For the active immunisation of cattle and sheep against botulism caused by Clostridium botulinum types C & D.

**WEBSTERS**

**WHAT IS WEBSTERS® LOW VOLUME BIVALENT BOTULINUM VACCINE?**

✓ A whole culture vaccine to protect cattle and sheep from botulism
✓ For use in sheep and cattle
✓ Low dose volume for cattle (2 mL) and sheep (1 mL)

**WHY CHOOSE WEBSTERS LOW VOLUME BIVALENT BOTULINUM VACCINE?**

1. Prevents botulism types C & D
   Botulism is a severe and fatal disease of sheep and cattle. It is caused by a toxin produced by the bacterium Cl. botulinum. Uncontrolled in cattle, it may cause significant annual losses, and in outbreaks losses may be 25% or more of the herd. Vaccination is the only practical way to prevent botulism. The disease is especially common in phosphorous deficient areas across northern Australia, but outbreaks can also occur in grazing cattle in southern Australia, as well as in dairies and feedlots.

2. Rapid onset of immunity
   Immunity develops within 14 days of vaccination.

**WHEN TO USE WEBSTERS LOW VOLUME BIVALENT BOTULINUM VACCINE**

1. Conditions that favour development of botulism
   Botulism occurs worldwide and in all sheep and cattle producing regions of Australia, but it is more common in the phosphorous deficient parts of northern Queensland, Western Australia and in the Northern Territory. It is usually associated with cattle eating carcasses, bones and carrion to satisfy a craving for phosphorus and/or protein. Botulism can also occur in intensively fed beef and dairy cattle due to the presence of dead vermin in supplies of animal feedstuffs, grains or hay. Improperly made silage that rots instead of fermenting is an ideal environment for the bacteria to grow. Water may also be a source of botulism toxin if animals die and decompose in it. Animals in endemic areas, or those exposed to these circumstances should be vaccinated.

2. Classes of livestock
   All cattle or sheep potentially exposed to botulism should be vaccinated. For cattle, after the initial priming doses, an annual booster treatment is recommended. For sheep, dose once, then again 12 months later. This will usually give lifelong immunity. For bulls, breeding cows and other animals that you expect to keep for longer consider using SingVac® 3 Year Vaccine. One dose of SingVac 3 Year Vaccine will confer immunity for three years in endemic areas.

3. Timing
   In the northern endemic areas, treat when cattle are mustered or before cattle or sheep may be exposed to botulism.
1. Best practice vaccination procedures
   - This product should be injected only under the skin (not into the muscle)
   - Inject high on the neck behind the ear
   - Maintain cleanliness at all times
   - Avoid injection of animals during wet weather or under dusty conditions
   - Use shortest needle possible, not exceeding 15 mm x 16-18 gauge
   - Keep needles sharp and clean, replace frequently
   - See product leaflet for specific vaccination procedures

2. Vaccination program
   For cattle, the initial immunizing course of two injections 4 to 6 weeks apart should be followed by an annual booster injection to maintain immunity (refer to Figure 1). However, the giving of the second 2 mL dose is not always possible in extensive pastoral areas. In these circumstances the immunity produced by a single 2 mL dose will provide worthwhile protection.

   For sheep, administer a 1 mL dose followed by a second 1 mL dose 12 months later. This usually confers lifelong immunity.

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**COMPOSITION**

Whole culture fluid suspension of the following organisms, adsorbed onto aluminium hydroxide gel.

- *Clostridium botulinum* type C
- *Clostridium botulinum* type D

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**DOSAGE**

Cattle: 2 mL. Inject subcutaneously.
Sheep: 1 mL. Inject subcutaneously.

**DOSES PER PACK**

<table>
<thead>
<tr>
<th>Animal</th>
<th>Doses / 200mL</th>
<th>Doses / 500mL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (2 mL)</td>
<td>100</td>
<td>250</td>
</tr>
<tr>
<td>Sheep (1 mL)</td>
<td>200</td>
<td>500</td>
</tr>
</tbody>
</table>

**WITHHOLDING PERIODS/ESI**

- Meat: Nil
- Milk: Nil
- ESI: Not required

**PRESENTATION**

Liquid: 200 mL, 500 mL

**STORAGE**

Store between 2°C and 8°C (Refrigerate. DO NOT FREEZE). Protect from light. Once opened, vaccine should be used within 24 hours.

**RESEALING INSTRUCTIONS**

A partially used pack can be kept for the next day if the following steps are taken:

1. Unscrew/remove the delivery tube from the vaccine pack.
2. Empty the delivery tube and vaccinator by depressing the plunger several times.
3. Disinfect the stopper.
4. Store unused portion in the refrigerator between 2°C and 8°C. Do not freeze.

**APVMA NUMBER**

- 50725

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Figure 1: Immune response to vaccination

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Agnote K29, Northern Territory of Australia Government (2006), Serial No. 651, Agdex No. 420/654