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Dry supplements reduce labour and cost of calf rearing

Department of Agriculture, Western Australia

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The conventional method of hand rearing dairy calves in Western Australia calls for the feeding of whole milk, skim milk and/or milk substitutes for periods of up to 16 weeks. This requirement for milk and labour has often prevented beef production from becoming a major sideline on many wholemilk and butterfat farms.

The two trials reported below were carried out at Bramley Research Station to see if milk consumption and time to weaning could be reduced by free-feeding hay and cereal based supplements.

1968 Experiment
Method
Four groups (two male and two female) of 12 Friesian calves were taken from their mothers after three days and placed in 3/4-acre paddocks.

One male and one female group were weaned at six weeks but continued on the hay and supplement until 10 weeks. The other groups were weaned at 10 weeks. All groups were shifted to paddock grazing only at 10 weeks. All groups had access to shelter and received 1 gal. milk per head per day, divided into two feeds. In addition the calves to be weaned at six weeks had free access to fresh water, hay and the following supplement—

1968 Supplement
Crushed oats 36 lb.
Linseed meal 30 lb.
Skim milk powder 15 lb.
Mineral mixture 1 lb.
Vitamin A 20,000 i.u.
The supplement was crushed and mixed by means of a hammermill.

All groups were weighed at birth, and at six and 10 weeks. Subsequent weighings were carried out at monthly intervals.

Results
Figures in Table 1 show little difference in total growth rates of calves weaned at either six or 10 weeks. Growth rates after 10 weeks were also similar for both weaning times.

The cost of feeding the two groups was $17 per head for those weaned at 10 weeks, compared with $15 per head for those weaned at 6 weeks.

1968 Supplement
Crushed oats 36 lb.
Linseed meal 30 lb.
Skim milk powder 15 lb.
Mineral mixture 1 lb.
Vitamin A 20,000 i.u.

1969 Experiment
Method
The design of the 1968 experiment was modified in two ways. Firstly, the dry supplement cost was reduced by using the cheaper mixture shown below. Secondly, the groups were weaned at four and six weeks, and fed dry supplement and hay until eight weeks when they were moved to pasture only.

1969 Supplement
Ground barley 76 lb.
Welko in lupins 14 lb.
Meatmeal 9.5 lb.
Mineral mixture 0.5 lb.
Vitamins A and D.

Results
Figures in Table 2 show some difference in the total growth rates of calves weaned at four weeks, compared with those of calves weaned at six weeks.

Discussion
Although four week weaning lowered the milk requirement and the cost of supplementary feed (Table 3), compared with six week weaning, it reduced the rate of weight gain, especially during the early period of the trial. The reduction is likely to be greater in poor
seasons, although it would be cheaper to feed dry supplement for longer in poor seasons than to continue supplying milk.

Conclusions

Apart from the direct saving of milk costs associated with traditional calf rearing systems, early weaning offers considerable savings in labour. The cost of the supplement necessary for early weaning is also likely to fall as more feed grain comes on to the market. Even with the 1969 costs shown in Table 3, weaning at six weeks, accompanied by free-supplementary feeding until eight weeks, cost approximately $10 per calf less than conventional hand rearing methods.

<table>
<thead>
<tr>
<th>TABLE 3.—CONSUMPTION AND COST OF REARING IN THE 1969 TRIAL</th>
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<tbody>
<tr>
<td></td>
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<tr>
<td>No. calves</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Whole milk</td>
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<tr>
<td>Dry supplement</td>
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<tr>
<td>Hay</td>
</tr>
<tr>
<td>Milk (at 20c/gal.)</td>
</tr>
<tr>
<td>Dry supplement (at 2.5c/lb.)</td>
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<tr>
<td>Hay (at 1.2c/lb.)</td>
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<tr>
<td>Total costs</td>
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</tbody>
</table>

Acknowledgments

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