

95/Q04



Producer Research Support

Phosphorus supplements boost fertility and weaning weight
Mungallala Beef Improvement Group



The project

The Mungallala Beef Improvement Group was interested in establishing the economics of feeding supplements.

Trace element supplementation was found to be of "dubious benefit" but phosphorus supplements gave measurable results, a Producer Research Support investigation of phosphorus and trace element conducted by showed.

Objective

Establish the economics of feeding supplements.

What was done

A group of 48 one-and-a-half-year-old November joined Bundulla heifers were pregnancy tested and split into two groups along pregnancy status and weight lines.

These groups consisted of 14 pregnant and 14 dry heifers in the treatment group and 15 pregnant and 13 dry heifers in the control group.

Blood tests and phosphorus screens were taken.

After weaning in June, their heifers calves were run as a single group without supplement until September when they were randomly divided into two groups. These groups were included with the older heifers, now calving.

One group was supplemented with Kynophos and salt, the other group was the unsupplemented control.

Both groups were run separately but as far as possible under the same grazing conditions. The cattle were rotated around six buffel-grass paddocks averaging about 200 acres each.

Two yearling bulls were put with the heifers on November 1. These were changed at three-week intervals.

Calves were weighed at branding in December and at weaning the following June. All females were pregnancy tested. In the maiden heifers, pregnancy rates were the same in both groups. All the supplemented wet cows were in calf. In the control group, 12 of 15 were in calf.

After weaning the supplemented females were given access to Olssons superphos 8% P.

The cattle calved from August to October.

Calves were not weighed until after weaning in June 1998. All females were pregnancy tested at this time. All 12 second calf cows were in calf and 19 of 21 first calf heifers were pregnant.

The Mungallala Beef Improvement Group was interested in establishing the economics of feeding supplements.

Trace element supplementation was found to be of "dubious benefit" but phosphorus supplements gave measurable results, a Producer Research Support investigation of phosphorus and trace element conducted by showed.

Key points

- Trace element supplementation was of "dubious benefit" but phosphorus supplements gave measurable results.
- Feeding phosphorus supplements increases fertility, especially in first calf heifers.

Contact details

Geoff Thompson / Bundulla
PO Box 2, Qld 4467
Tel (07) 4623 1842
Fax (07) 4623 1855

Producer Research Support

MLA Producer Research Support offers support funding of up to \$15,000 over three years for groups of producers keen to be active in on-farm research and demonstration trials.

These activities include:

- Producer Initiated Research and Development
- More Beef from Pastures demonstration trials
- Prime Time Wean More Lambs demonstration trials
- Sustainable and productive grazing grants.

Contact Stephen Feighan - MLA Project Manager, Producer Delivery and Adoption.

Tel (02) 9463 9245 or
sfeighan@mla.com.au

What happened?

In the control group there were 13 of 16 second calf cows pregnant and 11 of 19 first calf heifers pregnant.

The weaners in the supplemented mob were 17 kg heavier in the first year and 7 kg heavier in the second year.

Although the tests and phosphorus screen tests in the cattle were inconclusive, these results indicated that feeding phosphorus supplements increases fertility, especially in first calf heifers.

There appears to be little benefit in weight gains in dry cattle although there was some increase in weaner weights.

In year one, the per head cost of Kynophos and salt averaged \$12.20 for a total of \$475.

The cost per extra calf was \$56.

In the second year, the average per head cost of Olssons superphos 8% was \$14.30 for a total cost of \$486. The cost per extra calf was \$54.

The increased average weaning weight in year one of 13 kg totalled 182 kg. When added to the extra calf weight of 555 kg this gave a total increase in weaned weight of 737 kg at a cost of 64c per kg.

In the second year, the 7 kg weight gain advantage in the supplemented group result in an extra 245 kg. When added to the extra calf weight of 1890 kg, the total increase in weaning weight was 2135 kg at a cost of 22c per kg.

In another branch of the trial, 240 off-shears weaner ewes were randomly split into three groups and weighed. Average weight was 25 kilograms.

In January 1997 they were again weighed off-shears with the phosphorus supplemented ewes gaining 18.2 kg and the trace element supplemented ewes 20.4 kg, while the control ewes gained only 16 kg.

Wool cuts in January with 8.5 months wool growth showed both the phosphorus and trace element treated ewes cutting 3.6 kg and the control group 3.7 kg.

About 20 local graziers attended a field day in March 1999 to discuss the results of the trial.



Discussion

With no response from supplementing livestock with trace elements it was concluded these were not a limiting factor in animal performance. The two properties involved in the phosphorus supplementation trial showed different results.

Only weaner calves were used on 'Armadilla'. These were mixed sexes and unjoined. There were no significant weight gains in groups and blood tests were similar.

However on 'Bundulla', where young breeders were used, significant benefits from supplementation resulted.

There was a marked improvement in conception rate in lactating females, especially two-year-olds, which increased from 58% pregnant in the control group to 90.4% in the treatment group.

In the three-year-olds, the increase was from 82.2% to 100%.

Weaner weights also showed an increase from an average live weight of 212 kg in the control group to 219 kg in the treated group in year two.

The average live weight of the two groups of breeders showed little difference. This may be in part due to the extra number of dry cows in the control group.

MLA also recommends

EDGEnetwork

EDGEnetwork offers practical field-based workshops to improve productivity and profitability for the long-term.

Workshops cover breeding, nutrition, grazing management, marketing and selling.

Call MLA on 1800 993 343 or www.edgenetwork.com.au

Meat and Livestock Australia

Level 1, 165 Walker Street

North Sydney NSW 2060

Tel (02) 9463 9333

Fax (02) 9463 9393

Free Phone 1800 023 100 (Australia only)

www.mla.com.au

Phosphorus supplements boost fertility and weaning weight

July 2006 / PIRD OUTCOMES