Vet Call

► *by **Bob Larson,** Kansas State University*

Abortion prevention and management

Both beef producers and veterinarians express frustration when a cow that is identified as pregnant later aborts the fetus during mid-pregnancy. Because reproduction is complex and a number of germs, toxins and genetic problems can lead to pregnancy loss, veterinarians recognize that losing about 1%-2% of pregnancies between the time of pregnancy diagnosis and calving is probably unavoidable.

The goal of many aspects of cow herd health programs, including nutritional management, biosecurity and vaccination, is to reduce the risk of abortion, and particularly to prevent situations when more than 5% of the herd aborts.

Finding the source of abortion

Veterinarians approach abortion management by focusing on two related activities: diagnosing the causes of abortion and preventing abortions from occurring. Cow herd abortions can occur either sporadically or in larger outbreaks. Sporadic abortion losses are considered to occur when less than 2% of the entire herd aborts and no group of cows — as described by age, pasture or other risk group — has greater losses than other groups.

When investigating sporadic abortion losses, it may not be justified to spend a great deal of resources to attempt to identify the causes; but, if a larger abortion outbreak is occurring, a thorough investigation to discover the factors that are contributing to the losses is necessary to identify changes in herd management to prevent similar outbreaks in future years.

The problem that both cattle producers and veterinarians face when a few cows abort is to determine if an abortion storm is beginning or if the few identified abortions are the only ones the herd will experience.

When the first abortion is identified by finding an aborted fetus or seeing signs of abortion in a cow previously diagnosed as pregnant (such as a retained placenta or return to heat) the veterinarian may want to collect samples from the fetus, the cow and the placenta, and to record information about the aborting cow, such as her age, the date the abortion was discovered, the estimated fetal age and the identification of the pastures where she has been located during pregnancy. The samples may be sent to a diagnostic laboratory, or the veterinarian may suggest that the samples be saved and only submitted for laboratory investigation if more abortions occur.

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Some causes of abortion are fairly easily identified by a diagnostic laboratory if the samples are fresh, but other abortion-causing germs and toxins are difficult to confirm. Many of the causes of abortion work fairly slowly, so that there are many days or weeks between the time that a cow is exposed to the cause of the abortion and the actual loss of the fetus. In these situations the diagnostic laboratory may not be able to identify an abortion cause that is no longer present in the fetus or the cow.

In other situations, the germs or toxins that cause abortion affect the cow but may not actually invade the fetus, making samples taken from the fetus of no help for making a diagnosis. It is important to realize that even in situations in which the diagnostic laboratory does not identify a cause for the abortion, important information is gained by removing certain easily diagnosed factors from the list of likely causes.

Prevention plans

Veterinarians and cattle producers work together to create management plans that help to prevent abortions by targeting the most likely causes that can be effectively controlled. Biosecurity plans that rely on diagnostic testing and herd segregation to minimize the risk and effect of trichomoniasis (trich) and bovine viral diarrhea (BVD) should be created to meet each herd's specific level of risk.

Online tools named Trich Consult (see the April 2016 issue's "Vet Call" column) and BVD Consult (see the June 2014's issue's "Vet Call" column) are useful to create herd-specific biosecurity plans for these diseases. Vaccination protocols to increase herd immunity against infectious bovine rhinotracheitis (IBR), BVD, leptospirosis and campylobacteriosis (vibriosis) should be implemented with an emphasis on building immunity in herd replacements, as well as maintaining immunity in mature adults.

Other diseases, such as neosporosis, foothills abortion and pine needle abortion, are difficult or impossible to control with diagnostic testing, herd segregation or vaccination. Some abortion risks must be addressed by having good feed security, while others require carefully planning the best age and stage of pregnancy to expose cattle to pastures where abortions are likely to be initiated when the cause of abortion is either plants or diseases carried by ticks or other insects.

Effective control measures have not been identified for some causes of abortion, and the best management in these situations is to work toward good overall herd health and to keep the accumulated level of abortion risk low.

While it is impossible to prevent all abortions, a well-planned strategy designed by a veterinarian and cattle producer working together to target the most important risks for each specific herd provides reasonable protection against devastating pregnancy losses. The best herd health plan to prevent abortion losses is the plan that optimizes nutrition, biosecurity, vaccination protocols and grazing management for your herd.

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