



CUE™ injection

Australia: FOR THE TREATMENT AND PREVENTION OF COPPER DEFICIENCY IN CATTLE.

New Zealand: FOR THE TREATMENT AND PREVENTION OF COPPER DEFICIENCY IN CATTLE, SHEEP AND DEER.

PRESENTATION: Sterile solution.

ACTIVE CONSTITUENTS: Each mL contains: Copper (as Calcium Copper Edetate) 50 mg

PROPERTIES: CUE™ injection is an injectable suspension of calcium copper edetate. Copper edetate is absorbed from the injection site and redistributed to the liver for storage. The copper stored in the liver acts as a depot from which copper can be slowly released to maintain normal concentrations of copper in the blood during periods when the copper intake may be inadequate.

Copper is a vital component of many enzyme systems, and is directly involved in red blood cell formation, connective tissue metabolism, myelin formation in newborn animals, skin pigmentation, and bone marrow formation.

Testing for Copper Deficiency:

Monitoring the herd using liver biopsies is recommended to complement blood, pasture and soil analysis.

- The liver is the body's storeroom for copper, containing up to 70% of the total body copper¹. Copper levels in the blood will only decrease when liver stores are exhausted.
- Liver copper levels less than 100 µmol/kg fresh weight indicates depletion. In cattle 95 µmol/kg liver copper is considered marginal, and less than 45 µmol/kg is deficient.
- Aim is to keep concentrations above 95 µmol in Spring by attaining high liver copper in late Autumn. The recommended liver copper "threshold" level for cows at drying off is at least 400 – 500 µmol/kg².

Copper Supplementation:

- Supplementing copper to dairy cattle during the period of zinc supplementation for facial eczema is no longer recommended as it appears free copper ions in the liver may make cows more susceptible to the effects of facial eczema sporidesmin³.
- Consequently, injecting copper at drying off, offers a practical means of achieving the target threshold.

DOSAGE AND ADMINISTRATION:

(Australia)

Excessive copper is toxic: do not use where copper deficiency has not been diagnosed. Administer by subcutaneous injection ONLY. Injection to be given in the anterior half of the neck. Shake well before use.

Cattle: Over 4 months of age: 2mL

Dosage may be increased up to 4mL only when severe copper deficiency has been confirmed by analysis of liver copper levels, or when overt clinical signs of deficiency are observed. Dosage may be repeated after 4 months. Repeat dosage should be based on current information regarding herd copper status.

Where severe copper deficiency has been established dosage may be repeated more frequently until clinical signs abate or liver copper levels are deemed adequate.

(New Zealand)

Excessive copper is toxic: do not use where copper deficiency has not been diagnosed. Administer by subcutaneous injection ONLY. Injection to be given in the anterior half of the neck. Shake thoroughly before use to ensure a uniform suspension. Drain all unused product from tube and gun if the product assembly is to be left standing, even for short periods.

Young Cattle: Over 4 months of age: 2mL

Adult Cattle: 2 - 4mL

Adult Sheep: 1mL

Deer: 1mL/50kg bodyweight

Do not use in cattle under 4 months of age, as these animals are more prone to acute copper toxicity.

Dosage may be increased up to 4mL for adult cattle only under the advice of a veterinarian and when severe copper deficiency has been confirmed by analysis of liver copper levels, or when overt clinical signs of deficiency are observed.

Dosage may be repeated every 3 months in cattle, and every 4 months in sheep and deer. The optimal treatment program should be established by monitoring the animals' copper status. In cases of severe deficiency your veterinarian may recommend more frequent dosing.

WITHHOLDING PERIOD: Nil.

POISONS SCHEDULE: Nil (Australia) .

REGULATORY STATUS:

Australia: AUSTRALIAN PESTICIDES & VETERINARY MEDICINES AUTHORITY

New Zealand: Restricted Veterinary Medicine, available only under veterinary authorisation. Registered pursuant to the ACVM Act 1997, No. A07711.

PACK SIZE: 250 mL.

References:

1. N Grace (1994) *The Mineral Requirements of Grazing Ruminants*, NZSAP.
2. Target level cited by ND Grace et al (2010) *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 (3), 130 – 136.
3. R Laven & R Ellison (2011) *Trace elements and micronutrients for dairy cattle: Update*, Proceedings of the Society of Dairy Cattle Veterinarians of the NZVA.

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