



Solving Postpartum Breeding Problems

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Early identification and diagnosis of reproductive problems through a herd health program are an essential part of successful dairy management. A cow must be pregnant by 85 days postpartum to achieve a 12-month calving interval. This is the backbone of sound reproductive management in an economical dairy business.

Many factors during the dry period, parturition and early lactation can lower reproductive efficiency. These include mastitis, cystic ovaries, lack of body condition, retained placentas and anestrus. Also, certain disorders occur together. For example, a cow with milk fever will frequently have a retained placenta. These postpartum problems lengthen calving intervals and affect reproductive efficiency.

Cystic Ovaries

Cystic ovaries naturally occur in 5 to 10 percent of dairy cows nationally. They are characterized by abnormal estrus behavior and structures greater than 1 inch in diameter that remain on an ovary for more than 10 days. These cysts can be either thin wall or thick wall, depending on how they develop. The resulting activity can be constant estrus, anestrus or some combination of both.

The greatest incidence occurs within the first 45 to 60 days postpartum and during October through February. The frequency is higher in older cows, high-producing cows and in certain breeds.

Ovarian cysts should be diagnosed by an experienced palpater. Manual rupture of cysts should be avoided as this can cause hemorrhaging and permanent adhesions that will impair future reproduction function.

Treatment with GnRH is recommended after initial diagnosis. Of those cows treated, 75 percent should be

cycling within 23 days. However, animals should be re-palpated and re-treated if necessary. Some animals may not ever respond to treatment because of abnormally low response of ovarian receptors to the hormone LH.

Some animals appear to recover on their own. Nearly half of early cases of cystic follicles regress spontaneously. In one study, biweekly herd exams revealed a greater number of cysts than monthly herd exams. Some cysts appear to develop and regress in less than 30 days.

Studies indicate that ovulation synchronization also works well for cystic cows. Two injections of gonadotropin releasing hormone (GnRH), 7 days before and 2 days after prostaglandin (PGF 2a), will effectively synchronize ovulation. Ovulation occurs 24 to 32 hours after the second injection of GnRH; therefore cows should be bred 16 to 24 hours after the second GnRH injection.

Repeat Breeders

Embryonic mortality increases drastically in repeat breeders. Research from several states has shown that the hormone GnRH can be given at the time of insemination to increase conception rates in repeat breeders. Results indicate that GnRH injected at third service breeding can increase conception rates more than 15 percent.

Also, to increase conception rates in repeat breeders, select semen from high fertility bulls with high DPR values. Breed animals as close to 12 to 14 hours after onset of estrus as possible. Handle and deposit semen correctly. Retraining employees on AI techniques may be beneficial to solve problems. Like cystic cows, research has shown that ovulation synchronization will help improve fertility.

Abortions

There are many causes of abortions and most can be controlled. Prevention involves vaccination, sanitation, using artificial breeding and avoiding moldy feeds. The common bacterial causes of abortion are in Table 1. The common virally-caused abortions are shown in Table 2. Abortions can also be caused by protozoa such as in trichomoniasis. Symptoms include long estrous cycles and abortion occur at 1 to 4 months. Transmission is through natural mating. Prevention involves using artificial insemination, using an infection-free bull on clean cows, and disposing of or treating infected bulls.

Abortions can also be caused by ingestion of feeds molds. Symptoms include necrotic cotyledons, skin lesions in aborted fetus, and abortion at 5 to 7 months. Mycotic abortions are transmitted by ingestion. Prevention involves avoiding moldy feed. If moldy feeds must be fed, include additives that have been shown to bind the mycotoxins and prevent absorption.

Retained Placentas and Uterine Infections

In most herds, 10 percent or less of the cows will still have their placentas attached at 24 or more hours after calving. Most will normally expel within 12 hours. Retained placentas are more frequent in cases of dystocia (difficult calving), toxins, abortions and certain diseases. Cows with a history of not expelling the placenta will probably continue to have problems.

Prevention involves feeding an amnionic ration with a 1:5 to 2:1 calcium to phosphorus ratio. Dry cows should receive a 1:1 calcium to phosphorus ratio in their diet. Maintain proper calcium levels. Total calcium levels should follow NRC guidelines.

Selenium appears to play an important role in placental release. Current NRC recommendations for selenium in dairy cow rations are .1 ppm of total dry matter. Selenium appears to be involved in the release of prostaglandin. Prostaglandin may induce the release of the placenta by stimulating collagenase activity. Collagenase breaks down collagen, the material that cements the cells of the uterus and placenta together. Vitamins A and D are also involved.

Cows should also be provided a clean, comfortable calving area. Sanitation is essential to prevent uterine infections as well as getting the calf off to a good healthy start.

If treatment for retained placenta is necessary, it is desirable to use drugs that do not cause residue problems in milk such as oxytocin and prostaglandin. These drugs increase uterine motility.

Never try manual removal of a placenta that is still attached to the uterus. This can lower fertility by causing the uterus to hemorrhage and also can lead to infections through contamination.

When the discharge produces a foul odor, or the cow becomes sick and appetite drops, antibiotic and anti-septic solution should be considered as prescribed by a veterinarian. Generally, contact the veterinarian by the third day.

Remember that a reddish brown non-odorous discharge after calving is normal. However, infections of the uterus must be treated.

Do not infuse cows unnecessarily. Research has demonstrated that uterine infusion of cows with no infection has a detrimental effect on return to normal estrus cycles. Certain treatments have also been shown to lower fertility. However, infections should be treated as prescribed by a veterinarian.

A monthly veterinary herd health program is the best way to insure the health of a cow's reproductive tract. Daily fresh cow temperatures can be easily

maintained. Early diagnosis of problems is beneficial. Cows that are fresh, ready to breed, possibly pregnant, problem cows and repeat breeders should be examined. Also, routine vaccinations should be administered at this time.

Mastitis

Evidence has shown a relationship between mastitis and reproduction. Mastitis continues to cost dairy producers in the United States at least \$2 billion annually. Studies from the University of Tennessee have shown that: (1) occurrence of mastitis before first service delayed days to first service, increased days to conception and elevated services per conception,

(2) occurrence of mastitis during the breeding period increased days open and doubled the number of services per conception compared to uninfected cows, (3) reproductive performance was not affected if mastitis occurred after establishment of pregnancy, (4) subclinical and clinical mastitis equally reduced reproductive performance, and (5) experimentally-induced mastitis increased concentrations of cortisol, increased serum prostaglandin and elevated body temperature.

Disease	Symptoms	Transmission	Prevention
Brucellosis	Abortion after 4 months	Ingestion Contact-mucous	Calfhood vaccination Test and Slaughter
	Retained placenta	Skin abrasions Natural mating	Segregate new stock Sanitation
Leptospirosis	Abortion after 6 months	Ingestion Mucous membrane Respiratory Skin abrasions Wildlife, rodents	Vaccinate Eliminate carrier Keep from swine
Listeriosis	Abortion after 6 months	New stock Moldy silage Severe stress	Segregate new stock Stop feeding silage Sanitation Artificial insemination
Vibriosis	Abortion after 6 months Repeated long estrus cycle	Natural mating	Clean bulls on clean cow

Disease	Symptoms	Transmission	Prevention
Bovine Viral Diarrhea (BVD)	Abortion Fever Erosion of mouth and gums Diarrhea Abortion 6th month	Direct contact Food Water	Sanitation Vaccination MLV or killed
Infectious Bovine Rhinotracheitis (BR)	Fever Runny nose Eye irritation Pustules in vagina Pustules in prepus and on glans penis	Natural mating Urine and fluids	Vaccines Nasal, MLV or killed

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