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## **Managing Mud on Cattle Operations**

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Mud and Mississippi can be synonymous. Mississippi is home to a wide range of soil types, and many of these soil types get really muddy with just a little rain or cattle urine. On average, the rainfall distribution in Mississippi is such that winter and early spring tend to be the wettest times of the year. This is also the time of year when much of the permanent pasture acreage is dormant, and cattle congregate around hay feeders and feed troughs. The concentrated hoof action causes trampling damage to forages, and bare spots appear in areas where cattle congregate. Tractors, trucks, and ATVs also rut up fields, lanes, and roads during this time. Add in a leaky water trough or busted water line, and mud seems to be everywhere on the farm.

### **Muddy Cattle**

So how does mud affect cattle? It creates a variety of problems. Mud can negate the insulation value of the hair coat. Of distinct concern are newborn calves born in or near mud holes or muddy areas. Calves can become chilled by mud, trapped in it, or sickened by pathogens thriving in it. This is why it is so important to closely monitor calving, routinely check cattle, and move cow-calf pairs to fresh pasture soon after calving. Additionally, mud on udders contributes to poor udder hygiene conditions. Also, mud under hooves may increase the risk of foot problems such as foot rot.

Another special concern in dealing with mud on cattle operations includes animals consuming toxic endophyte-infected tall fescue, an important forage crop in the northern half of Mississippi. Cattle suffering from fescue toxicosis typically spend extended time in mud holes, making them more susceptible to health and performance complications related to mud. Even in droughty conditions, mud may accumulate in shaded areas where cattle affected with fescue toxicosis loaf excessively. Concentration of urine and hoof action will cause deep mud holes to develop in toxic tall fescue pastures. Cattle experiencing tall fescue toxicosis often have large amounts of mud caked on their rough hair coats.

Mud creates suction on hooves and makes it more difficult for cattle to move around in a muddy area. They expend more energy moving through mud and may have difficulty mounting for breeding. One only has to walk into a feeding area with deep mud once to realize just how difficult it is to take steps. Boots must be held securely on feet or the mud will claim them quickly. With mild mud conditions, just 4 to 8 inches of mud, cattle dry matter intake is reduced by 15% versus what it would be under the same conditions without any mud. When severe mud conditions are present, 1 foot or more of mud, dry matter intake plummets by 30% relative to the same conditions without any mud. It is no wonder that it becomes challenging to maintain good body condition on cows and desirable weight gains on calves when mud is all around.

## **Mud Management**

Although it may not be practical to totally eliminate mud on the farm, pastures, feeding areas, and cattle should be managed to minimize the negative impacts of mud on the herd. Start by taking an inventory of the soil types and slopes on the farm. The USDA Natural Resources Conservation Service website hosts a Web Soil Survey online that can be used to map soil types within an individual farm. Go to [websoilsurvey.nrcs.usda.gov/app/HomePage.htm](http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm) to get started mapping soils for a specific cattle operation. Some soils drain better than others and are less prone to mud accumulation. If soil types and slopes are identified on a farm that are less susceptible to water pooling and/or mud build-up, then areas with these soils may be good places to select for high-traffic uses.

Next, identify high-traffic areas on the farm. These are places that cattle or vehicles move across on a frequent basis. High-traffic areas may include lanes where cattle are funneled to move them through to another location. Gates and feeding and watering areas are other prime examples of high-traffic areas. Cattle handling areas are another high-traffic location on the farm. Ground-level protection from mud development in these areas may include construction of high-traffic ground coverings, such as feeding pads made of concrete, geotextile fabric, or other materials. Make sure that construction of ground coverings covers sufficient surface area to be effective. A feeding pad that is too small may become surrounded by deep mud.

Deep-bedding is another possible improvement to consider for mitigating mud problems. Researchers in Iowa developed a deep-bedded hoop-barn system that results in cattle carrying less mud in these barns than cattle in open drylots. Information on these structures can be found online at [www.iowabeefcenter.org/Docs\\_feedlot/hoopbarnfactsheet.pdf](http://www.iowabeefcenter.org/Docs_feedlot/hoopbarnfactsheet.pdf) and [www3.abe.iastate.edu/hoop\\_structures/beef](http://www3.abe.iastate.edu/hoop_structures/beef).

Hay feeding is a common source of pasture damage and mud development. If one or only a few hay feeding locations are used throughout the entire winter feeding period, then mud can become severe in these locations. Alternately, frequent movement of hay feeding locations around a large area may result in more widespread damage to pasture plant cover but less severe mud in any one location. Also, recognize that beginning hay feeding at the front of the pasture near the gate through which the feed delivery equipment travels can make for an area that is difficult or impossible to drive through over time. If the feeding area is first placed at the far end of the pasture from the entrance, then it can be more easily moved progressively towards the front of the pasture over time with less chance of not being able to get equipment through the mud to the feeding location.

Minimizing vehicle traffic through pastures can also help protect from vegetation destruction, soil compaction, and rut development. Forages are particularly susceptible to damage when frosted or otherwise stressed. When possible, check cattle on foot or use smaller vehicles such as ATVs that weigh less and do less damage to pasture forages. Always have a plan to free a vehicle or hay feeding wagon that becomes stuck in the mud. Use of 4-wheel drive tractors may be warranted in some situations.

Provide and maintain watering sources that reduce water splashing onto the ground. Some waterer designs are better than others in minimizing cattle sloshing water out of the trough. Also, consider that water trough components exposed to where cattle can rub or bump against them may become dislodged or broken by cattle. Plastic automatic waterers that clamp onto the side of metal or plastic tanks are examples of components that may not stand up to abuse by cattle, especially mature cattle and bulls. These components typically require frequent monitoring, repair, and replacement. In addition, water lines without adequate insulation may break during extreme cold snaps. Management of all of these water source factors can help reduce water pooling around watering locations and contributing to mud development.

Mud is a feature of cattle production in Mississippi that is tough to avoid. However, careful management can make mud less of a detriment to production. Visit with other producers for innovative ideas on combating mud on cattle operations. For more information about beef cattle production, contact an office of the Mississippi State University Extension Service or visit [msucares.com/livestock/beef](https://msucares.com/livestock/beef).