

## DIRECTIONS FOR USE

By law the user must take due care, obtaining expert advice when necessary, to avoid unnecessary pain and distress when using this product other than as directed on the label.

For full information read the carton text before using this product.

By subcutaneous (under the skin) injection to be given into the anterior half of the neck.

**DO NOT dose within 3 months of the previous dose.**

### DOSE RATES:

Lambs	0.5mL at tailing or weaning
Sheep	1-1.5mL pre-lambing
Calves	2-3mL from 2 months of age
Cows	4-6mL pre-calving

Frequency of dosing should be related to the severity of the deficiency. Do not use at the same time as any other selenised fertiliser, prill or product without consulting with a veterinarian. Do not exceed the stated dose or dose more frequently than 3x weekly.

**WITHHOLDING PERIOD: MILK and MEAT: Nil**

Registered pursuant to the ACVM Act 1997, No. A11785

See [www.foodsafety.govt.nz](http://www.foodsafety.govt.nz) for registration conditions.

EPA No: HSR002389



*New Zealand owned and operated*

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# UNLOCK™

## AHD 2000 B12

## Injection +Selenium

***For the treatment and control of cobalt and selenium deficiencies in sheep and cattle.***



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### ACTIVE CONSTITUENTS:

Each mL contains 2000µg hydroxocobalamin (Vitamin B12) and 4mg selenium (as sodium selenate)

AHD 2000 B12 + Selenium is an essential short acting form of vitamin B12, a cobalt-containing vitamin required for energy metabolism and the production of red blood cells in a red solution for injection, the added selenium is an essential trace element.

B12 injections are often referred to as an appetite stimulant.

Cobalt availability to animals is governed by several different factors including:

- Natural bio availability in the soil
- Presence of other minerals and supplements, which can 'lock up' cobalt, so that its uptake into pastures is restricted
- Heavy rainfall leading to leaching
- Pasture types such as a 'spring flush' which absorbs cobalt at lower rates.

Sheep are more prone to vitamin B12 deficiency than cattle but B12 deficiency is more likely to become evident in both sheep and cattle during rapid growth periods (lambs, hoggets, calves and weaners).

Pregnant animals are also susceptible as the foetus requires and draws on B12 from the mother.



## WHAT ARE THE CLINICAL SIGNS OF B12 DEFICIENCIES?

- Reduced appetite and ill thrift
- Anemia
- Weepy eyes, in sheep wool break
- Noticeably smaller newborn stock
- Lower milk production
- In cattle - rough wire type coat hair
- Scours

Newborn livestock have limited reserves of cobalt while requiring a high level to achieve optimum growth potential. Young animals should be treated with AHD 2000 B12 + Selenium at 6-8 weeks of age and repeated dose every 3 months, refer label for further instructions.

High worm burdens in livestock cause scours and damage to the intestine wall, this damage lessens the ability of the gut to absorb B12 resulting in a weakened immune system. This combination puts the animal at further risk of anemia. The correct level of B12 in animals plays an important role in keeping worm infestation at low levels.

In intense livestock programs such as feedlots, supplementing with AHD 2000 B12 + Selenium should be part of the animal health program to ensure feed conversion is able to reach its desired potential. This is also applicable to sheep milking and indoor dairy production operations.

AHD 2000 B12 + Selenium should not be used unless a selenium deficiency has been identified. The use of AHD 2000 B12 + Selenium and its frequency of use will be determined by the severity of the deficiency and the age of the livestock.