SELENIUM FACT SHEET

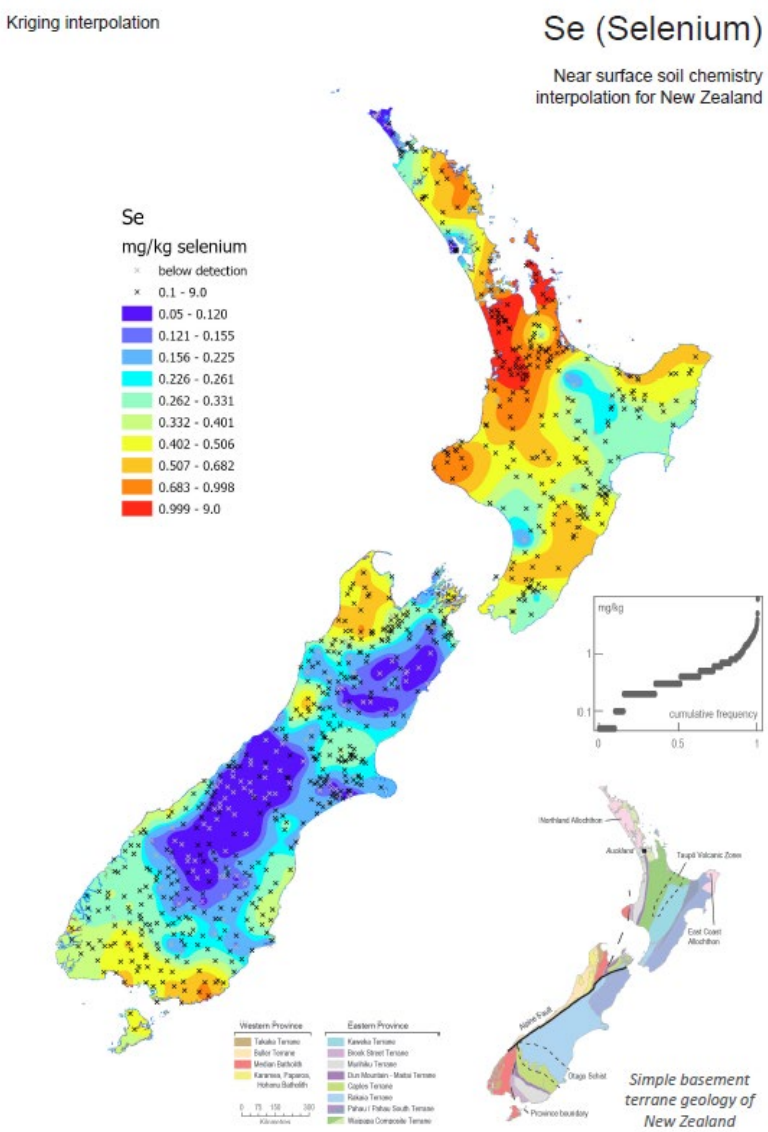
Tackling Selenium deficiency in cattle and deer with Inovata Selenium Pour-On

About Selenium

- Selenium (Se) is a critical trace mineral for animal health.
- Selenium deficiency has long been a silent threat to livestock productivity and animal wellbeing across the country due to New Zealand's selenium-deficient soils.
- New Zealand soils are geologically old, highly weathered, and deficient in many trace minerals including selenium as they are leached by high rainfall.
- Certain soils (e.g. volcanic pumice soils) also have low initial selenium content.
- Any areas with soil selenium levels below 0.9mg/kg should be considering selenium supplementation.

Regions impacted by low Selenium levels

While most of New Zealand's soils are Selenium deficient. The following regions have the lowest levels of Selenium: South Island, Central Plateau, Bay of Plenty, Manawatu, Hawke's Bay.



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Martin, A.P.; Turnbull, R.E.; Roudier, P.; Cavanagh, J.; Rattenbury, M.S.; Rogers, K.M.; Vandergoes, M.J.; Reyes, L.; Gard, H.J.L.; Richardson, S.J.; Clarkson, B.R.; Kah, M. 2023 Geochemical atlas of Aotearoa New Zealand. Lower Hutt, N.Z.: GNS Science. *GNS Science report 2023/23.* 247 p.; doi: 10.21420/P9BK-7016

(Note for editors: Map is available for use with permission of Earth Sciences New Zealand/GNS Science.)

Why Selenium is important for cattle and deer

- Selenium deficient livestock have compromised immunity and fertility and poor growth rates. The production consequences are costly.
- The effects of selenium deficiency include ill-thrift, diarrhoea and mortalities in growing cattle (Andrews et. al. 1968).
- Increased milk production and fertility following treatment for selenium deficiency has been described in adult cows grazing deficient pastures (Ellison 1992).
- Jolly (1960) demonstrated a 52% increase in growth rate in Jersey and Jersey-cross heifer calves treated twice orally with selenium on the pumice lands of Rotorua.
- Pullar et. al. (1985) demonstrated a 6.7% increase in growth rate in Hereford beef calves treated once orally with selenium pre-weaning in Te Anau.
- Methods of supplementation include top dressing of pasture, oral and injectable formulations, slow-release devices and a topical formulation. Many anthelmintic drenches and vaccines also include selenium supplementation (Ellison 2002).

Inovata Selenium Pour-On

- Though working with veterinarians Inovata developed a single mineral Selenium topical trace element treatment for dairy, beef and deer.
- Inovata Selenium Pour-On is able to be used in cattle and deer weighing 50 kgs and above.
- Trial results demonstrated the formulation elevated selenium levels for 6 weeks post treatment.
- Selenium Pour-On is formulated to provide the ideal dose for treatment of selenium deficiency – 0.15 mg Se per kg bodyweight in cattle, 0.3 mg Se per kg in deer regardless of the weight range of the animal. (1.5 mL/50kg Cattle/3.0 mL/50kg Deer)
- Active ingredients: 5mg/mL Selenium (as Sodium Selenate).
- Selenium Pour-On can also be used as frequently as once every 3 weeks, giving farmers the flexibility to fit selenium supplementation around animal growth rates and their regular drenching and weighing programmes.

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Why Inovata developed Selenium Pour-On

- Simple to use selenium pour-on treatment options, which were once a prevalent tool, have been unavailable in New Zealand for several years, leaving veterinarians and their farmer clients with few convenient solutions to address this key driver of animal health.
- Inovata successfully trialled the product alongside veterinarians and farmers on cattle in Ranfurly, Central Otago in the Autumn of 2024 to support the registration of the product.
- Being a topical product, it is easy to use in cattle and deer which can be difficult to inject or treat orally, or for stock on run-off blocks where farmers can't supplement via water supply, or where prills in fertiliser were just not doing enough across all stock.
- Inovata Selenium Pour On is ideal for setting up dairy and beef youngstock as it can be easily and effectively applied to match their changing growth rates and protect them as they grow.
- Selenium Pour-On has nil meat and milk withholding enabling it to be used in lactating and pregnant dairy cows and animals that may be sent for slaughter
- Pour-On treatments avoid the risk of meat processing downgrades and trim loss from injection-site lesions.
- Pour-On is not hit and miss. Pour-On gives greater confidence that every treated animal has received their optimum treatment of selenium versus supplementation through prills in fertiliser, or through water supply supplementation.

About Inovata:

- Inovata's mission: Innovating Animal Healthcare for New Zealand Conditions. Made Here. For Here.
- New Zealand-owned and operated, with a local manufacturing and research facility, Inovata works collaboratively with industry and on-farm. We are passionate about playing an integral role in animal care to make an enduring difference to animal health and parasite control, vital for the profitability of livestock production in New Zealand.
- With significant advancements in animal science, we have developed innovative, quality veterinary product lines, specifically for New Zealand conditions, combining efficacy with ease of use to create great products you can have confidence in.
- Inovata's products are only available through local veterinarians.

For more information about the Inovata range visit www.inovata.co.nz

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