

Lepto: A danger to your herd?
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What is Lepto?

Leptospirosis (Lepto) is an infectious and contagious bacterial disease of most farm animals and many wildlife species. **Abortion is the most common problem associated with Lepto in cattle;** it can produce an abortion rate of up to 30 percent when it occurs during the final third of pregnancy. Lepto may also be responsible for high mortality among young calves. Severity in adult cattle is extremely variable ranging from inapparent infection to 5 percent death loss (mortality) and depends on the vaccination status of the cattle the number of *Leptospira* bacteria the cattle encounter. As bacteria go, *Leptospira* are large in size and spiral coil in shape, hence the name lepto meaning “fine” and spira meaning “coil”. There are more than 100 serotypes of *leptospira*, but only seven serotypes have been recognized in U.S. cattle.

What signs might I see in my herd?

In herds that have not been exposed, or vaccinated against *Leptospira*, and then are exposed to a large number of bacteria, the disease may be acute (toxic blood infections causing high fever, anemia, jaundice, labored breathing, mastitis, reduced milk flow, secretion of yellow, thickened, and sometimes blood-contaminated milk, abortion). In contrast, herds that have been exposed or vaccinated and then exposed to the same high dose of bacteria, the disease may be subacute (milder, intermittent fever, abortion usually following in 1 to 4 weeks); or subclinical (mild or no clinical signs other than abortion and infertility). All clinical signs are usually not present in either acute or subacute leptospirosis. The clinical picture may be influenced by the infecting serotype, number of organisms, immunity of the animal and the condition of the animal. The severity of this disease can vary greatly depending on the infecting serotype. The incubation period is generally 3 to 7 days in all animals, and clinical signs of disease, if present, last 3 to 5 days. Chronic shedding of the organism is possible in cattle, especially serotype *Lepto harjo* can infect the area of the kidney that gets a small amount of blood supply and survive for months. The chronically infected cow will continually shed the Lepto. Abortion may occur several days or weeks after the cow is infected and the bacteria dies when the fetus dies.

What can I do about Lepto?

The critical point about Lepto control in cattle is to prevent the infection. This can be accomplished by, isolating and screening all new cattle brought onto the farm, eliminating or reducing cattle contact with stagnant water pools, and a good vaccination program for Lepto. Lepto is shed in urine, aborted fetuses, and vaginal fluids. They survive in surface water, streams, or moist, alkaline soil. The source of infection is most often urine containing Lepto that splashes into the eyes of susceptible animals or contaminates pasture, drinking water, or feed. Leptospirosis may be transmitted to cattle by the urine of many infected species, including rats and other rodents, raccoons, skunks, foxes, opossums, and dogs. The feed may be contaminated by urine from rats or mice. **The disease can also be transmitted to people**, and swimming in waters frequented by infected animals should be avoided. There was a recent human case of Lepto in Tifton,

GA and the man nearly died from the disease. **Great care should be taken when handling aborted fetuses or when pulling a calf to avoid lepto.** The organisms may enter through the broken skin or mucous membranes, multiply in the liver, and migrate via the bloodstream to the kidneys, damaging red blood cells, liver cells, and kidney cells. Consequently, the acutely ill animal may die from septicemia, hemolytic anemia, or malfunction of the liver and kidneys (uremia), but usually as a result of a combination of these causes. If the victim is a pregnant cow, and in the second half of pregnancy, the fetus is usually invaded by Lepto, becomes infected, and subsequently dies. In the first half of pregnancy the placenta is more resistant to penetration, and abortion seldom occurs. Fever and reduced milk production, as well as thickened milk contaminated by blood, are among the most frequently recognized acute signs of Lepto, but abortion often occurs without any accompanying signs. Lepto is very difficult to diagnose because it dies rapidly in dead animals or fetuses. Blood testing of several animals in a herd, (some aborted and some not), may be the best method of diagnosing Lepto in a herd.

Vaccination for Lepto in cattle usually protects the majority of cattle from a mild dose of Lepto. Vaccination with 5- way Lepto is recommended for heifers starting at 4-6 months of age, cow at least annually (the best time to vaccinate cows is 30 days before breeding) and newly purchased cattle two doses three weeks apart while they are in isolation and before you mix them with your herd. Vaccination will not clear all of the chronically infected cattle. To insure you are not adding a chronic shedder to your herd, when you purchase cattle isolate them for 30 – 60 days, inject them with long acting tetracycline twice at four day intervals, vaccinate them on arrival and three weeks later with 5-way Lepto.

With proper management, isolation of newly purchased cattle and a reasonable vaccination program you should have little or no problem with Lepto in your herd.

Good management is effective in the control of Lepto and involves:

1. Eliminating access of cattle to surface water or streams used by other livestock.
2. Removing trash that harbors wildlife and rats.
3. Limiting access of rodents and wildlife to livestock feed.
4. Eliminating urine drainage into water sources.
5. Reducing contacts between cattle, other livestock, rodents, and wildlife as much as possible.
6. Cleaning, disinfecting, and drying barns, pens, and other confinement areas after use by infected cattle.
7. Draining or fencing swampy areas likely to harbor the leptospire.
8. Vaccinating susceptible animals for relevant serotypes (5-way Lepto).
9. Isolation and vaccination of all new cattle before they enter the herd.