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HYPOCUPROSIS IN DAIRY CATTLE IN NORTHLAND

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Preliminary investigations into hypocuprosis in dairy cattle commenced in 1971. These have now been extended to more than 80 dairy farms. The problem is largely confined to the podsolized soils of lower Northland which have low copper levels. However, hypocuprosis in cattle is also found on the alluvial gley soils at Ruawai, Kaitaia and Kaipara.

Normal copper levels in the liver and blood of cattle were found only on four farms. In most herds liver copper levels were below 15 ppm, some being extremely low at < 5 ppm.

The clinical syndrome varies according to soil type. On the podsols, anaemia, scouring, loss of condition, lowered production, anoestrus, colour changes and retention of winter coat are common. In addition, post-parturient haemoglobinuria as described by Martinovich and Woodhouse (1971) was present in fifty herds. A relationship between this condition and copper status has been established (Smith, 1973a). Symptoms are most obvious in the "critical" period from July to October, when molybdenum levels in pasture are highest, resulting in a low copper to molybdenum ratio. Waterlogging appears to be another factor involved.

A study of topdressing records indicated the deficiency of copper on the podsols has been induced by excessive, and perhaps ill-advised use of molybdenum and/or lime (Smith, 1973b). However, this does not apply to the copper deficiencies on the other soil types where symptoms are different and treatment less effective. Further investigations are required.

Hypocuprosis can be prevented by topdressing with copperized fertilizers or by subcutaneous injections containing copper. The parenteral dose of copper for adult cattle is 120 to 240 mg available copper given in the form of copper glycinate (400 to 800 mg). The actual dose rate depends on the copper status of the animal and should be given within 48 hours of parturition. Repeat dosing may be required. The latter method is inexpensive, but present evidence points to topdressing as being the method of choice. However, boosting with copper injections may still be required in the initial stages.

The emerging problem of hypocuprosis in certain areas of Northland could well be present in other areas of the country.

REFERENCES

- Martinovich, D.; Woodhouse, D. A., 1971: *N.Z. vet. J.*, 19: 259.
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