

Managing Mud Problems

by Heather Smith Thomas



Mud is the enemy of good health. Wet seasons create stress for livestock: a wet hair coat loses its insulating quality and cattle suffer more stress in wet cold weather than in dry cold weather. Under dry conditions, the hair is fluffy and has tiny air spaces between each hair, holding a layer of warmer air next to the body. A good clean hair coat can keep cattle warm

even when temperatures drop to zero and below.

When the hair becomes wet, however, it lies down flatter and loses this insulating layer of air. If cattle must lie in mud, the hair becomes muddy and matted and also loses its insulating quality. Cattle chill more readily, and this stress can lead to illness; stress inhibits the immune system and makes cattle more vulnerable to



A muddy haircoat reduces its insulating ability, causing the cattle to become chilled and stressed in cold conditions.

disease. If they must stand in deep mud, this situation is also a stress. It's harder to keep warm when standing in cold mud.

Problems for calves

Mud also harbors bacteria and other pathogens, especially from manure, which can affect cattle health — especially in baby calves. A mix of mud and manure in a calving lot can lead to dirty udders. When the newborn calf suckles, he ingests bacteria along with the colostrum. It's a race between the antibodies from colostrum and the pathogens, and if he nuzzles a dirty udder (or makes a few false tries on the cow's dirty flank or brisket before he finds a teat) the pathogens win.

Some of the bacteria that can cause deadly scours in newborns or toxic gut infections in older calves are present in the soil wherever there have been cattle feces, and wet conditions make it much easier for calves to ingest these pathogens. Dry ground is always a safer environment for calves than mud; they are less apt to pick up scour-causing bacteria or the toxin-forming bacteria that cause acute and often fatal intestinal infections. Some clostridial infections (such as *C. perfringens*, which causes various types of "enterotoxemia") and *E. coli* infections are much more prevalent in muddy conditions than in dry or frozen ground.

Calves nibbling mud or drinking from mud puddles are always at risk for digestive tract infections.

Calves born on wet, muddy ground are also more vulnerable to naval ill or joint ill. If the umbilical stump comes into contact with contaminated ground or bedding before it dries and seals off, it offers an open doorway for pathogenic bacteria. A calf born in the mud may need antibiotics as well as intensive disinfecting of the navel stump (applying iodine or some other good disinfectant several times) until the stump is completely dry. Infection may localize at the navel or may enter the bloodstream and cause septicemia. In the latter instance, the bacteria attack various organs and create a potentially fatal infection or may localize in certain areas such as the joints, to permanently cripple the calf.

Protozoan pathogens are also lurking in mud wherever there have been cattle. Coccidia and cryptosporidia are spread via manure. Coccidiosis and cryptosporidiosis infections in calves are always more common in wet conditions. Whenever

cattle are concentrated in small areas, coming into contact with manure, they are more vulnerable to massive infection with these protozoa — especially calves, because they have not yet developed any immunity or resistance and because they often nibble dirt or mud or pick up the pathogens when nursing a dirty udder. If cattle must lie on contaminated ground, such as mud mixed with manure, the hair coat becomes dirty also, and calves pick up the pathogens when licking and grooming themselves.

One of the things that can lead to increased incidence of illness in calves is the use of big bale feeders in wet weather — in calving lots or pens or pastures where there are cow-calf pairs. If footing around feeders gets churned to mud, there is more chance of the cows having dirty legs and udders. If conditions are muddy, bale feeders should be moved regularly to cleaner, drier ground. If this is impossible, clean material such as straw should be put around feeders regularly to keep footing clean and dry. Increased incidence of scours has been noted on a number of farms and ranches after they began using big bale feeders, especially if the cows' udders must be dragged through deep mud when the cows are using the feeders.

Problems for all cattle

Other bacteria that lurk in mud include the pathogens that cause foot rot in cattle. Foot rot is an infectious condition that causes inflammation in the foot, resulting in severe lameness. The swelling and lameness develop very suddenly. One day the animal is fine and the next day the foot is so sore the animal may not put any weight on it.

There are several bacteria that can cause foot rot, but the most common culprit is *Fusobacterium necrophorum*. Cattle are apt to pick up the infection if there is a break in the skin. Wet areas, where cattle must walk through mud or bogs or stand in mud in a pen, are the most likely places to pick it up. Foot rot can occur year round, but prevalence is always higher during wet seasons or in wet, muddy pastures. The bacteria persist in wet areas around springs, swamps or wet ground. Also, the skin of the feet becomes softer and more tender when wet and more easily nicked and scraped, so foot rot is very common in wet weather or in situations when cattle walk through mud.

After the bacteria gain entrance to the foot, inflammation and swelling start quickly. Usually the swelling is around the coronary band above the hoof, between the toes or at the heel, depending on the site of entry. The swelling may spread to the affected foot apart. The enlargement may include the area above the hoof, extending upward past the fetlock joint in some cases. In severe cases the animal will have a fever (which may cause temporary infertility in a bull).

A good prevention measure in pens is the creation of mounds or built-up humps of soil or bedding where cattle can be on dry ground.

Lameness may hinder ability to travel to feed and water or reduce the amount of time the animal spends grazing. The animal may spend most of its time lying down and lose weight. The swelling in the foot usually breaks open, often between the toes or the heel, and discharges pus after a few days. This drainage will further contaminate the pen or pasture, putting other animals at risk for foot rot, and calves at risk for navel ill (since

the same bacteria is often involved in navel infection).

Many cases of foot rot will eventually clear up on their own without treatment, but the animal will be lame longer and may spread the bacteria around the pen or pasture for the whole time the foot is swollen and discharging. It's always better to treat the problem rather than wait to see if it will get better. If you can clear it up quickly, there will be less contamination and much less risk of permanent damage to the foot. If neglected, the infection may eventually get into the joint, causing infectious arthritis.

Minimize mud problems

Anything you can do to minimize mud and dirty conditions in cattle lots and pastures can help decrease the incidence of problems. During calving season, the calving cows should be moved periodically to clean, dry ground, or extra bedding should be used in the calving lot (with more put in as needed) to cover the mud and keep the cows from becoming wet and dirty. Using your driest pastures and lots (well sodded instead of churned to mud or higher, drier areas with better drainage) will help prevent a lot of wet weather problems.

Incidence of foot rot can be minimized if pens are clean and dry, and free of sharp stones or frozen



PHOTO BY MIKE BRYANT

The use of big bale feeders in wet weather can increase incidence of calf sickness because the area around the bale becomes heavily trodden and soiled, and if the mud is deep enough can contaminate the cows' udders. Producers who use big bale feeders should move the feeders regularly and put straw around the feeder to keep the footing clean and dry.

mud (which create rough ground that may cause hoof injury). Covering frozen ground or deep mud with straw can be helpful in preventing foot rot. Thoroughly cleaning pens after the cattle are removed and liberally sprinkling lime over the pen surface can often avoid infections in feedlots. Leaving a pen vacant for at least a week after liming will help control foot rot bacteria. Maximizing drainage in pens is essential to good cattle management and will also help prevent constant contact with manure-laden mud.

A good prevention measure in pens is the creation of mounds or built-up

humps of soil or bedding where cattle can be on dry ground. Concrete slabs by feed bunks or feeders can also give cattle a dry place to stand, especially if these are kept cleaned off periodically. The use of concrete around watering areas and feed bunks where animals congregate can be very helpful, minimizing contact with mud. **HW**