**Tech Specs**

**Powerful combinations. Powerful protection.**

<table>
<thead>
<tr>
<th>VIRA SHIELD® 6 HB OPTIONS</th>
<th>KILLED VIRUS</th>
<th>BACTERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMBINATION</strong></td>
<td>BVD TYPE 1</td>
<td>BVD TYPE 2</td>
</tr>
<tr>
<td>VACCINE (5 mL dose)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vira Shield 6 + VLS HB</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>10 dose/50 dose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vira Shield 6 + VLS HB Somnus</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>50 dose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vira Shield 6 + L5 HB</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>10 dose/50 dose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vira Shield 6 + L5 HB Somnus</td>
<td>✓</td>
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</tr>
<tr>
<td>50 dose</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Vira Shield benefits**

**SAFE**
Vira Shield 6 combinations are for pregnant cows, heifers and calves nursing pregnant cows. Vira Shield has been shown to protect against infectious bovine rhinotracheitis (IBR) abortion eight months post-vaccination.¹

**FLEXIBLE**
Easy to implement into any management program or whole-herd protocol, unlike vaccines that carry label restrictions or products that require cows to be vaccinated prior to breeding.²

**POWERFUL PROTECTION**
Vira Shield protects against up to 13 reproductive and respiratory diseases.

**LONG-LASTING LHB PROTECTION**
Provides 12-month duration of immunity for *Leptospira hardjo-bovis,*³ the most common cause of leptospirosis in the U.S.⁴
**LEPTOSPIROSIS**

In North America, the most common cause of bovine leptospirosis is *Leptospira borgpetersenii* serovar Hardjo type Hardjo-bovis. Research shows that hardjo-bovis is the most common host-adapted U.S. serovar and is most frequently associated with reproductive losses, although an infected animal often will not show clinical signs.

The most economically significant result of Lepto hardjo-bovis is persistent infection, because the bacterium lives in the kidneys of carrier animals and is spread through the urine to other animals. *L. hardjo-bovis* can be extremely costly for beef and dairy producers due to significantly lower conception rates and early embryonic deaths. The pathogen may be transmitted during breeding as well as from cow to fetus. Calves may be born as congenitally infected maintenance hosts.

In a head-to-head serology study, a numerically higher geometric mean MAT titer was observed in animals vaccinated with the *L. hardjo-bovis* component of *Vira Shield*® 6 + *VL5 HB*. Two weeks after the second vaccination, *Vira Shield* vaccinates had a geometric mean titer level of 2,048 versus a geometric mean titer level of 512 for *Spirovac* L5 (Chart 1).

**TRIAL PROTOCOL**

- 28 Holsteins were randomly assigned to one of four test groups; each vaccination group had eight animals; the control group had four animals
- Animals were vaccinated following label directions
- Serum samples were titered for *L. hardjo-bovis* antibodies by microscopic agglutination
- Group titers are a geometric mean of individual titers per test day and group

**CAMPYLOBACTERIOSIS**

Bovine genital campylobacteriosis, previously known as vibriosis, is a venereal disease of cattle caused by *Campylobacter (Vibrio) fetus*. This disease is spread from bull to cow and cow to bull during breeding. It can also be spread through artificial insemination if semen or pipettes are contaminated.

The presence of the disease should be suspected when conception rates for a herd drop below 90%. A definitive diagnosis can be made by identifying the organism in the mucus from the cow’s reproductive tract or in preputial fluid from the infected bull.

**CHART 1. Serological Comparison of Vira Shield 6 + L5 HB and Spirovac L5**

<table>
<thead>
<tr>
<th>Time (days)</th>
<th>Control</th>
<th>Spirovac L5</th>
<th>Vira Shield 6 + L5 HB</th>
<th>Vira Shield 6 + L5 HB Somnus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-vaccination</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Post-1st vaccination</td>
<td>912</td>
<td>2,048</td>
<td>1,448</td>
<td>1,218</td>
</tr>
<tr>
<td>Post-1st vaccination 16 days</td>
<td>912</td>
<td>2,048</td>
<td>1,448</td>
<td>1,218</td>
</tr>
<tr>
<td>Post-1st vaccination 29 days</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Post-2nd vaccination 13 days</td>
<td>431</td>
<td>1,624</td>
<td>1,834</td>
<td></td>
</tr>
<tr>
<td>Post-2nd vaccination 35 days</td>
<td>431</td>
<td>1,624</td>
<td>1,834</td>
<td></td>
</tr>
</tbody>
</table>

**INFECTIONOUS BOVINE RHINOTRACHEITIS (IBR)**

IBR, sometimes referred to as “red nose,” is caused by bovine herpesvirus-1. The IBR virus is associated with upper respiratory tract infections, bovine respiratory disease, eye disorders and reproductive disorders.

**BOVINE VIRUS DIARRHEA (BVD)**

BVD virus is one of the most prevalent and challenging bovine viral pathogens in the world. It suppresses the immune system, which leads to secondary infections from other pathogens. The virus manifests itself in numerous ways, including:

- Bovine respiratory disease
- Hemorrhagic (bleeding) syndrome
- Reproductive disorders, including infertility, abortion and neonatal defects
- Persistently infected (PI) calves that shed enormous amounts of infective virus throughout their lives
- Gastrointestinal disorders
- Mucosal disease in PI calves

**CHART 2. Campylobacter (Vibrio) fetus Challenge Study**

Research shows that vaccination with the vibrio component of *Vira Shield 6 + VL5 HB* can improve conception rates. In a severe pre-breeding challenge, nearly twice as many heifers became pregnant in the vaccinated group, as shown in Chart 2. These animals were challenged with two different strains of *C. fetus*. 
Vira Shield® 6 + VL5 HB

ADJUVANT: Xtend® SP

DIRECTIONS: Shake well before using. Administer 5 mL subcutaneously 2–4 weeks prior to breeding. In accordance with Beef Quality Assurance guidelines, this product should be administered subcutaneously (under the skin) in the neck. Revaccinate with Vira Shield 6 + L5 HB in 4–5 weeks. Revaccinate annually or as recommended by your veterinarian.

PRECAUTIONS: Store out of direct sunlight at 2°–8°C (35°–46°F). DO NOT FREEZE. Use entire contents when first opened. Do not mix with other products, except as specified on this label. In case of human exposure, contact a physician. Do not vaccinate within 60 days prior to slaughter. Transient swelling may occur at the site of injection. Milk reduction and transient depression may be observed in lactating dairy cows for 3–6 days following vaccination. Anaphylactic reactions may occur. Symptomatic treatment: Epinephrine. Contains amphotericin B, gentamicin, and thimerosal as preservatives.

Vira Shield 6 + VL5 HB Somnus

ADJUVANT: Xtend® SP

DIRECTIONS: Shake well before using. Administer 5 mL intramuscularly in the neck 2–4 weeks prior to breeding. Revaccinate with Vira Shield 6 + L5 HB Somnus in 4–5 weeks. Revaccinate annually or as recommended by your veterinarian.

PRECAUTIONS: Store out of direct sunlight at 2°–8°C (35°–46°F). DO NOT FREEZE. Use entire contents when first opened. Do not mix with other products, except as specified on this label. In case of human exposure, contact a physician. Do not vaccinate within 60 days prior to slaughter. Transient swelling may occur at the site of injection. Milk reduction and transient depression may be observed in lactating dairy cows for 3–6 days following vaccination. Anaphylactic reactions may occur. Symptomatic treatment: Epinephrine. Contains amphotericin B, gentamicin, and thimerosal as preservatives.

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The label contains complete use information, including cautions and warnings. Always read, understand and follow the label and use directions.


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