Weaning Kimberley cattle pays off

D Pratchett
Stuart Young

Follow this and additional works at: https://researchlibrary.agric.wa.gov.au/journal_agriculture4

Part of the Animal Experimentation and Research Commons, Comparative Nutrition Commons, and the Meat Science Commons

Recommended Citation
Available at: https://researchlibrary.agric.wa.gov.au/journal_agriculture4/vol30/iss2/3

This article is brought to you for free and open access by Research Library. It has been accepted for inclusion in Journal of the Department of Agriculture, Western Australia, Series 4 by an authorized administrator of Research Library. For more information, please contact jennifer.heathcote@agric.wa.gov.au, sandra.papenfus@agric.wa.gov.au, paul.orange@dpird.wa.gov.au.
Cattle have grazed the Kimberley region of Western Australia for a little over 100 years. They run on the traditional open-range grazing system based on unimproved native pastures. The quality of these pastures is poor, and this is reflected in the slow growth rates and low turn-off percentages. Traditionally, the cattle have been turned off from this industry only for the aged bulls and suitably aged heifers suitable for the hamburger market in the USA.

Over the past eight years, the Department of Agriculture has been investigating systems in an attempt to increase its productivity. The Department has investigated alternative turn-off rates for the Kimberley cattle industry in an attempt to increase its productivity.

The following three articles describe the results of each of these programmes:

- The effect of weaning on the performance of the core herd in the Kimberley.
- The performance of steers transferred to the South-West of the State.
- The performance of steers finished on irrigated leasehold grazing in the Ord River Irrigation Area.

Research results show that weaning Kimberley calves when they reach 140 kg liveweight is one way of increasing herd productivity by changing management practices. However, removing the bulls from the breeding herd, rather than running them with the cows year round as is the practice, does not increase branding percentage.

About the Kimberley cattle industry

Western Australia’s Kimberley region was originally populated with Shorthorn cattle from Queensland and New South Wales. The descendents of these cattle are known as Kimberley Shorthorn and they are still the predominant breed in the region.

Compared with other breeds suited to the tropics, these cattle perform relatively poorly under the harsh Kimberley conditions. If the cattle type used is changed, productivity from Kimberley cattle can be improved. (See “An evaluation of cattle types for the East Kimberley” by D. Pratchett et al. in the Journal of Agriculture, Vol. 29.)

Although Department of Agriculture research results indicate that the adoption of Bos indicus breeds is the correct move, improved husbandry can also increase the productivity of the Kimberley Shorthorn cow. Most of the cattle in the Kimberley are not weaned. Sometimes young stock are removed from the cows when they are between 12 and 18 months old, by which time most will have weaned themselves. Such a practice does little to reduce the stress on the cow and thus improve the overall fertility of the herd.
To achieve high calving percentages cows must conceive while they are still suckling, and they can only do this if they are in good body condition. Weaning calves will allow cows to maintain a high body weight and condition. When pasture conditions are poor, such as in the Kimberley, it is even more important that cows are not stressed from long periods of suckling.

Apart from increasing conception rates weaning also reduces the number of cow deaths, which means that a greater proportion of the female herd is suitable for sale either as slaughter stock or as breeding stock.

Another aspect of herd management in the Kimberley is that bulls are run with the herd on a year round basis. We do not know what effect this has on herd fertility and mortality compared with a restricted mating period.

**Research programme**

The research was based at Ord Regeneration Research Station, 200 km south of Kununurra. The country is undulating and most of the soils are alkaline, ranging from pH 8.5 to 9.0. Pastures consist mainly of the introduced grasses Birdwood grass (Cenchrus setiger) and buffel grass (Cenchrus ciliaris) and some native grasses such as limestone grass (Enneapogon spp.), ribbon grass (Chrysopogon spp.) and white grass (Sehima spp.).

Three breeding herds of 400 head in each group were set up in three separate paddocks and managed differently.

- **Group 1. Uncontrolled mating with no weaning.**
  
  The herd was mustered twice a year and the calves branded and counted. Bulls were left in all year at the rate of 4 per cent. Steers were sent for slaughter when they reached 450 kg liveweight. Cows were removed when they were considered to be too old and in too poor a condition to survive another year.

- **Group 2. Uncontrolled mating with weaning.**
  
  The herd was mustered twice a year and the calves removed when they reached 140 kg liveweight either in May or November. Bulls were run year round with the herd at the rate of 4 per cent.

- **Group 3. Controlled mating with weaning.**
  
  The herd was mustered twice a year and the calves removed when they reached 140 kg liveweight either in May or November. Bulls were introduced to the herd in November at the rate of 4 per cent and taken out in May.

Replacement heifers were returned to Groups 2 and 3 when they were 18 months old. In practice this meant one year after they were weaned.

The branding percentages for the three groups for the four years from 1984 to 1987 showed the beneficial effect of weaning (Table 1). Just under twice as many calves were branded from the weaned, uncontrolled mating group as from the control (unweaned) group. However there were no gains from controlled mating. The controlled mated herd had a consistently lower branding percentage than that from the uncontrolled mated but weaned herd.

Each herd contained a group of steers whose weight gain was monitored regularly to ensure there were no major differences in pasture productivity that could influence the treatment effects. Each year the mean liveweight gain of each group of sentinel steers was within 5 kg, indicating little difference between paddocks.

It is difficult to explain the large difference between the controlled mated and uncontrolled mated herds. We observed that the Brahman bulls stayed together in groups when they were introduced to the female herd whereas bulls that remained year round with the cows were dispersed throughout the paddock. By staying in groups the bulls might not make contact with some cows which are on heat, thus leading to a reduction in conception rates.

**Recommendation**

At this stage we recommend weaning Kimberley calves when they reach 140 kg liveweight, but we do not yet recommend controlled mating. Fewer cows in the weaned herds died than in the unweaned control herd, probably because the cows were less stressed once the calves were removed (Table 2).

### Table 1. Branding percentage for three herds from 1984 to 1987

<table>
<thead>
<tr>
<th>Year</th>
<th>1984</th>
<th>1985</th>
<th>1986</th>
<th>1987</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control, weaned</td>
<td>54.5</td>
<td>51.4</td>
<td>30.4</td>
<td>53.3</td>
<td>47.3</td>
</tr>
<tr>
<td>Uncontrolled mating</td>
<td>80.4</td>
<td>89.3</td>
<td>72.5</td>
<td>81.9</td>
<td>80.9</td>
</tr>
<tr>
<td>Controlled mating</td>
<td>63.5</td>
<td>56.8</td>
<td>55.2</td>
<td>70.8</td>
<td>61.3</td>
</tr>
</tbody>
</table>

### Table 2. Cow deaths for three seasons from 1984 to 1987

<table>
<thead>
<tr>
<th>Year</th>
<th>1985</th>
<th>1986</th>
<th>1987</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control, weaned</td>
<td>24.7</td>
<td>9.2</td>
<td>23.9</td>
</tr>
<tr>
<td>Uncontrolled mating</td>
<td>9.4</td>
<td>7.8</td>
<td>10.5</td>
</tr>
<tr>
<td>Controlled mating</td>
<td>14.3</td>
<td>7.4</td>
<td>8.2</td>
</tr>
</tbody>
</table>