

THE EFFECT OF ALBENDAZOLE ON THE LIVWEIGHT OF
BRAHMAN CROSS WEANERS IN THE N.T.

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SUMMARY

A single treatment with albendazole did not produce any statistically significant liveweight gain advantage in Brahman cross weaner cattle. This trial was undertaken at Katherine, Northern Territory.

Introduction

A number of studies concerning the effect of parasitic trichostrongyle nematodes in weaner and yearling cattle in Northern Australia have been reported in the last decade. Wesley-Smith (1972) reported a small liveweight gain as a response to treatment with Neguvon® given in November and April which was greater in Shorthorn cattle than in Brahman cross cattle. Similar findings were reported by Seifert (1971) in Central Queensland. Falvey and Bainbridge (1975) reported a small but uneconomic liveweight gain advantage in Brahman cross steers in the Douglas-Daly River area of the Northern Territory in response to monthly treatment with injectable tetramisole.

Henderson and Kelly (1978) reported that *Haemonchus placei* and *Cooperia* spp were commonly found in weaner cattle in the Victoria River area of the Northern Territory. Small numbers of *Bunostomum plebotomum*, *Nematodirus spathiger*, *Oesophagostomum radiatum* and *Moniezia benedini* were also recovered.

Previous studies at Katherine show no statistical liveweight advantage ($p > 0.05$) in Brahman cross weaner cattle following a treatment with levamisole at branding only (February), weaning only (May), or at branding and weaning (February and May).

Henderson and Kelly (1978) studied the epidemiology of parasitic trichostrongyles in cattle in Northern Australia and suggested that the phenomenon of hypobiosis, an evolutionary mechanism for the survival of many trichostrongyle nematode species in adverse conditions, may explain the increase in worm burdens in the Dry season due to resumed development of previously retarded larval stages, because larval uptake from pasture in the Dry season is insignificant.

The climate at Katherine is tropical savannah. Mean rainfall is 3773 mm, of which 92% falls in the November - March period (86 year average). Mean daily maximum temperatures range from 38°C in October to 30°C in June; mean daily minimum temperatures range from 25°C in December to 13°C in July.

Aim of the Experiment

Benzimidazoles, such as albendazole, fenbendazole, and oxfendazole have a greater efficacy on hypobiotic larvae than levamisole (Prichard 1978) and so an experiment to study the response to a single treatment using albendazole in brahman cross weaners at Katherine was commenced in May 1978. The monthly liveweight gain was measured until March 1979 when the cattle were sold.

Materials and Methods

Brahman cross cattle were weaned at the Katherine Experiment Farm, 20 km north of Katherine in early May 1979 and three weeks later 58 were selected from the intermediate liveweight range of 120 to 180 kgs. The dams of the weaner cattle had not been dosed with anthelmintics for at least three years. Cattle were randomly allocated according to sex and liveweight into two groups. One group was dosed with albendazole at 7.5 mg per kg orally on 28 May 1979 and the remaining group were untreated. The two groups were set stocked on similar adjacent paddocks of introduced pasture at a stocking rate of 1.2 weaners per hectare.

Results

The mean liveweight at the commencement of the experiment on 28 May 1978 of the control and treated groups was 154.9 kg and 152.9 kg respectively. The mean liveweight after 250 days was 177.6 kg and 181.3 kg, respectively. The liveweight gain in the control group was 22.7 kg and 28.4 kg in the treated group. The liveweight response to treatment was not statistically significant ($p > 0.05$).

The mortality rate in the control group and in the treated group was 4/29 and 3/29, respectively.

The liveweight gain advantage was greatest in the first four weeks following treatment, i.e. 23.9 kg and 17.1 kg in the treated and control groups respectively. However, this was not statistically significant ($p > 0.05$).

The liveweight changes and the mortality are shown in Figure 1. Deaths occurred during the period immediately following weaning and at the end of the Dry season when the mean liveweight of both groups was least.

Discussion

Treatment for trichostrongyle nematodes is a management technique that is not commonly used on cattle stations and farms in the dry tropics of northern Australia. A review of the literature suggests that there may be an economic response to anthelmintic treatment of European breed cattle in northern Australia.

However, this study was carried out in Brahman cross cattle as there is a continuing increasing percentage of Brahman cross cattle in northern Australia. This study on the use of a single treatment of Brahman cross cattle with albendazole did not result in a statistically significant liveweight gain advantage. This study suggests that no economic production response would be expected from anthelmintic treatment of Brahman cross weaner cattle in the dry tropical areas of northern Australia. However, it is recognised that there may be special circumstances of high worm populations, high stocking rates and use of irrigation in the dry tropical areas of northern Australia where a production response to anthelmintic treatment in Brahman cross cattle may occur.

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● Control Group
 x Treated Group

D = Death

