Tech Specs

Elanco Vira Shield®

Vira Shield®

Protection in Powerful Combinations Against Pathogens That Cause Respiratory, Reproductive and Leptospirosis Diseases

More Calves. Less Stress.

The Vira Shield line provides the most comprehensive protection available against up to 13 different respiratory, reproductive and leptospirosis pathogens. Vira Shield is safe for use in all cattle, even pregnant cows and calves nursing pregnant cows. Vira Shield is available with 5-way leptospirosis protection including options with protection against *L. hardjo-bovis*, *Campylobacter (Vibrio) fetus* and *Histophilus somni*.

PROVEN PROTECTION

- Protection against Infectious Bovine Rhinotracheitis (IBR) abortion 8 months post-vaccination[1]
- Demonstrated Bovine Viral Diarrhea (BVD) Type 2 control effective for 11 months post-vaccination[2]
- 12-month duration of immunity for *L. hardjo-bovis*, the most common cause of leptospirosis in the U.S.[3]
  - Only vaccine using *L. hardjo-bovis* antigen isolate from the U.S.
- Xtend® SP adjuvant provides long-lasting immune stimulation that helps release antigens over time[4]

MAINTAIN PERFORMANCE AND REPRODUCTION

- Safe for use in all cattle, even pregnant cows and calves nursing pregnant cows, and those with an unknown vaccination or health history
- 6.5% higher first-service conception rate compared to a competitive modified-live virus vaccine[5]
- Higher percentage of cows calving in the first 21 days of the calving season[5]
- Easy to use—no mixing required

VIRA SHIELD 6 + VL5 HB

INDICATIONS: This product has been shown to be effective for the vaccination of healthy cattle against disease caused by Bovine Viral Diarrhea (BVD) Type 1 and 2, Infectious Bovine Rhinotracheitis (IBR), Bovine Parainfluenza$_3$ (PI_3), and Bovine Respiratory Syncytial Virus (BRSV) and *Campylobacter (Vibrio) fetus*, *Leptospira canicola, grippotyphosa, hardjo-prajitno, icterohaemorrhagiae and pomona*. The duration of immunity for BVD Type 2 is at least 11 months and for *C. fetus* and *L. hardjo-bovis* is at least 12 months. The durations of immunity for the other antigens in this product has not been determined. For more information regarding efficacy and safety data, see *productdata.aphis.usda.gov*.

This product has been shown effective against *L. hardjo-bovis* kidney colonization, urinary shedding and reproductive tract infection. Vaccinated animals subsequently exposed to *L. borgpetersenii* serovar Hardjo type hardjo-bovis have been shown to clear renal infections within 8 weeks of exposure. Produced from non-cytopathic (BVD Type 1 and 2) and cytopathic (BVD Type 1) isolates. This product is safe for use in pregnant cows and heifers.

ADJUVANT: Xtend SP.

DIRECTIONS: Shake well before using. Administer 5 mL subcutaneously 2 to 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 to 5 weeks. Historically, annual revaccination with a single dose has been recommended for this product. The need for this booster has not been established. For advice on revaccination frequency, consultation with a veterinarian is recommended.

PRECAUTIONS: Store out of direct sunlight at 2 to 8°C (35 to 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 to 6 days following vaccination. Anaphylactic reactions may occur. Symptomatic treatment: Epinephrine. Contains amphotericin B, gentamicin, and thimerosal as preservatives.

VLN/PCN: 196/44B5.20

VIRA SHIELD® VACCINE OPTIONS

	BVD Type 1	BVD Type 2	IBR	PI_3	BRSV	*L. canicola*	*L. grippotyphosa*	*L. hardjo-prajitno*	*L. icterohaemorrhagiae*	*L. pomona*	*L. hardjo-bovis*	*C. (Vibrio) fetus*	*H. somni*
Vira Shield 4 + VL5	K	K	K			■	■	■	■	■		■	
Vira Shield 4 + VL5 HB	K	K	K			■	■	**	■	■	■	■	
Vira Shield 6	K	K	K	K	K								
Vira Shield 6 + L5	K	K	K	K	K	■	■	■	■	■			
Vira Shield 6 + L5 HB	K	K	K	K	K	■	■	**	■	■	■		
Vira Shield 6 + L5 HB Somnus	K	K	K	K	K	■	■	**	■	■	■		■
Vira Shield 6 + Somnus	K	K	K	K	K								■
Vira Shield 6 + VL5	K	K	K	K	K	■	■	■	■	■		■	
Vira Shield 6 + VL5 HB	K	K	K	K	K	■	■	**	■	■	■	■	
Vira Shield 6 + VL5 Somnus	K	K	K	K	K	■	■	■	■	■		■	■
Vira Shield 6 + VL5 HB Somnus	K	K	K	K	K	■	■	**	■	■	■	■	■

K = Killed Virus
***L. hardjo-prajitno* cross protection provided through *L. hardjo-bovis* antigen

TECHNICAL DISEASE INFORMATION

The combined cost of Bovine Respiratory Disease (BRD)—including death loss, reduced performance, treatment, labor resources—make it the costliest disease affecting cattle in the U.S.[6] Weight gain and performance is often limited in calves with BRD and may have negative effects on long-term performance and herd profitability. Preventing BRD and associated co-infectors—such as BVD Type 1 and 2, as well as IBR—through effective vaccination can reduce the incidence of calf pneumonia and death loss. Vaccinating ahead of times of potential stress can be an effective prevention program.

Reproductive diseases cause by pathogens like leptospirosis are detrimental to the success and profitability of producers because of decreased reproductivity, weight loss, decreased milk production and performance, and sometimes death. Leptospirosis is widespread and considered one of the most infectious diseases of farm animals.

BOVINE VIRAL DIARRHEA (BVD)

BVD is often obscured or confused with other conditions of the respiratory disease complex. Clinical signs include fever, anorexia, coughing, depression, diarrhea and occasional lameness. BVD may be inapparent, chronic or a fatal mucosal disease. BVD may cause suppression of the immune system. Affected animals have increased susceptivity to secondary infections. BVD in pregnant animals may cause abortions or malformed and weak calves at birth. Chronic disease with ulcers on the alimentary tract is referred to as “Mucosal Disease” and is usually fatal.

INFECTIOUS BOVINE RHINOTRACHEITIS (IBR)

IBR is an acute respiratory disease. Signs of IBR may include elevated temperature, excessive nasal and ocular discharge, rapid breathing, coughing and depression. Reproductive problems including abortions have been observed.

BOVINE PARAINFLUENZA$_3$ (PI_3)

PI_3 infections may cause few noticeable signs. Disease signs caused by PI_3 virus generally appear within 14 days after shipment and arrival of calves at their destination. Signs are weakness, depression, watery to mucopurulent nasal discharge, fever, coughing and weight loss. PI_3 is a contributor to the BRD Complex. Antibodies are present in over 80% of young calves.

BOVINE RESPIRATORY SYNCYTIAL VIRUS (BRSV)

BRSV infections occur in dairy and beef cattle of all ages, including nursing calves. BRSV signs follow an incubation of 5 to 7 days. Infected calves and adult animals exhibit signs of acute respiratory disease that may include fever, coughing, rapid breathing, subcutaneous edema of the throat and neck, depression, nasal discharge, ocular discharge, anorexia, pulmonary edema and emphysema. BRSV may predispose cattle to secondary infections, particularly bacterial pneumonia. In an acute outbreak, sudden death has been reported. Enzootic pneumonia of dairy calves associated with BRSV may occur at 10 days of age. BRSV signs vary in severity but may rapidly progress to a crisis phase. Recovery of adult animals is rapid and usually uneventful.

Diagnosis is difficult both in the field and laboratory. After the animal exhibits signs of disease, the virus usually is not isolated. Paired serum samples may assist in determining existing herd infections. Surveys indicate BRSV antibodies are present in over 90% of calves in North America.

CAMPYLOBACTER (VIBRIO) FETUS

Bovine genital campylobacteriosis, previously known as vibriosis, is a venereal disease of cattle caused by *Campylobacter 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.

Infection with *Campylobacter* is subclinical and restricted to the reproductive mucous membranes of breeding bulls and cows. Uterine infections usually destroy the embryo at its earliest stages. However, in rare instances, the embryo may survive and be aborted later in pregnancy. The disease should be suspected when conception rates are low and there is an extended calving period. Diagnosis is difficult, but identifying organisms in mucus from cows' reproductive tracts or preputial fluids from bulls may be helpful.

Research shows that vaccination with the *Vibrio* component of Vira Shield® 6 + VL5 can significantly improve conception rates.[7] In a prebreeding challenge, nearly twice as many cows became pregnant in the vaccinated group. These animals were challenged with two different strains of *Campylobacter (Vibrio) fetus*. This demonstrates protection against varied challenges like those most likely to occur in your herd.

HISTOPHILUS SOMNI

Histophilus somni (previously known as *Haemophilus somni*) is a major cause of death in calves due to encephalitis (brain infection). It also causes pneumonia, arthritis and myocarditis (heart muscle infections). Occasionally, it is a cause of reproductive problems in the breeding herd. *H. somni* infections occur most commonly in stress situations such as when cattle are closely grouped together (e.g., in sale barns or drylots).

Disease usually occurs 1 week to 1 month after cattle are grouped together. Some cattle will show signs of encephalitis, including blindness, staggering and convulsions. Without proper antibiotic treatment, most of these animals will die. Brain damage caused by *H. somni* is irreversible, so even if the animal is treated and survives, it may have to be culled. Other cattle will develop pneumonia, which is indistinguishable from viral and other bacterial pneumonias. Thus *H. somni* pneumonia can be easily misdiagnosed.

LEPTOSPIRA CANICOLA-GRIPPOTYPHOSA-HARDJO-ICTEROHAEMORRHAGIAE-POMONA

Leptospirosis is widespread in the animal population of the United States and is considered one of the most infectious diseases of farm animals.

Humans can become infected either from animals with the disease or from an infective environmental source. In animals, the disease is known to cause reproduction disorders, loss of weight, decreased milk production and sometimes death. The economic losses suffered are very large. The disease can be caused by several specific leptospires.

Six important serovars have been identified and are available in this product: *L. canicola*, *L. grippotyphosa*, *L. hardjo-prajitno*, *L. icterohaemorrhagiae*, *L. pomona* and *L. hardjo-bovis*.

Because specific serovar diagnosis is very difficult, and also due to the widespread nature of potential infection, it is recommended that all animals be vaccinated before introduction into the concentrated holding areas currently utilized on many premises. When infection is diagnosed, it is advisable to separate those animals showing disease signs and to vaccinate the remainder of the herd with Lepto Shield® 5 alone. The apparent effectiveness of Lepto Shield 5 will depend upon the number of animals exposed and incubating the disease at the time of vaccination. Vaccination cannot be expected to protect animals already in the incubating stages of the disease.

Serologic studies indicate widespread distribution of all of these causative agents.

To learn more about Vira Shield contact your herd health veterinarian, Elanco sales representative or technical consultant, or visit ViraShield.com

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

[1] Zimmerman A, et al. Efficacy of bovine herpesvirus-1 inactivated vaccine against abortion and stillbirth in pregnant heifers. *J Am Vet Med Assoc* 2007;231(9):1386-1389.
[2] Chase CCL, Hurley DJ. What's going on in Bovine Viral Vaccines: Do Both Killed and Modified Live Vaccines Induce Cell Mediated Immunity? Proceedings of the 28th Annual AABP, San Antonio, TX. 1995; 231.
[3] Zimmerman AD, Springer EW, et al. Immunity in heifers 12 months after vaccination with a multivalent vaccine containing a United States *Leptospira borgpetersenii* serovar Hardjo isolate. *J Am Vet Med Assoc* 2013;242(11):1573-1577.
[4] Chase CC, Fulton RW, O'Toole D, et all. Bovine herpesvirus 1 modified live virus vaccines for cattle reproduction: Balancing protection with undesired effects. *Vet Microbiol* 2017;206:69-77.
[5] Perry GA, Larimore EL, Crosswhite MR, et al. Safety of vaccination with an activated or modified live viral reproductive vaccine when compared to sterile saline in beef cows. *J Vet Sci Res* 2016;2(2):35.
[6] Griffin D. Economic impact associated with respiratory disease in beef cattle. *Vet Clin North Am Food Animal Pract* 1997;3:367-77.
[7] Elanco Animal Health. Data on file.