

# MEDICINE AND MANAGEMENT

By CARL TROOP, VMD



To most farmers the term lepto or leptospirosis is just the name of another disease they have read or heard about, but has never been close enough to cause concern or alarm. To some, however, it is a very real entity, one which has cost thousands of dollars in lost calves, abortions, lowered production, mastitis, rebreeding problems, and veterinary bills. Leptospirosis is a very real and ever present danger, one which every farmer should be aware of, knowledgeable about, and prepared to protect his herd from.

Leptospirosis is an infectious disease caused by an organism which infects and can be carried by a large number of animals including cattle, swine, sheep, goats, horses, dogs, skunks, foxes, mice, rats, and humans. Leptospirosis prevention, diagnosis and treatment is complicated by the fact that there are 22 groups of lepto organisms containing more than 100 serotypes. Fortunately there are no more than five types which we presently need be concerned about.

Leptospirosis infections often occur without any noticeable specific signs, but can result in a variety of disease conditions, the most prominent one being abortion, usually in the last trimester of pregnancy. Other major conditions are fever, loss of appetite, mastitis, and reduced milk production.

The "abortion storm" is the most feared and well known effect of leptospirosis, and its reputation is well deserved, as it has resulted in tremendous losses in many herds. Lepto often starts as a febrile stage and may be accompanied by decreased appetite and reduced milk yield.

Abortion, when it occurs, is usually one to five weeks following the onset of signs. Approximately 25 percent of infected cows in the last trimester of pregnancy abort, and rebreeding problems often follow for several months.

In calves the disease is often more pronounced with a higher death rate than with adults, and often with kidney involvement resulting in bloody urine; hence the common name of "Redwater disease of Calves."

In swine lepto is present in all parts of the United States. The primary loss is abortion in infected pregnant sows or weak pigs at farrowing which often die within 48 hours. The secondary problem is that swine can remain carriers of the organism for up to nine months, possibly longer, and provide a source of bovine or even human infection, ("Swineherders disease"). Thus it is very important to keep swine and cattle separated.

The five major serotypes infective for domestic animals are Lepto pomona, grippotyphosa, hardjo, icterohemorrhagiae, and canicola. Laboratory diagnosis of the particular serotype may be confusing because of crossover between the serotypes. According to Dr. Lenn Harrison of the Pennsylvania Bureau of Animal Industry Laboratory, the most prevalent serotype in the state is L. pomona, followed by L. grippotyphosa and L. Hardjo. Lepto Canicola and Ictermemorrhagiae are here and have shown reaction but their importance is still difficult to evaluate. The disease is widespread as, according to Dr. Harrison, "positive samples have been received from every major farming area in Pennsylvania."

Treatment and control are difficult once an infection is established because of the relative ineffectiveness of antibiotic treatment and the existence of carrier animals which otherwise may appear quite normal. Antibiotics may shorten the febrile period but often will not alter the course of infection in other respects. The organisms also tend to accumulate in areas of the kidneys out of the reach of antibiotics, and may be shed in the urine for several months.

Prevention then is the key to lepto control. The usual source of lepto infection is a carrier animal which sheds the organism in the urine. They do not multiply outside the body, but can survive in surface water (ponds, streams, marshes)

for up to six weeks. They are also carried by wild animals. So the most important step in prevention is vaccination. There are several vaccines available in costs ranging from 15 cents a head to \$1.50 a head, and with lepto vaccines you get exactly what you pay for. The cheapest vaccines contain only L. pomona and vaccination for one lepto serotype does not provide protection against any other. So vaccination with L. pomona vaccine may still leave your herd wide open for a lepto invasion. Your veterinarian is best able to determine which vaccine or combination of vaccines, if any, is most suitable for your particular area.

Incidence of leptospirosis is greatest in spring and summer, and vaccination in early spring will best provide the highest level of protection when most needed. One must remember, however, that no vaccination is 100 percent effective, but only protective to a certain degree. Lepto vaccination, fortunately, is one of the more effective ones.

Vaccination is recommended annually to all animals in the herd over six months of age, as vaccination of younger animals tends to be less effective. Again, early ingestion of colostrum by newborn calves is very important for transferring immunity from dam to calf.

Vaccination for lepto or any disease is much like insurance. You may never know if the vaccination has really been needed, although additional peace of mind is one of the intangible benefits. However, once lepto has struck and your herd is not protected, it is too late for those cows already affected. The choice is yours.

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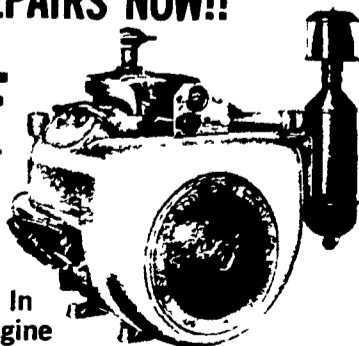
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