

Issue 18 Monday 15th March 2005

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What are Parasites doing to my Stock's Nutrition

Parasitism and nutrition are closely linked and any attempt to improve one should take into account the other. The symptoms of a heavy parasite infection can be disguised by good nutrition while poor nutrition can cause these same symptoms without a parasite problem. The major parasites of beef cattle include ticks, buffalo fly, internal worms and lice. All of these affect the beast by taking nutrients from it and or preventing or lowering it's intake of nutrients. Ticks, flies and worms are more common in summer while lice tend to be a winter problem. The better nutrition available during the Queensland summer help stock cope with parasite burdens. In winter the shorter grass and lower plane of nutrition make the problem of internal parasites more prevalent particularly in younger stock with under developed resistance.

Worms attack the stomach and intestinal linings causing the beast to lose blood and protein. By attacking these surfaces worms also lower the ability of the beast to absorb nutrients. A heavy infestation can cause permanent scarring and associated loss in the ability to absorb nutrients. The stock responds to an infestation by attacking the worms with their immune system. The immune system is composed of protein and so these proteins are diverted from other uses such as growth to help protect the beast. Worm infestations also lower the intake of feed by infected animals. Feeding a protein or Non Protein Nitrogen (urea) supplement helps the stock respond to a parasite burden with an increased immune response. Trials have consistently shown lower parasite burden in sheep fed a urea or protein supplement. So a worm infestation has a multiple affect of lowering protein absorption, causing protein loss, diverting protein from productive functions for immune response and repair and lowering feed intake. By supplementing we can help the beast to build resistance to parasites while maintaining it's health and productivity.

Tick infestations also lead to protein loss and lowered production. Feed intake is also lowered. Maximising the effectiveness of the immune response can help in lowering tick burdens particularly in resistant breeds. Buffalo fly cause irritation and associated lowered feeding. Production losses from buffalo fly are variable particularly at lower populations. There is some doubt that resistance to buffalo fly is an immune response. Stock with high levels of antibodies caused no higher mortality among flies than stock with low levels.

Lice are well known to be a problem on cattle on a low plane of nutrition. Cattle have shown a forty fold increase in lice populations between good and poor nutrition. Many graziers will only realise that there are lice in their herd during drought conditions. The lowered incidence of dipping from *Bos indicus* cattle and pour on tick controls have also increased the appearance of lice. Cold weather and confinement also cause increases in lice populations. Trace element deficiencies can lead to lowered immune function. Sulphur deficiencies also manifest as a lowered immune function and therefore higher parasite burdens. Feeding excess sulphur does not result in still lower burdens in fact excess sulphur can lead to tie up of other nutrients such as copper.

Parasites and nutrition are closely linked. Parasite burdens should be controlled in any feeding program so as to maximise the return from the supplement fed. Young stock under two years old are more susceptible to parasites and so burdens should be monitored particularly in growing stock.

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