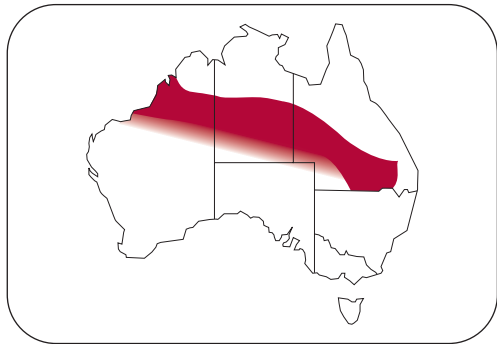


Subtropical Rangelands



Geography

- Very dry, hot-warm climate
- Wetter areas have a median annual rainfall of up to 400mm declining to less than 150mm in the drier parts
- Few sown pastures
- Cattle graze and browse native perennial grasses, annual grasses, shrubs and native trees

Production system

- Cattle bred on extensive, low stocking rate operations
- During good seasons or flooding in the channel country, large numbers of cattle purchased for finishing
- Purchasing, rather than breeding, allows stocking rates to accommodate the highly variable conditions
- Cattle usually mustered once a year, at which time they are removed for sale, young stock weaned and breeding stock selected

Summary

- Due to the hot dry climate, native vegetation and low stocking rates in this region, the incidence of internal parasitism is low.
- Routine parasite treatment programs are not required.
- Lice are commonly treated but in most cases they cause little reduction in weight gain and will resolve naturally with warmer temperatures and improved feed in spring.
- Black scours (*Coccidiosis*) is a common problem in young cattle at weaning time.

Significant parasites

- The area is free of cattle tick (*Boophilus microplus*) and tick infestations must be reported
- Occasional buffalo fly (*Haematobia irritans exigua*) incursions occur in wet seasons
- Black scours (*Coccidia*)

Other parasites

- Roundworms: sporadic outbreaks occur in very wet years or due to crowding of young stock
- Barber's pole worm (*Haemonchus placei*)
- Nodule worm (*Oesophagostomum radiatum*)
- Small intestinal worm (*Cooperia punctata* and *Cooperia pectinata*)
- Biting lice (*Bovicola bovis*) and sucking lice (*Linognathus vituli*, *Haematopinus euryesternus*, *Solenopotes capillatus*)

Grazing management

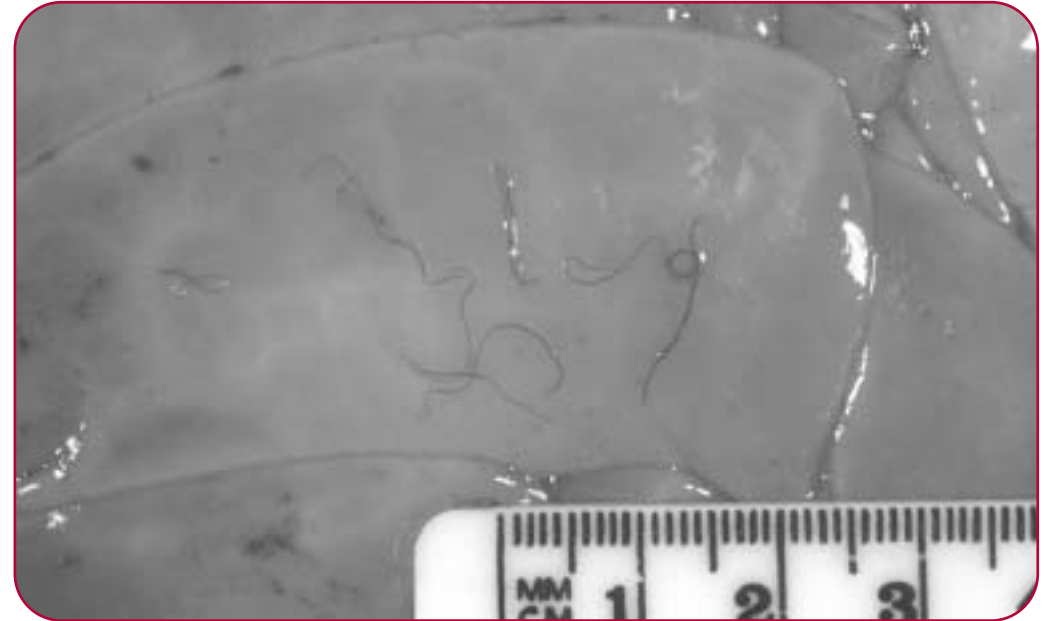
- Specific grazing strategies to control parasites seldom required or practical
- Due to the limited exposure of cattle to parasites, careful attention should be paid to animals during seasons of above average rainfall or when moved to higher rainfall areas
- Cattle moving to tick endemic areas should be vaccinated against tick fever a month prior to travelling

Economics

Routine treatment of internal parasites is unlikely to be cost effective in this region.

Calendar for worm and fluke control

- There are no routine treatments recommended in this region.



Barber's pole worm (*Haemonchus placei*) - one of the parasites found in the Subtropical Rangelands. Here pictured on the wall of the fourth stomach (abomasum).

Dr Gareth Hutchinson, NSW Department of Primary Industries

Epidemiology

The hot dry climate, low rainfall, high pasture variability, low stocking rates and native vegetation are not conducive to the lifecycle of any internal parasites in cattle. A build-up in worm numbers may occur sporadically in very wet seasons or following a series of good rainfall years.

Due to the extensive nature of grazing systems, few management strategies are practical or required.

Routine drenching is not recommended.

LICE

Although lice are common in the region, trials indicate they are unlikely to reduce weight gains. Economic losses may result from poor appearance at sale and damage to fencing and hides from rubbing.

Seasonal trends

Lice numbers increase from late autumn through to early spring and then decline with increasing temperatures in spring and summer.

Heavy infestations are usually seen in cattle in poor body condition. In most cases the lice are a consequence, and not the cause, of poor nutritional conditions.

Some producers report that their animals do better following lice treatment. This perceived response is probably due to improved coat condition and improved seasonal conditions rather than due to the lice treatment itself.

Control

Increasing feed availability and a rise in spring temperatures usually resolve lice problems. Where cattle are suffering, or rubbing is resulting in hair loss or skin damage, treatment may be required.

Upon diagnosing an outbreak of lice, producers should look for and attempt to remedy, the underlying cause of the stress. Where lice are an on-going problem a single treatment in late autumn will usually provide effective control.

Many producers are tempted to use a macrocyclic lactone (ML) drench to control lice. Not only is there an increased cost associated with this practice, it may also promote the development of resistant parasites. In this region especially, internal parasite burdens are usually very low and lice control products are as effective as the ML drenches in controlling lice.

BLACK SCOURS (*Coccidia*)

Coccidia are microscopic organisms that live in the small and large intestine of young cattle. *Coccidia* occur in all areas. Severe infection produces a profuse, dark, watery diarrhoea and dirty tails and hindquarters. Infected animals become dehydrated and some will become recumbent and die. Recovered animals often have a long period of low food consumption and poor weight gain. Disease is most commonly seen in young cattle up to 250kg, around the time of weaning or prolonged yarding.

Lifecycle

Coccidia have lifecycle stages in the host and on the pasture. The host stage breeds and multiplies in the wall of the small and large intestine. Eggs (oocysts) are excreted in the faeces. These divide to the infective stage (sporozoites) that, after ingestion, penetrate the gut wall and the lifecycle is complete.

Disease

The multiplication of sporozoites in the intestinal wall damages the lining of the gut. The intestinal wall becomes swollen and sections of the gut lining become severely damaged. The first sign of the disease is profuse watery diarrhoea. This

often contains blood, clots and shreds of intestinal lining. Faeces often cover the hind legs and the base of the tail. Affected animals become depressed, dehydrated and weak.

Signs

- Sudden onset of severe, foul smelling diarrhoea which may be blood-stained – either dark, tarry stain or fresh, red clots – and may also contain shreds of gut lining
- Straining
- Anaemia
- Decreased appetite
- Usually seen in weaners under 250kg
- Dehydration and recumbency
- Death

Epidemiology

The parasite lives and proliferates in the lining of the intestines. Almost every animal becomes infected with *coccidia* during their life, usually as a calf or weaner. In most cases the infection passes uneventfully and the animal becomes immune. In some cattle the infection can become overwhelming, particularly when the animal is experiencing some other form of stress, such as weaning, poor nutrition or close confinement.

During weaning or confinement, yards or areas around watering holes rapidly become contaminated with faecal material from infected animals. The parasite then spreads through young, susceptible cattle. The sporozoites are tough and survive for long periods in the soil. If a set of weaning yards become infected, producers should consider moving future weaning to new yards.

After infection, cattle develop strong immunity to *coccidiosis*. A small number of animals may become permanent carriers, shedding small numbers of eggs in their faeces.

Risk factors

- Young animals (calves and weaners)
- Low body weight at weaning
- Confinement in small areas
- Feed or watering points contaminated with faecal material
- Stress such as weaning, cold weather or poor nutrition

Control

Where early weaning occurs, or weaners are held in yards for more than a week, preventative measures should be used. *Coccidiosis* can be prevented by feeding a medicated ration or supplement containing monensin. Monensin is included in the diet at the rate of 10–20mg per head per day.

Infected animals should be isolated and overcrowding eased. Electrolytes can be added to the water and water troughs should be raised to prevent faecal contamination. Once a calf has severe scours, treatment is difficult and consists largely of supportive therapy to correct dehydration. Electrolyte solutions should be administered.