

Somnu Shield™

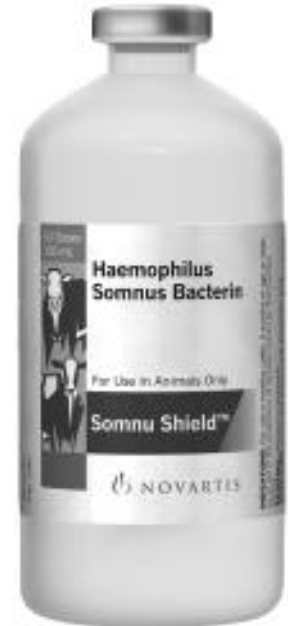
Haemophilus Somnus Bacterin

For use in healthy cattle, 3 months of age or older, as an aid in the prevention of disease caused by *Haemophilus somnus*.

Product Numbers

Somnu Shield™
185-20 mL - 10 doses
186-100 mL - 50 doses

- **Broad Spectrum** — **Somnu Shield** is formulated from multiple isolates of highly pathogenic bacteria recovered from brain tissue, aborted fetal tissue, and respiratory tracts of infected cattle involved in field cases. The bacterin is adjuvanted with a highly refined aluminum hydroxide for maximum antigenicity and syringeability.
- **Safe and Effective** — *H. somnus* isolates are inactivated using a special process that retains their potency.
- **Convenient** — A 2 mL dose provides ease of administration to animals including pregnant cows and lactating cows.

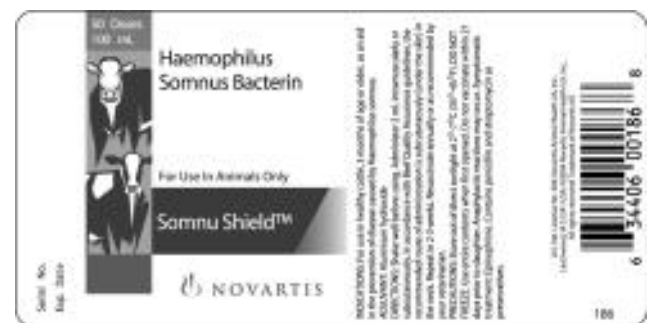


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ADJUVANT: Aluminum hydroxide

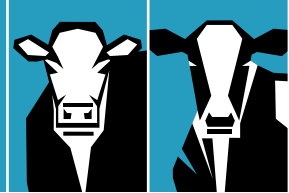
DIRECTIONS: Shake well before using. Administer 2 mL intramuscularly or subcutaneously. In accordance with Beef Quality Assurance guidelines, the recommended route of administration is subcutaneously (under the skin) in the neck. Repeat in 2-3 weeks. Revaccinate annually or as recommended by your veterinarian.

PRECAUTIONS: Store out of direct sunlight at 2°-7° C (35°-45° F). DO NOT FREEZE. Use entire contents when first opened. Do not vaccinate within 21 days prior to slaughter. Anaphylactic reactions may occur. Symptomatic treatment: Epinephrine. Contains penicillin and streptomycin as preservatives.



Customer Service
(800) 843-3386

www.livestock.novartis.com
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MAY05, 147261-4514158



Technical disease information

Haemophilus somnus has long been recognized by veterinary researchers, diagnosticians and practitioners as a major cause of death in feedlot calves due to encephalitis (brain infection). *H. somnus* has also been found to be a major cause of pneumonia, arthritis and reproductive problems.

Haemophilus somnus infections occur most commonly in stress situations such as when cattle are grouped together in sale barns, feedlots, dairy herds, for shipping, etc., or when assembled for grazing fall and winter pasture.

The disease usually occurs one week to one month after cattle are grouped together. During an outbreak, some cattle will show signs of encephalitis, including blindness, staggering and convulsions. Without prompt treatment with antibiotics, most of these animals will die. The brain damage caused by *H. somnus* is irreversible, so even if the animal is treated and survives it may have to be culled.

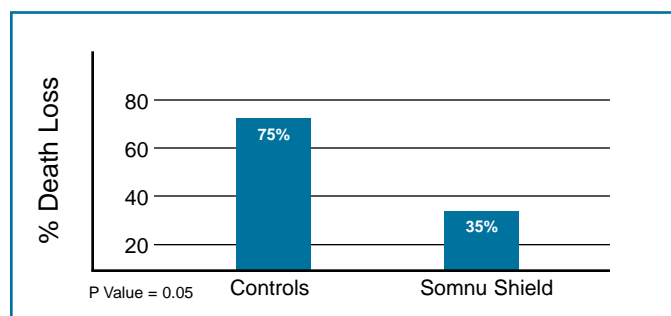
Concurrent with the encephalitis outbreak, other cattle may develop pneumonia. This pneumonia is indistinguishable from viral and other bacterial pneumonia; thus, *H. somnus* pneumonia can be easily misdiagnosed.

Haemophilus somnus infection is usually a systemic disease. The organism causes disease by blocking capillaries, thereby restricting the blood flow to vital organs. While the most common manifestations of *H. somnus* are encephalitis and pneumonia, all organs of the animal's body can be affected. Even if the animal is treated with antibiotics and recovers, damage due to loss of blood supply to various body organs can cause chronic, debilitating disease problems. Common manifestations of this damage include arthritis, abortion, and sterility.

The damage caused by *H. somnus* to the joints of affected cattle makes them more susceptible to mycoplasmal arthritis, which can turn a minor arthritis problem into a major one.

As noted in Figure 1, death losses from *H. somnus* infection can be greatly reduced by vaccinating cattle before the stress of shipping and exposure, with **Somnu Shield** from Novartis.

Figure 1: Results of *H. somnus* challenge study



Following a severe intravenous challenge two weeks after the second vaccination, death loss in controls was over 50 percent greater than in those vaccinated with **Somnu Shield**.