



## A preliminary experiment on the effect of selenium on the growth rate of calves

R.D.JollyB.V.Sc.

**To cite this article:** R.D.JollyB.V.Sc. (1960) A preliminary experiment on the effect of selenium on the growth rate of calves, New Zealand Veterinary Journal, 8:1, 13-13, DOI: [10.1080/00480169.1960.33366](https://doi.org/10.1080/00480169.1960.33366)

**To link to this article:** <https://doi.org/10.1080/00480169.1960.33366>



Published online: 23 Feb 2011.



Submit your article to this journal [↗](#)



Article views: 20



View related articles [↗](#)

## A PRELIMINARY EXPERIMENT ON THE EFFECT OF SELENIUM ON THE GROWTH RATE OF CALVES

R. D. JOLLY\*

DRAKE *et al.* (1960) have shown that selenium will control outbreaks of lamb and hogget ill-thrift on the pumice soils of the Rotorua-Taupo area. As an ill-thrift problem also exists in calves on the newly-broken-in farms in the same area, it was decided to investigate the effect of oral selenium and other minerals in the control of this problem.

The trial farms were situated in the Rotomahana and Rerewhakaaitu districts, near Rotorua. Several soil types were involved, all of which are derived from soils of near-recent or recent volcanic origin, broadly classified as pumice, ash, or mud. All are considered high in molybdenum and, with the exception of the mud, low in cobalt.

### Experimental Methods

Trials were carried out on 24 separate properties during the months of March and April, 1959. The experimental animals in a composite experiment consisted of 386 Jersey or Jersey-cross heifer calves 7 to 9 months of age. On each property, the calves were put into three or four approximately equal groups at random, ear-tagged, and weighed. All farms had a control group, a selenium group, and one or two other mineral-supplemented groups. The selenium-dosed calves received 10 mg or more of sodium selenate at the beginning of the experiment and again two weeks later. All calves were reweighed one month after the start of the trial. (Unfortunately, it proved impracticable to carry on further with this experiment.)

### Results

Evidence of response to minerals other than selenium was inconclusive. Results for the selenium and control groups are summarized in Table 1.

TABLE 1: Effect of Selenium on Growth Rate of Calves

| Group    | No. of Calves per Group | No. of Deaths | Av. Weight Gains (lb) |
|----------|-------------------------|---------------|-----------------------|
| Selenium | 116                     | 1             | 41.1                  |
| Control  | 96                      | 3             | 27.1                  |

Difference in favour of selenium group, 14.0 lb (52 per cent.).

The results show that, under the particular condition of this experiment, small oral doses of selenium will improve the thrift of calves.

### Summary

(1) As part of a composite experiment in the investigation of calf ill-thrift on 24 properties, the growth rate of 93 calves from control groups was compared with that for 115 calves that received 10 mg or more of sodium selenate orally twice within a month.

(2) Over a four-week period, selenium-dosed calves on an average gained 52 per cent. more weight than the controls.

### REFERENCES

Drake, C., Grant, A. B., and Hartley, W. J. (1960): *N.Z. vet. J.*, 8: 7.

\*R. D. Jolly, B.V.Sc., Rotorua Veterinary Club.