to kill a 9kg cria. We observed anxiously over the next two days, keeping the pair closely confined in a small yard. Amazingly, the little girl still managed to suckle - very briefly several times a day, with the assistance of her extremely experienced mother (who has had more than 10 offspring!). Again, she survived. A year ago, a 12 month old male was treated with the antiserum when found immobilized with a semi engorged tick. He responded to the treatment and appeared to have made a full recovery. Inexplicably, he was found dead a few weeks later, with no evidence of further ticks. Veterinary advice suggests that heart failure was probably the cause. Given these experiences, we are now inclined not to use the antiserum.

Checking to see that all our animals are moving normally everyday is undoubtedly the most efficient method of control. If an animal sits frequently, even though it is keeping up with the herd, we check it carefully. In all cases, we observed differences in behaviour, were able to find the tick, and save the alpaca, without veterinary intervention. In each case, the alpaca was either paralysed or very weak for several days, but still alert and able to feed, with other bodily functions still operating. Information on the AAA website states.. " Tick control is as frustrating in llamas as in any other species. Use of parenteral ivermectin during the peak tick season should minimise chances of tick paralysis. Ectrin@ spray has been observed to be of value when repeated as a total body application on a 5 to 7 day basis. Avoiding heavily tick infested areas in the spring of the year is likely the most effective recommendation." We have also sprayed Frontline on newborn cria with no ill effects (although it is very costly). In the belief that prevention is better than cure, we are again vaccinating with Ivermectin regularly through the Summer months.

<sup>1</sup> Broady, K: Towards the development of a paralysis tick vaccine. Proceedings. AAA National Conference 23-



Distribution of paralysis Tick *Ixodes Holocyclus* in Australia

### Acknowledgement:

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