

REPRODUCTIVE HERD HEALTH: CONTINUED

Last month we discussed the importance of having each cow wean a healthy calf and first on the list was to get the cows and heifers pregnant. The most important considerations were (1) Body Condition Scores of 5, 6, or 7 before the breeding season (adequate nutrition prior to calving), (2) an effective mineral supplementation program (copper, selenium, iodine, magnesium, etc), (3) test all bulls for breeding soundness (semen, eyes, feet, general condition) before the breeding season, and (4) test the bull battery for Trichomonosis before the breeding season. Your veterinarian may have additional specific recommendations that are important for your herd; however, the basics should always be covered. This month we will briefly discuss keeping the cow pregnant and keeping the calf alive through the neonatal period.

Once the cows are safely pregnant, what can go wrong?

After pregnancy is established, the cows or heifers can abort the fetus. This can occur any time after the third month of pregnancy up to 9 months when a term fetus is born dead—a stillbirth. Common diseases that can result in abortions include (1) Foothill abortion (Epizootic Bovine Abortion; EBA), (2) Leptospirosis, (3) BVD (Bovine Virus Diarrhea virus), (4) IBR (Infectious Bovine Rhinotracheitis virus; Rednose), (4) selenium deficiency, and (5) Neospora abortions.

The next goal is to make sure the calves are strong at birth and you prevent the common causes of neonatal (calf hood) death losses. Neonatal diarrhea (scours), white muscle disease (selenium deficiency), and pneumonia are common problems we must work to avoid.

What can I do to prevent Foothill Abortion?

Foothill Abortion is a bacterial disease that is transmitted by the Parajuello tick and usually causes late term abortions. Currently, we do not have a vaccine to prevent Foothill Abortion, so we must rely on management tools to help us. When susceptible, pregnant cows or heifers are bitten by the tick during the first to seventh month of pregnancy they can abort in 90 to 120 days. Open cows or heifers that are bitten by the ticks develop immunity or resistance that lasts for 1-2 years. When cattle are pregnant 7 months or more and they are bitten, they develop immunity and the calf is not affected (no abortion). Therefore, the best prevention is to expose cows and heifers to the tick inhabited areas when they are open or greater than 7 months pregnant and to keep them away from these areas when they are bred from 1-7 months. Contact your veterinarian or livestock advisor if you are unsure where the ticks might be on your ranch. Also, if you anticipate bringing pregnant cattle (1-7 months pregnant) into a high risk Foothill Abortion area contact your veterinarian ahead of time. Remember, this tick is most active when it is warm and dry; therefore, exposing the cattle to “tick country” in the

winter when it is raining will not stimulate resistance. The cattle have to be bitten when they are open or 7 months or more pregnant to become immune and to be safe from abortion.

How do I prevent viral abortions—BVD and IBR?

These are viruses that can be spread on equipment and clothing, as well as by contact with infected animals. Be sure to vaccinate all replacement heifers with a modified live virus vaccine (usually a 4-way IBR, PI3, BVD, BRSV vaccine) at some point prior to the breeding season. Afterwards, give yearly boosters with the killed virus vaccines or use the modified live vaccines when they are open, just before turning in the bulls. **Most MLV vaccines are not approved for use in pregnant cattle. If you have any questions regarding virus vaccines and safety during pregnancy, contact your veterinarian.** Also, if you plan to introduce new cattle to your herd when the cows are pregnant it is a good idea to test all of the new cattle to see if any are persistently infected with BVD. There are new, cheap ways to do these tests and your veterinarian can get you set up for testing.

How do I prevent Leptospirosis abortions?

This is a group of bacteria transmitted via the urine of infected animals that contaminates feed and water. It can be spread by many species of animals, such as dogs, rats, and wildlife. Infection usually causes late term abortions (6-9 months). Most veterinarians recommend annual or twice-annual vaccinations with multivalent vaccines, such as 5-way (*L. pomona*, *L. hardjo-ovis*, *L. grippityphosa*, *L. canicola*, *L. icterohemorrhagia*). It is best to vaccinate when turning the bulls in or before the cows are 5 months pregnant if you only vaccinate once per year.

How do I prevent Neospora Abortions?

Neospora is a protozoon carried by dogs and transmitted to cows through the feces, then transferred on to fetus through the placenta. Also, the agent can be transmitted from the cow to the calf. *Neospora* usually causes abortions at 4-6 months of pregnancy. This is a very common cause of abortion in dairy cattle, much less common in beef cattle. Restrict access of dogs (potential carriers) to stored feed and feeding areas. If the disease is diagnosed in an aborted calf and its dam is found to be seropositive for the disease, consider culling the cow and any female offspring. Also, testing of the cows in the herd can be used in a test and cull program to help eliminate the agent from a closed herd. Consult with your veterinarian about the various options if this disease is a problem in your herd.

How do I prevent stillbirths and White Muscle Disease due to Selenium Deficiency?

Selenium deficiency can cause white muscle disease, stillbirths, weight loss, diarrhea, infertility, retained placenta and decreased immune function. When selenium deficiency causes abortions it is usually in the last trimester. The fetus develops white muscle

disease before it is born and dies—thus the abortion. Prevention is best accomplished by use of the selenium boluses that last for one year or feeding of a loose salt mineral mix containing 120 parts per million at one ounce per head per day. Consult your veterinarian if you are unsure if your herd is selenium deficient. He or she can do blood tests to determine the selenium status of your herd.

What if I have abortions anyway?

The first abortion that occurs during the calving season is usually not a cause for panic; but if a second one occurs don't hesitate to call your veterinarian. The California state diagnostic laboratory (California Animal Health & Food Safety [CAHFS] laboratory system) does an excellent job of finding out the cause of abortions at a very reasonable price. Your veterinarian will submit samples (often the entire fetus) to the lab. If there is a delay in getting the fetus to the lab—refrigerate it, do not freeze it. When you get a diagnosis back you and your veterinarian will know what steps to take or what to fine-tune in your current prevention program.

What can I do to prevent death losses in the young calves?

Be sure to feed adequate energy and protein for the last 3 months of pregnancy. The cows and heifers should be fed enough to gain about one pound per day during this time. This weight gain is equal to the growth of the fetus, placenta, and associated tissues (uterus, fetal fluids, etc.). This would be equal to cows on irrigated pasture (fall calving), fifteen to 20 pounds of alfalfa hay for winter feeding, or any combination of pasture and supplements that would accomplish the same end. It is not adequate to try to maintain cows on dry foothill feed with no supplement for the last 3 months, however. The energy and protein is needed by the calf to develop adequate muscle (strength) and an optimum immune system. There is another very important reason for feeding adequate levels of energy and protein. That reason is for colostrum production. Adequate energy and protein is needed to make colostrum, which contains all the important antibodies that protect the calf for the first 3 to 4 weeks of life. Without adequate quantity and quality of colostrum the calf is sure to get sick and/or die during these first few weeks of life. The cows and pregnant heifers need to be fed enough protein and energy to make enough high quality colostrum for the calf; without it the calf will surely get sick.

Vaccinate the cows and pregnant heifers with any necessary calf scours vaccines well prior to calving. Vaccines that contain Rotavirus, corona virus, and the K99 *E. coli* antigens can be helpful in preventing calf scours. These are best given to the cow prior to calving so she can make antibodies and secrete them into the colostrum. When the calf ingests this “enriched” colostrum, he will be protected against these major agents. Seek your veterinarian's advice on which vaccines and what timing will work best in your herd. Copper deficiency and/or selenium deficiency both have a negative impact on the animal's immune system. This leaves them more susceptible to calf scours and other infectious diseases. Review your supplementation program with your veterinarian and check the herd's status with blood samples or other samples as necessary.

The other area of management that is important in preventing calf scours, is that of decreasing the dose of pathogens that the calves are exposed to. The important concepts here are **isolation** and **sanitation**. There are several areas to be aware of to accomplish these goals.

Calve your heifers earlier than the main cowherd in clean fields. The calves from heifers are more susceptible to disease. Calving them early and in clean areas prevents the build up of pathogens that can occur in the main cowherd.

Try to calve during a time of the year when it is not wet or muddy. The bugs do well in these conditions and the calves do not.

Try to avoid hay feeding when the calves are young. This concentrates the cattle and their feces on the hay feeding areas and increases the dose of the bacteria and viruses, etc. Use of good pastures or fields set aside with adequate forage during the first 2 weeks of the calves' life is a good idea. Feeding soybean (or cottonseed) meal with 30% salt as a supplement during this time can be helpful also.

Do not bring in outside cattle during the calving period or when the calves are young. Bringing in dairy calves for cows that lost a calf can lead to a disastrous calf scours outbreak. These calves can bring in diseases that your cattle may have never been exposed to and have no immunity against.

When treating sick calves in the herd use strict sanitation. Treat the sick calves **after** handling all the well calves, not before. Disinfect all balling guns after treating sick calves, use disposal gloves, wash your clothes after treating scouring calves, etc. You can carry many of these pathogens on your gloves, clothes, and equipment from one sick calf to a healthy calf. Thus, you can become the cause of an outbreak and not the cure.

Isolate sick calves and their cows to a separate field or area for treatment. This will decrease the build-up of pathogens for the main cowherd.

A successful program will coordinate all of the above efforts. This will help you reach a high reproductive efficiency without adding cows to your herd. Remember, your veterinarian will be a key player in this regard.

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