

# Trace element testing review

Did you know that in 2018, Gribbles Veterinary reviewed data from trace element testing in New Zealand and consequently made some changes to testing recommendations?

## Liver copper:

Recommended sample size changed from 5 to  $\geq 10$  (for all species). This will provide 75% confidence that the mean of the samples is representative of the herd as opposed to approximately 55% confidence for the current recommendation of 5 liver samples.

## Serum copper:

Copper sequestration in the clotting process has been found to cause an artefactually lower copper serum result. The adequacy value for serum copper in cattle has changed from  $>8\mu\text{mol/L}$  to  $7\mu\text{mol/L}$ .

## Latest technology:

Gribbles Veterinary now has **ICP-MS\* technology** in our Dunedin laboratory - the centre of excellence for trace element testing. This technology provides increased accuracy and precision, faster turn around times and needs a much smaller sample volume.

\* Inductively coupled plasma with mass spectrometry

## References:

- Laven R. Trace elements and micronutrients for dairy cattle. Update. *Proceedings of the Society of Dairy Cattle Veterinarians of the NZVA*. 7, 3.1-10, 2011
- Grace ND, Knowles SO, Hittmann AR. High and variable copper status identified among dairy herds in the Waikato region by concentrations of Cu in liver sourced from biopsies and cull cows. *New Zealand Veterinary Journal*. 58, 130-136, 2010
- Vermunt JJ, West DM. Predicting copper status in beef cattle using serum copper concentrations, *New Zealand Veterinary Journal*. 42, 194-195, 1994
- Laven RA, Lawrence KE, Livesey CT. The assessment of blood copper status in cattle: A comparison of measurements of caeruloplasmin and elemental copper in serum and plasma. *New Zealand Veterinary Journal*. 55, 171-176, 2007
- Internal data – Gribbles Veterinary Dunedin
- Suttle NF. Copper. *Mineral Nutrition of Livestock*. 4th Ed. 255-305, 2010



Please refer to our current price book for sample types, test turn-around times and pricing. If you have any questions or would like any further information, please contact your local Gribbles Veterinary laboratory or Territory Manager.