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Reproductive Diseases in Cattle

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DISEASES OF the reproductive organs in cattle usually develop so gradually that they go unrecognized until the disease is well established in the herd. Infected animals usually are not dying; in most cases, especially in males, they do not even appear ill. Some animals never show symptoms of the disease, yet remain a major threat to the rest of the herd because they carry disease organisms.

To prevent reproductive diseases, producers must always be on guard and practice good management techniques such as isolating newly acquired cattle and vaccinating when needed. They also should work closely with veterinarians to keep their cattle healthy.

The most common reproductive diseases in cattle are brucellosis (Bang's disease); leptospirosis; infectious bovine rhinotracheitis (IBR) and bovine virus diarrhea (BVD) complexes; vibriosis; and trichomoniasis.

Brucellosis (Bang's disease)

Although most states are now brucella-free, brucellosis still causes abortion and infertility in some regions. It is important to understand that not all brucellosis-infected cows abort, produce weak calves, retain placenta or have trouble breeding back. A brucellosis reactor cow may be normal in every observable aspect. However, each time she calves or produces a genital discharge, millions of brucella organisms may be present on the surface of the placenta, calf or discharge. The discharges then contaminate the pasture and other feeds, such as hay, threatening other cattle. If susceptible animals ingest these bacteria, they are likely to become infected.

Although infection usually occurs via the digestive tract, a susceptible animal may also pick up bacteria through the skin or eye. Contaminated feed, bedding, water or the premises may remain infective for a few days up to a few weeks, depending on environmental conditions.

The infection is spread mainly when infected cattle are introduced into the herd, either through purchase or when they break into a pasture with "clean" cattle. To keep your herd "Bang's free," maintain a closed herd by raising all your own replacements if possible. If you must buy replacement cattle, know the seller's reputation. Be sure that all cattle you buy originate from clean herds, and that the females were vaccinated as calves and are negative to the Bang's test if they are of testable age.

Isolate breeding stock for 30 to 60 days upon arrival at the farm and retest at the end of the isolation period. A lot of trouble? Yes, but not if a lifetime's effort is risked in building a quality herd. At the same time, test the new animals for other reproductive diseases as recommended by the local veterinarian.

It is recommended to have an accredited veterinarian vaccinate all heifers between 4 and 12 months old. The calves should be properly identified, with an official ear tag and tattoo in the right ear.

Be sure that bulls are free of brucellosis and all reproductive diseases. Although brucellosis is rarely spread through breeding, it is still dangerous for a bull to breed an

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infected cow and then breed a clean cow soon thereafter. Bulls occasionally become infected; this is usually exhibited by a swollen testicle or scrotum. Producers using artificial insemination should avoid semen from brucellosis-infected bulls. Their semen can infect cows.

Leptospirosis

Leptospirosis is a widespread problem in the South, especially in unvaccinated herds. It causes repeat breeders, low-grade uterine infections, abortions, mastitis and occasionally systemic infection. Of the five or more strains of the organism, the three most common causing problems in cattle are *Leptospira pomona, Leptospira hardjo* and *Leptospira grippotyphosa*.

Leptospirosis can build up unrecognized in a herd. Closely confined cattle are particularly susceptible. Droplets of urine from infected cows can infect normal cows after contact with the eye or mucous membranes of the nose or mouth. The disease infects more cattle each day, preventing cows from settling and lengthening their calving intervals.

To prevent leptospirosis:

- Vaccinate cattle with bacterins containing three or five serotypes every six months;
- Drain stagnant bodies of water; and
- Eliminate rodents, especially rats, from any barns or sheds where cattle congregate.

IBR and BVD complexes

Infectious bovine rhinotracheitis (IBR) and bovine virus diarrhea (BVD) complexes are virus-caused diseases responsible for many abortions and possibly respiratory infections, "pinkeye"-type lesions and foot lesions. Temporary infertility may follow IBR because of vaginitis and/or a mild uterine infection.

Because these diseases are so complex, be careful when using IBR and BVD vaccines. Some vaccines may result in abortions. Before vaccinating, consult a veterinarian for advice on the vaccination procedure for a particular herd.

Vibriosis

Vibriosis is a venereal disease causing infertility and, occasionally, abortion. It is caused by the bacterium *Campylobacter fetus*, which lives in the crevices of a bull's prepuce (foreskin), but usually does not become established in the bull until it is about 4 years old or older.

Vibriosis is spread from an infected bull to a cow during the breeding act. Bulls also may be infected by breeding infected cows. Although semen from reputable bull studs is usually "clean" because of proper health examinations of the bulls and treatment of semen, this disease can be transmitted through artificial insemination if these precautions are not taken.

Untreated, infected bulls can remain carriers for a long time. They also can be "clean" yet transmit the germ from an infected cow to a "clean" cow.

Vibriosis in females causes endometritis (infection of the inner lining of the uterus), resulting in failure to conceive or death of the embryo. Affected cows may conceive and not return to heat 21 days later. However, the newly formed embryo may then die, become absorbed by the cow and then she may exhibit estrus from 27 to 53 days after breeding. Abortions late in gestation can occur, but are unusual.

Diagnosis is difficult and depends on identifying cultures of the organism from the genitalia of the infected cow or bull, or from the abomasum (fourth stomach chamber) of an aborted fetus. Prevent vibriosis by vaccinating cattle, using artificial insemination, treating infected animals, or combining all three.

Trichomoniasis

A protozoan organism, *Trichomonas fetus*, causes trichomoniasis. It is also a venereal disease. Symptoms include occasional abortions and pyometra (pus in uterus) that impairs breeding efficiency. Pyometra develops after the infected cow's embryo dies.

To treat the female, treat any uterine infection and provide sexual rest. Usually a 90-day period of sexual rest eliminates the organisms from the uterus. Vaccination is also an option in cows.

Before use, test bulls, except virgins, through culture methods at least three times at weekly intervals. Using clean semen from reputable bull studs also prevents infection. Frozen semen containing the organism can cause infection if put into the uterus.

Diseases Causing Abortions in Cattle

Diseases	Organism	How spread	State of gestation at abortion	Samples needed for diagnosis	Vaccination	Remarks
Brucellosis	Bacterial (Brucella abortus)	Aborted fetuses, fetal membranes	6-9 months	Blood sample from aborting cow; fetus; placenta	Live vaccine in heifers at 4-12 months.	Cull infected animals. Do not vaccinate bulls.
Leptospirosis	Bacterial (At least 5 serotypes)	Urine of infected animals, aborted fetuses	Any stage, usually 6-9 months	Sample 10 percent of herd	Every 6 months at 2-4 weeks before breeding.	Laboratory should determine the type of lepto causing infection.
Red nose (IBR)	Viral	Contagious from cow to cow	6-9 months	Fetus; placenta; blood samples	Killed or modified live vaccine. See veterinarian.	Abortion may or may not be associated with illness in cows.
Virus diarrhea (BVD)	Viral	Contagious from cow to cow	Variable, usually early in gestation	Two blood samples, 3 weeks apart	Killed or modified live vaccine. See veterinarian.	Calves born with disease (loss of hair, brain damage)
Vibriosis	Bacterial (Campylobacter fetus venerealis)	Venereal disease spread by infected bulls	Early abortion, repeat breeding	Vaginal mucus from infected cow, cervical mucus; fetus; preputial washings from the bull	Two injections of vaccine the first year, 30-60 days before breeding. Bulls and cows should be vaccinated.	Also causes few abortions
Vibriosis	(Campylobacter fetus intestinals)	Ingested	+6 months	Fetus	None	Sporadic abortions
Trichomoniasis	Protozoal (Trichomonas fetus)	Venereal disease spread by infected bulls	2-4 months	Preputial washings from infected bulls; uterus from cull cows	1st dose: 60 days prebreeding. 2nd dose: 30 days prebreeding. Single booster annually.	Treatment consists of sexual rest of cows for 90 days; artificial insemination; cull infected bulls and open cows.

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