

## Lesson 5: Head Health

**D**airy production is similar to other livestock production systems in the sense that dairy producers must maintain high levels of herd health to be successful. Producers must be able to recognize, treat, and prevent health problems.

### Common Dairy Health Concerns

Dairy producers encounter many herd health challenges. Dairy cattle are susceptible to all of the diseases that affect beef cattle. However, health problems affecting the ability of a dairy cow to produce high quality milk are by far the most serious. If a dairy cow loses her ability to produce milk, she is no longer useful to the producer. Major dairy health concerns are milk fever, ketosis, foot rot, hairy heel warts, laminitis, and mastitis.

Milk fever - Milk fever results from a calcium imbalance in dairy cattle and involves abnormally low levels of calcium in the blood. Cows usually become ill after they begin lactation. Milk fever seems to be more prevalent in older high-producing animals. Symptoms include loss of appetite, staggering, and paralysis. If untreated, milk fever can cause death. A veterinarian can treat this illness by giving cows an intravenous injection of calcium. Prevention of milk fever involves feeding rations with correct levels of calcium and phosphorus to dry cows.

Ketosis - Ketosis is a nutritional problem. Cows that are underfed during the period of high lactation shortly after calving may develop ketosis. It causes reduced milk production. Other symptoms include weight loss and a fruity odor to the cow's breath and milk. Ketosis may be treated with injections of glucose or hormones. Feeding high energy diets to lactating dairy cattle can prevent this disorder.

Foot rot - Foot rot is caused by a wound between the toes. Symptoms are lameness, swelling, fever, decreased appetite, and a sharp decrease in milk production. Foot baths and antibiotics are used to control and treat the disease.

Hairy heel warts - This disease causes an extremely painful growth on the skin on the heels of the rear feet. Cows may avoid putting weight on their heels. The disease is also associated with decreased milk production. The infected area may be treated with the use of antibiotic sprays.

Laminitis - Laminitis, or founder, is caused by high concentrate levels combined with insufficient levels of long fiber from forages for adequate cud chewing. This creates acidic conditions in the rumen. Symptoms include lameness and poor milking performance. Producers can prevent laminitis by careful management of feeding. Aggressive foot trimming may be required as well.

Mastitis - Of all the dairy diseases, mastitis causes the greatest economic losses. Countless dollars are lost through reduced milk sales resulting from mastitis each year. Mastitis is an infection of the cow's udder caused by bacteria entering the udder through a teat. The disease may also result from an injury to the cow's udder. It has an acute form and a chronic form.

Clinical or acute mastitis is easy to detect because the cow's udder is severely swollen, and the milk is bloody or clotted. Cows with clinical mastitis may show a loss of appetite. Their milk production is severely reduced.

Subclinical or chronic mastitis is harder to recognize because the symptoms are not as easy to see. Cows with the subclinical form of the disease usually have decreased milk production and an elevated somatic cell count. The milk may appear normal to the herd manager, or it may be a little watery.

### Prevention and Control of Mastitis

Because of the potential for economic losses to a dairy program from mastitis, prevention and control is critical to successful dairy operations. Proper sanitation is one of the most important parts of mastitis prevention. Milking equipment must be sanitary to keep cows from being infected by the milking units. Before milking, milkers should strip the teats, removing a small amount of milk that is higher in bacteria. They should then wash and dry the teats before attaching the milking units. After milking is completed, the teats should be dipped in an acceptable disinfectant. Milkers may also predip the teats before milking instead of washing them.

Producers should give tests at least once every month to detect the high somatic cell counts caused by subclinical mastitis. The California Mastitis Test (CMT) is one test used to look for mastitis in the herd. Producers can administer

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this test themselves. Laboratory tests can be used to determine somatic cell counts more accurately.

Producers also try to keep infections from starting during the dry period. They treat the cow's mammary glands with long-lasting antibiotics that will combat infections and prevent mastitis.

If cows do suffer from mastitis, prompt treatment is essential. Producers can treat cows in several ways. Milking the cow frequently is one method; the toxins causing the infection can be milked out with repeated milkings. Some producers give cows an injection of oxytocin, which is a naturally occurring hormone causing milk secretion. The additional oxytocin allows the cow to be more completely milked out with a normal milking routine. Cows may also be given antibiotics to treat mastitis. However, the milk from cows treated with most antibiotics must be discarded instead of sold.

## Health Concerns of Raising Replacements

Producers separate most dairy replacements from their dams at a very young age, usually within one to three days after calving. They then put the lactating cows into production. After the calves are segregated, they are switched to a powdered milk replacer and started on grain after several weeks.

Several diseases can affect replacement dairy heifers. Diarrhea, or scours, is the biggest health concern of raising replacements. This disorder can cause severe dehydration if not properly treated. Other health problems include reproductive diseases such as brucellosis and leptospirosis. Brucellosis causes abortions, sterility, and reduced milk production. Leptospirosis also causes abortion. Diseases like infectious bovine rhinotracheitis (IBR), pasteurella (PI3), bovine virus diarrhea (BVD), and blackleg are also of concern to producers.

Producers must vaccinate their replacement heifers to prevent these diseases. Heifers should be vaccinated against IBR, PI3, BVD, and blackleg between weaning and eight months of age, with boosters given as appropriate. Heifers should be vaccinated against brucellosis at four to seven months of age. They should be vaccinated against leptospirosis and other reproductive diseases before

breeding. Producers should consult their local veterinarian and/or animal health supplier for the exact timing of all vaccinations.

## Routes of Administration

Producers can administer animal health products in a variety of ways. Common routes of administration are intramuscular, subcutaneous, oral, intranasal, and intravenous. They are illustrated in Figure 5.1.

Intramuscular (IM) - Intramuscular injections are made into the muscle. They should be given in the neck, never along the back or hip of the animal. Intramuscular injections are used for antibiotics and some vaccines.

Subcutaneous (Sub-Q) - Subcutaneous injections are given between the skin and muscle. They should be given in the loose skin on the side of the neck. This route is recommended because of the potential for tissue damage when injections are given into muscle tissue.

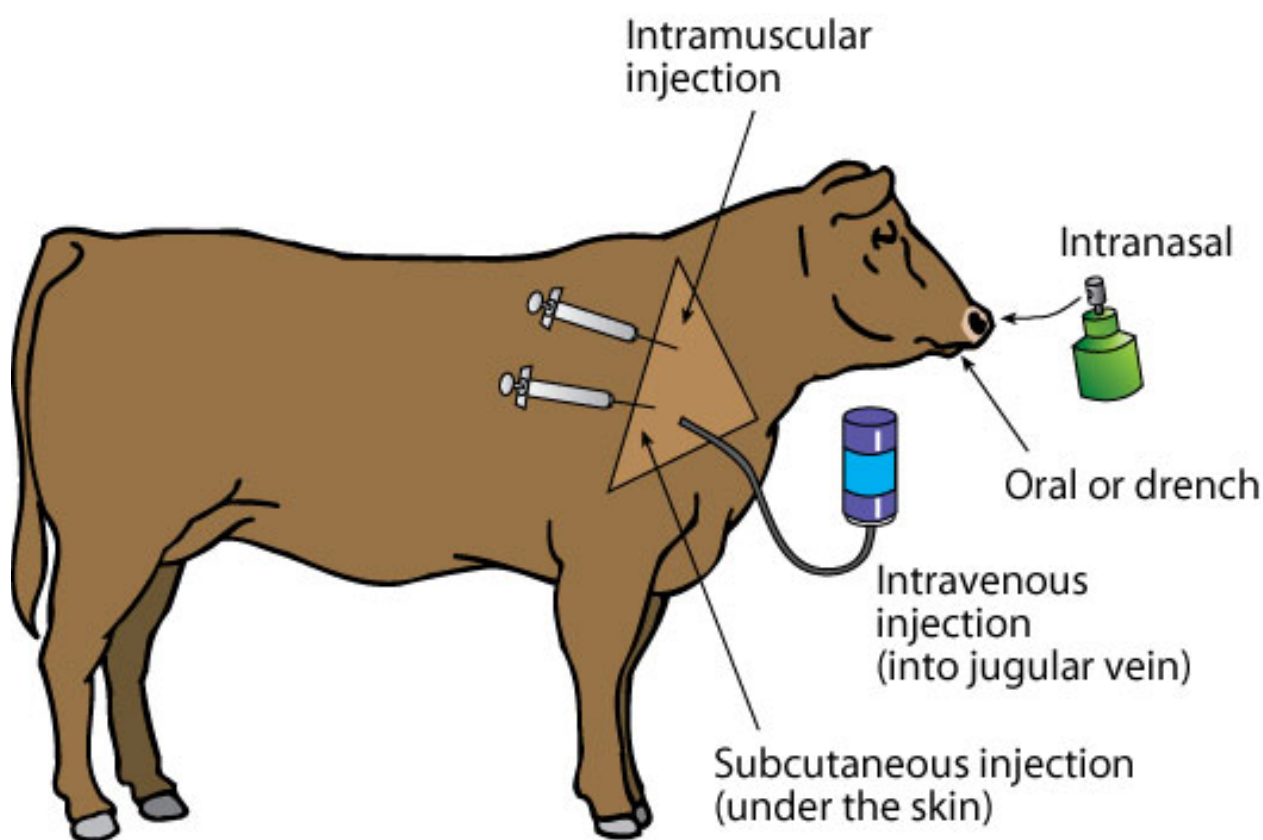
Oral - An oral, or drench, is given through the animal's mouth. Dewormers and some vaccines are given orally.

Intranasal (IN) - Like nasal sprays used by humans, intranasal vaccines are sprayed into the nasal cavity.

Intravenous (IV) - Intravenous treatments are given directly into the jugular vein of the animal. Either injections or actual drip IVs can be administered in this way.

Subcutaneous injections should be used whenever possible when injecting vaccines, but directions must be read and followed exactly! Dairy producers should always consult with their veterinarian first before giving any medical products to their animals. They should also read the labels on vaccines, dewormers, or medicine to check on the proper routes of administration, expiration date, and use of the product. The producer should be aware of withdrawal dates, which indicate the number of days after the injection is given before the cow's milk can be sold. Special precautions must be taken when using any animal health product on or around lactating cows. Producers must be certain that the product is approved for lactating cows.

Figure 5.1 - Routes of Administration



## Summary

Dairy producers must be able to recognize and treat diseases in lactating cows such as milk fever, ketosis, and mastitis. Of these diseases, mastitis has the biggest economic impact because of losses in milk production. Producers should also be aware of health concerns for replacement heifers, since their health will affect future production. Any medications given to treat dairy cattle must be used correctly.

## Credits

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