Vibriosis in cattle is an infectious disease of the genital tract, causing infertility and an occasional abortion. It can be transmitted to and carried by bulls, and is considered the most important cause of infertility in cattle today. Through the use of artificial insemination in farm herds of beef cattle, this disease has been controlled and, in many instances, eradicated. It is a greater problem in large range operations, especially where ranchers hold communal summer grazing permits.

Distribution
In a statewide survey in Colorado vibriosis was found present in every geographic location studied. The incidence of this disease in Oregon is unknown, as no statewide evaluation has been made. Reports from practicing veterinarians in various parts of the state and from the OSU Diagnostic Laboratory show that vibriosis is present and active in many range areas of Oregon.

Diagnosis
An accurate herd history is necessary to make a tentative diagnosis of vibriosis. One common indication is a low pregnancy rate, determined either by pregnancy examination in the fall or by a poor calf crop in the spring. In older, established herd infections, the low pregnancy rate is observed only in first calf heifers. If young, noninfected bulls are used on heifers, a low calf crop might not appear until the second calving. Vibriosis should be suspected when many cows come into estrus after a three-month breeding season. A third sign is prolonged calving throughout the summer months. This occurs because many infected cows will develop immunity and throw off the infection in from 60 to 90 days. They will then conceive and carry to parturition.

Research has shown that although these infected cows may conceive and have normal parturition, some remain "carriers" of the Vibrio fetus organism and have the capacity to infect clean bulls at future breeding.

The introduction of breeding stock from "dispersal sales" or "stock reduction sales" can be a source of vibriosis. Should older animals be added to your herd, the practicing veterinarian in your area can run tests to help assure they are free of vibriosis. It is best, from the disease standpoint, to buy bulls and heifers that have not been used for breeding.

Confirmation of Diagnosis
A laboratory test is necessary to confirm a tentative field diagnosis. The only reliable laboratory test is culture and identification of the infectious agent Vibrio fetus in cows. Sterile equipment and a very careful technique must be used to obtain mucus specimens from the cervix. Careful handling of specimens is required so the infectious agent will not die in transit from the ranch to the laboratory. Vibrio fetus bacteria often can be cultured from an aborted fetus. Here again, laboratory specimens must be handled carefully. The cervical mucusculture test of infected cows will be about 100 percent positive two months before breeding. Seven months after breeding, this percentage decreases to about 20 percent. It has been found that if cows abort at seven months' gestation, the cervical mucus may be negative to culture, but the bacteria are plentiful in the aborted fetus.

There is no practical test for bulls other than performance testing. This is done by breeding a minimum of three virgin heifers to the bull in question. Cervical mucus from the heifers is obtained and tested six weeks following breeding.

Control
Since conditions are extremely variable from one ranch to another, the exact program for control should be worked out between the rancher and
his veterinarian. There are vaccines on the market which, when used on heifers and other cows, will give enough protection for them to conceive and deliver a normal calf, even if they are bred to an infected bull. The vaccine consists of a suspension of chemically killed Vibrio fetus organisms. Dosage is according to manufacturer's recommendations. The duration of immunity obtained is unknown. Usually the vaccination is repeated before the next breeding season.

A practical procedure is to vaccinate replacement heifers at 8 to 10 months of age. The second injection is then made 30 to 60 days before breeding. Annual vaccination thereafter will improve pregnancy rates in infected herds. The vaccine does not eliminate the infection from a herd but assists in control and helps avoid economic disaster.

Discussion

As in many disease outbreaks, the importance of early and accurate diagnosis cannot be overstressed. A survey of range cattle is needed to determine the distribution and extent of this disease in Oregon. This insidious venereal disease of cattle may be present on many ranches without the owner being aware of it. Through education, accurate diagnosis, and application of effective control measures, this problem can be controlled. The result can be a substantial decrease in losses due to bovine infertility.