

A SURVEY OF THE SELENIUM STATUS OF CATTLE SOUTH EAST OF  
SOUTH AUSTRALIA

J.D. McFARLANE\* and G.J. JUDSON\*\*

Blood samples collected for the National Brucellosis Eradication Scheme were used to survey the selenium (Se) status of cattle (beef and dairy) in the South East of South Australia. Between March 1982 and February 1985, 1132 blood samples were taken from herds from 828 properties and analysed for Se. Each sample was pooled from blood of 8-10 cows or heifers and the Se concentrations of the pooled samples mapped according to their geographic origin and related to soil type and rainfall.

Herds with low blood Se concentrations ( $< 0.5 \mu\text{mol/l}$ ) were located on the neutral-acid sandy soils of the South East where average rainfall was greater than 550mm (Fig 1). Low concentrations also occurred in herds from the volcanic soils around Mt. Gambier and from the neutral to alkaline sands near Robe. 40% of the 1132 samples had Se concentrations  $< 0.5 \mu\text{mol/l}$ .

No low blood Se concentrations were found in herds from the lower rainfall area east of the Naracoorte-Keith-Coonalpyn main road. High blood Se concentrations (up to  $4.5 \mu\text{mol/l}$ ) were found in herds from the ground water rendzinas (black clay flats) (Blackburn 1959, 1964).

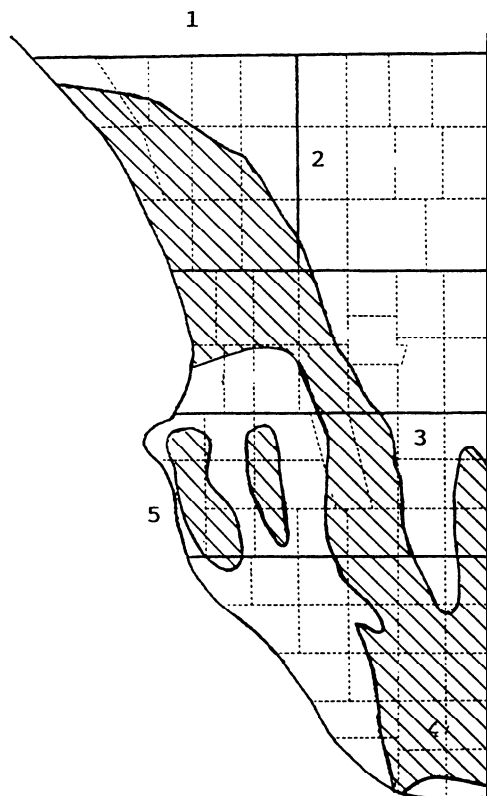


Fig. 1. Location of low blood Se concentrations from cattle in the South East of South Australia. The hatching indicated areas from which blood Se concentrations were  $< 0.5 \mu\text{mol/l}$ . The bold lines are County boundaries and the broken lines are Hundred boundaries. Numbers 1-5 show the location of towns mentioned in the text:

1. Coonalpyn, 2. Keith,
3. Naracoorte, 4. Mt. Gambier and
5. Robe.

BLACKBURN, G. (1959) "Soils and Land Use Series No. 33". (CSIRO: Australia).

BLACKBURN, G. (1964) "Soils and Land Use Series No. 45". (CSIRO: Australia).

\* Department of Agriculture, Box 618, Naracoorte, S.A. 5271.

\*\* Central Veterinary Laboratories, Department of Agriculture, IMVS Building, Frome Road, Adelaide, S.A. 5000.