



GRAND LABORATORIES, INC.

Product Number  
F125-100 ml  
F126- 10 ds

# Lepto Shield™ 5

*Leptospira Canicola-Grippotyphosa-Hardjo-Icterohaemorrhagiae-Pomona* Bacterin

For use in healthy cattle and swine as an aid in the prevention and control of disease caused by *Leptospira canicola*, *grippotyphosa*, *hardjo*, *icterohaemorrhagiae*, and *pomona*.

- **One Dose for Cattle**

**Lepto Shield 5** is cleared for "one dose" (2 ml) in healthy cattle, no booster required. There's no need to handle cattle twice, which saves you valuable time and eliminates needless stress on pregnant livestock. Revaccinate with one 2 ml dose during each subsequent pregnancy. In swine, booster 3-4 weeks after the initial dose.

- **Safe and Reliable**

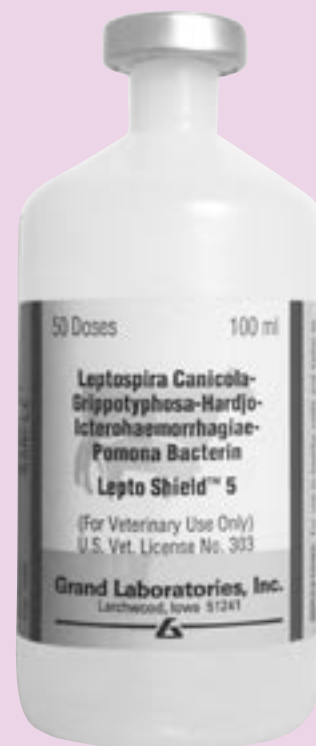
**Lepto Shield 5** is approved for pregnant animals without concern of abortions. **Lepto Shield 5** is inactivated using a special process which retains maximum antigenicity with no ill effects on healthy pregnant animals. Each serial is tested for potency, purity, and safety prior to being released to the consumer. Effective protection is assured against the five major serovars which cause leptospirosis in cattle and swine.

**COMPOSITION:** This bacterin contains inactivated cultures of *Leptospira canicola*, *grippotyphosa*, *hardjo*, *icterohaemorrhagiae*, and *pomona*. Contains thimerosal as a preservative.

**DIRECTIONS AND DOSAGE:** Shake well before using. Administer 2 ml intramuscularly. For swine give a second dose in 3-4 weeks. Revaccinate annually.

**PRECAUTIONS:** Store in the dark at 35°-45°F (2°-7°C). DO NOT FREEZE. Use entire contents when first opened. Do not vaccinate within 21 days prior to slaughter. Anaphylactic reactions may occur following the use of this biological. Symptomatic treatment: Epinephrine.

**PACKAGING:** Available in 100 ml/50 dose bottles in the United States; Also available in 20 ml/10 dose bottles outside of the United States.



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*"Tomorrow's Biologics Today"*

# Technical Disease Information

Leptospirosis is a contagious disease of both man and animals and has been estimated to cause losses in excess of 100 million dollars per year to the livestock industry, according to the USDA. This loss is due primarily to abortions and stillbirths in breeding stock, lowered milk production, and by sickness and death in young animals. Abortion rates can be 30% or higher in affected cattle herds before the disease can be stopped.

The causative organisms belong to a group of pathogens called *Leptospira interrogans*, with five major serovars incriminated: *L. grippityphosa*, *L. hardjo*, *L. pomona*, *L. canicola*, and *L. icterohaemorrhagiae*.

This disease is spread to our domestic livestock by the shedding of the organisms in the urine, which contaminates feed or water. These organisms survive well in surface waters. The organism may be found in the udder and be secreted in the milk to suckling calves or piglets, thus infecting them.

Many wildlife species may be infected with these organisms, with some of the more common ones being rats, raccoons, skunks, foxes, and opossums. Dogs are also often infected.

The incubation period varies from 1 to 4 days and is followed by a leptospiremia (bacteria in the blood) which lasts for 1-5 days. With the appearance of antibody in the animal's blood, the leptospiremic phase is terminated. The organisms may remain in the kidney and multiply in this location, then are shed in the urine for months or years, infecting other farm animals.

Young animals that are acutely ill with leptospirosis may show a transient fever, loss of appetite, and difficulty in breathing, with death losses approaching 15% due to severe anemia. Lactating cows exhibit a loss of milk production with a milk secretion that is yellow, clotted, and often blood-tinged. Severely affected animals develop anemia, jaundice, hemoglobinuria, and pneumonia.

In pregnant cows, the organism may infect the fetus, which dies and is aborted 1 to 4 weeks after the leptospiremic phase, usually in the last trimester of pregnancy.

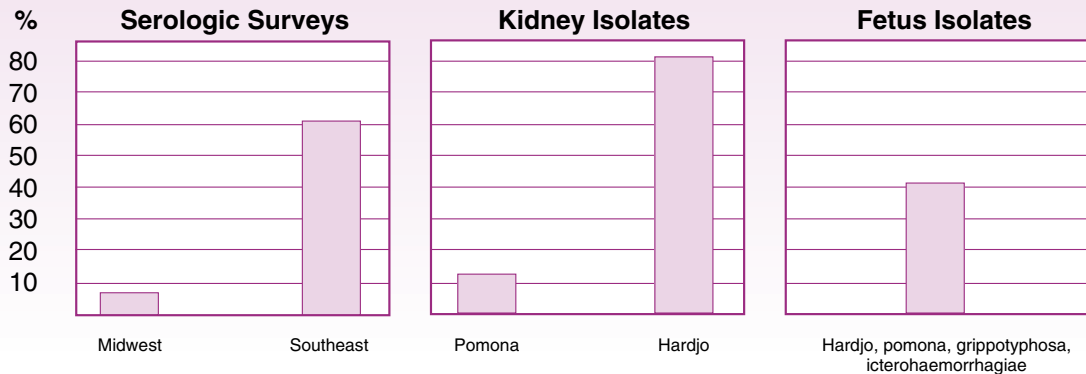
Swine are infected similarly, with the most common serotypes being *L. pomona*, which is shed from pig to pig via the urine, and *L. icterohaemorrhagiae* which is spread to pigs from dogs and rats.

Symptoms in swine vary widely. Many of the infections are subclinical and are only recognized by seroconversion, by isolation of the organism from the kidneys and urine, or by cases of leptospirosis in other animals from the swine herd. The most common signs are abortions and stillbirths in pregnant animals, mainly late abortions. Common clinical signs include loss of appetite, intestinal problems, and reduced weight gain. Acute or subacute infections are observed in young pigs, with fever and high death loss the primary signs.

Treatment of this disease using antibiotics is sometimes effective, but costly. Good husbandry and a solid immunization program using Grand Laboratories, Inc. "one shot" bacterin, **Lepto Shield 5**, is the economical route in preventing this disease in cattle. Simply administer one (2 ml) dose intramuscularly to breeding stock.

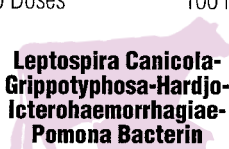
Prevention of this disease in swine is accomplished by administering 2 ml of bacterin to the brood sows and boars, with a booster shot 3 to 4 weeks later.

As leptospirosis can be an occupational hazard for the dairy worker, the veterinarian should inform the dairy owner of the public health aspects of the disease whenever an outbreak occurs. Using antibiotic therapy and vaccination decreases the hazard by reducing the shedding of leptospirems in the urine.



Reference:  
The Bovine Proceedings, No. 16, April 19, 1984.

50 Doses
100 ml




**Leptospira Canicola-Grippityphosa-Hardjo-Icterohaemorrhagiae-Pomona Bacterin**  
**Lepto Shield™ 5**

(For Veterinary Use Only)  
U.S. Vet. License No. 303

**Grand Laboratories, Inc.**  
Larchwood, Iowa 51241 USA

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