

COSEICURE

CoseIcure Cattle Bolus - Data Sheet

A cylindrical blue glass continual release intraruminal device approximately 82mm x 24mm and weighing ~100g.

Each bolus contains the following active substances:

Copper: 13.4g Cobalt: 0.5g Selenium: 0.15g, as sodium selenate Iodine: 1.0g, as calcium iodate

Dosage and administration

Ruminating cattle over two months of age and weighing over 100 kg body weight: 2 boluses

Administer orally using a balling-gun which delivers the bolus directly into the top of the gullet. Great care should be taken not to cause any injury by rough handling or by placing the gun too far inside the throat of the animal. Ensure that each animal has swallowed two boluses by holding the mouth closed and observing the animal for a short time. Gentle massage of the throat may facilitate swallowing of the boluses. To minimise the risk of regurgitation, avoid rough handling of animals. Do not administer the recommended dosage to animals more frequently than once every 4.5 months to animals receiving concentrates or every 6 months to cattle at pasture.

The boluses can be given at any time, e.g. to dairy cows at drying off or at calving or 30 days post-calving or at artificial insemination.

Boluses are sensitive to sudden temperature changes such as may occur when very cold boluses are swallowed by an animal. It is important that the bolus is at 15 – 20°C (room temperature) prior to administration. In the event of suspected overdose, see carton.

Contra-indications, warnings

Protection of Operators: To minimise the risk of contact allergy, wear gloves when handling this product

Protection of Consumers: Withdrawal Period - Meat and offal: Zero days; Milk: Zero days

Protection of Livestock, Wildlife and Others:

Do not administer to non-ruminating calves or to animals weighing less than 100kg body weight.

Do not administer to sheep. Do not administer any aids to dissolution of the bolus

Prior to supplementation with any form of copper or selenium, it should be demonstrated that there is a need for extra trace elements to be given to the animals. Additional copper should not be administered orally or by injection and selenium should not be administered by injection, within 6 months after administration of the product to cattle at pasture or within 4.5 months in cattle where the diet is supplemented with concentrates unless subjected to a risk/benefit analysis performed by a responsible veterinarian.

Clinical signs of copper toxicity, which normally will only occur in cases of severe copper overdosage include jaundice, malaise, an acute drop in milk yield and, later, haemoglobinuria. Signs of selenium toxicity include CNS changes, muscle weakness, vomiting, anorexia, depression, incoordination and, after prolonged exposure, respiratory problems. In these circumstances, intravenous administration of copper and/or selenium chelating agents such as ammonium tetrathiomolybdate or EDTA (ethylenediaminetetraacetic acid) is recommended.

Protection of the Environment: Dispose of empty packaging and any unused boluses in the farm refuse.

Pharmaceutical Precautions

Store in a dry place. Do not freeze. Protect from frost. Once the package has been opened, store unused boluses in the plastic tray in the original packaging in an airtight container and use within 6 months.

Manufactured by

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Package Quantity 20 boluses (10 doses)

Bolus weight 100 +/- 5gm

Further Information

Copper is an integral part of several enzymes with oxidase function e.g. caeruloplasmin, monoamine oxidase, cytochrome oxidase, tyrosinase, lysyl oxidase, cytochrome C and superoxide dismutase; thus copper is essential for a variety of body functions, including growth. Extra copper supplementation is essential in cases of infertility due to the formation of thiomolybdates in the rumen, which search for copper and move into the blood stream if there is not sufficient in the rumen. In the blood stream, thiomolybdates render the enzymes useless by complexing with the copper in them.

Cobalt is an integral part in Vitamin B12 (cyanocobalamin), which is important for several metabolic functions. This vitamin is synthesised by micro-organisms in the rumen and is absorbed from there. Vitamin B12 acts as a co-enzyme in several metabolic pathways and in ruminants its main role is in the metabolism of propionate, which is required for synthesis of glucose via succinate in the liver.

Selenium is an integral part in the glutathione peroxidase (GSHPx) enzymes, which are involved in the protection from oxidant stress. These enzymes have a synergistic role with Vitamin E and other antioxidants in removing toxic peroxides from tissue and preventing oxidative damage to membranes. Selenium is required in the thyroid gland for the conversion of T4 to T3, the active thyroxine molecule, as selenium is required in the iodothyronine deiodinase enzymes.

Iodine is required for the synthesis of tri-iodothyronine (T3) and tetraiodothyronine (thyroxine T4) in the thyroid gland. These hormones are derivatives of the amino acid tyrosine. The function of the iodine hormones is to affect basal metabolic rate and thus accelerate growth and increase the oxygen consumption.

A deficiency of iodine will result in impaired production of these hormones and, in time, a goitre (enlarged thyroid gland) will be seen. Note that this condition can also arise due to selenium deficiency, which can reduce the conversion of T4 into the active T3 form. The consumption of foods containing goitrogens can also cause goitre. Goitrogens are substances particularly found in brassicas (kale, cabbage, rape) which inhibit the iodination of tyrosine and hence the synthesis of thyroxine. The clinical consequences of iodine deficiency are seen predominantly as reproductive abnormalities, with breeding cows giving birth to hairless, weak or dead young. In younger cattle poor growth, poor skeletal development and weight loss can be seen.