NUMBER 166 CURRENT INFORMATION SERIES JUNE 1971

DISEASES CAUSING INFERTILITY AND ABORTION IN CATTLE

Richard F. Hall
Research and Extension Veterinarian

Infertility and abortion are among the greatest problems the cattle breeder faces today. In recent years scientists, veterinarians and livestock men have come to realize that calving percentage and calf survival are dependent upon the health of the cow, as well as upon known calfhood diseases. Diseases, nutrition and management not only affect the cow during pregnancy but have a decided effect on the calving performance. The purpose of this publication is to point out some of the more common diseases that can affect a cow before conception or during pregnancy.

If infertility, delayed calving, or abortion becomes a problem in your herd, work closely with your veterinarian in an effort to find the cause so a solution can be reached.

You can take certain steps to avoid or correct these situations.

1. Purchase virgin heifers and bulls for breeding purposes.
2. Have purchases tested for diseases, such as Bang's and tuberculosis.
3. Have bulls examined for breeding soundness and diseases they might transmit to your herd.
4. Isolate all newly purchased cattle for 3 to 4 weeks.
5. Vaccinate with available vaccines against diseases your cows are likely to encounter that will cause reproductive failure.
6. Keep a close observation for cows that may be coming back into heat after they should be bred.
7. Have your cows' pregnancies checked as soon as possible after they have been bred 45-60 days.
8. Have open cows examined and tested to determine the cause.
9. Keep health records on your cattle.

Some diseases, such as vibriosis, trichomoniasis, and BVD (Bovine Virus Diarrhea), cause death of the unborn calf during the first 90 days of pregnancy. In these cases the calf is usually resorbed by the cow, and abortion will not be evident. The cow will come back into heat and conceive up to 6 months after death of the fetus. The damage is usually not known until the time of pregnancy examination or calving. Open cows or delayed conception then becomes evident.

Other diseases, such as IRB (Red nose), can cause delayed breeding from soreness of the vagina of the cow or penis of the bull. Pregnancy is possible, but the animals are unwilling to breed. Here again, there can be delayed breeding.

Some diseases, such as Bang's or tuberculosis, cause abortion with subsequent delayed breeding. Following abortion from Bang's, as an example, the infection of the uterus may be persistent enough to cause a delay in breeding. Abortion or death of the calf in the uterus from any disease can result in bacterial infection and delayed breeding.

The following chart will also include abortion because some diseases cause both abortion and apparent delay of conception, some only abortion, and some infertility only.

COOPERATIVE EXTENSION SERVICE
COLLEGE OF AGRICULTURE

AGRICULTURAL EXPERIMENT STATION
UNIVERSITY OF IDAHO

DISEASES CAUSING DELAYED BREEDING OR ABORTION

Disease	Organism	How Spread	Delayed Breeding	Abortion	Samples for Diagnosis	Vaccination	Remarks
BVD (Bovine Virus Diarrhea)	Viral	Animal to animal	1) Death of fetus and resportion. Abortion not evident. 2) Abnormal calves	Variable. Cow may not show ill-ness.	1) Blood samples from cow 3 weeks apart. 2) Blood samples from calf at birth before nursing. 3) Fetus	1) Live vaccine. Vaccinate calf over 8 mo. of age. Do not vaccinate pregnant cows. 2) Under field conditions, probably life-time immunity.	1) BVD can cause death of the fetus during the first 3 mo. of pregnancy with resorption and no sign of abortion. The cow comes back into heat and calves late. 2) Calves can be born at term with no hair, no lungs, or with brain damage if the cow is in-fected in early pregnancy. 3) Widespread in Idaho.
IBR (Red Nose)	Viral	Animal to animal or infected surround-ings.	1) Infection of the vagina and vulva of the cow. 2) Infection of the bull's sheath and penis.	3-8 mo. Cow may not show illness	1) Blood samples from cow 3 weeks apart. 2) Blood samples from the calf before nursing. 3) Fetus	1) Live vaccine. Vaccinate calf after 6 mo. of age. Do not vaccinate pregnant cows. 2) Under field conditions, probably life-time immunity.	1) Calf in BVD and IBR can con-tract the disease in the uterus in late pregnancy and recover and be normal at birth. These calves will have antibodies against the disease at birth be-fore colostrum milk. 2) Other red nose symptoms usually not present. 3) Widespread in Idaho.
Bluetongue	Viral	Gnats and possibly other biting insects.	Not known	Calves born dead, or "dummy" calves with brain de-formities.	1) Bood samples from cow. 2) Blood from "dummy" calf before nursing.	None for cattle	1) Bluetongue is a disease which has been recognized in cattle the last few years. All the ef-fects are not yet known. 2) Some in Idaho. Extent not known.
Leptospirosis	Bacterial (Leptospira sp.)	Urine of in-fected ani-mals includ-ing certain wild animals. Contami-nated water.	In cases of extreme ill-ness of the cow or bull.	6-9 mo.	1) Blood samples from the cow. 2) Fetus	Killed vaccine gives immunity for 12 mo. in most cases. Recommend vaccination every 6 mo. in	1) Bacteria may live for as long as 150 days in water. 2) *L. pomona* probably chief one in Idaho. *L. grippotyphosa* and *L. hardjo* are of growing con-cern. 3) Vaccine now avail for *L.*

	(Vibrio fetus venerialis)	transmission from infected bull.	fetus first 3 mo. of pregnancy & resorption. Abortion not evident.	Occasional 2-6 mo.	1) Vaginal mucous from cow. 2) Blood from cow. 3) Fetus 4) Preputial washings from bull.	1) Give vaccine 30-60 days before breeding. 2) Give yearly booster.	1) First sign of trouble usually found in beef herds upon pregnancy examination or calving evidenced by numerous open or late calving cows. 2) Bulls can be carriers for many years if not treated. 3) Diagnosis of specific infected animals is difficult. Diagnosis best with herd history. 4) Widespread in Idaho.
	(Vibrio fetus intestinalis)	Ingested	None known	+ 6 mo. Very sporadic.	Fetus	None	
Trichomoniasis	Protozoan (Trichomonas fetus)	Venereal transmission from infected bull.	Much like vibriosis in causing delayed breeding.	Occasional 2-4 mo.	1) Preputial washings from bull. 2) Mucous from uterus of infected cow.	None	1) Not sure of incidence in Idaho. May not be very significant, but could become a problem. 2) Diagnosis is difficult.
Listeriosis	Bacterial	Carried by rodents and other animals.	From uterine infection.	Variable	1) Fetus 2) Placenta 3) Blood from cow	None	1) Decompsition of fetus; uterine infection; illness in cattle. 2) Contamination in silage can spread the disease. This bacteria can live in silage. 3) Sporadic incidence.
Brucellosis	Bacterial (Brucella abortus)	Aborted feti, uterine discharges & placentas; infected premises.	Infected cows may show delayed breeding.	6-9 mo.	1) Blood samples 2) Fetus 3) Placenta	Live vaccine for heifers. 3-8 mo. — dairy 3-10 mo. — beef.	1) Brucellosis is nearly eradicated in Idaho. 2) It is not recommended to vaccinate heifers in a clean area.
Tuberculosis	Bacterial (Mycobacterium bovis)	Cow to cow or infected surroundings.	Uterine infection	Not usual	Skin test of cow	None	1) Not much of a factor now because it is largely eradicated.
Foothill Abortion (EBA)	Bacterial (Clamydia)	Not known	None	6-9 mo.	1) Fetus 2) Placenta 3) Blood sample	None	1) There is still much uncertainty about this disease.