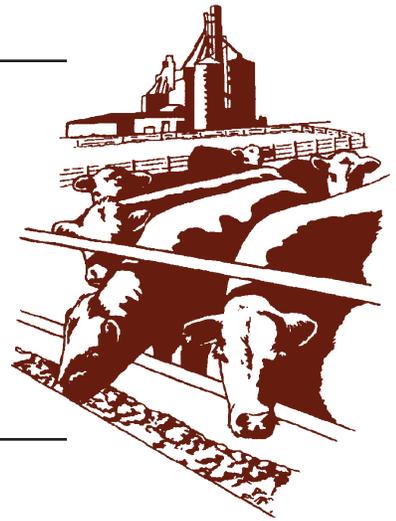


Beef Cattle Handbook



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Feedlot Mounds

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Muddy Lots Cause Problems

Muddy feedlots are expensive. Muddy conditions decrease feed intake, slow average daily gain of cattle, increase problems with footrot and increase the amount of feed required for each pound of gain.

As a rule, 4 to 8 inches of mud in a feedpen will decrease feed intake by 8 percent to 15 percent, slow daily gains by about 14 percent and increase feed requirements per pound of gain by about 13 percent. Severe conditions, with mud 12 to 24 inches deep, reduce feed intake by up to 30 percent and drop daily gain by up to 25 percent. They will also reduce feed efficiency by as much as 25 percent. Under severe conditions, a steer that would normally gain 3 pounds per day will gain only about 2.25 pounds for each day it spends in a muddy pen. Therefore, every four days spent in a muddy pen adds one day to the total time required in the feedlot to reach slaughter.

Problems from muddy feedlots can be reduced through proper feedlot design and management. Recommended practices include good drainage, well-designed mounds, proper windbreak fences and adequate space for the animals.

Mounds to Reduce Mud Problems

Mounds constructed of soil material within feedpens provide a comfortable resting place for cattle at reasonable cost during prolonged wet periods. Mounds are an economical alternative to bedding, concrete lots or confinement buildings. During muddy conditions, particularly in the winter, cattle will lie or stand on mounds that are properly designed. Mounds that are too steep, too nar-

row or too small are not used as effectively and, in some cases, can do more harm than good by blocking drainage or taking up valuable pen space.

Feedlot operators should observe the following guidelines in constructing and maintaining mounds to make the mound more effective in keeping cattle dry:

1. Build the mound roughly parallel to the general direction of lot drainage to avoid blocking natural drainage paths. Drainage is the biggest factor in determining the mound orientation. On level sites, the mound location can be changed to fit a preferred orientation.
2. Provide adequate drainage away from the mound. Ideally, pens should have uniform slopes of 3 percent to 4 percent, as shown in Figure 1.
3. The lengthwise orientation of the mound should provide protection from prevailing winter winds. For example, if prevailing winter wind is northwest, mounds should ideally run northeast to southwest; second choice is north to south.
4. Locate mounds so that one end or side joins the concrete aprons adjacent to the feed bunk and the water trough so that cattle do not have to cross muddy areas to get from the mound to the feed bunk and the water trough.
5. Surface areas of mounds should be 20-25 square feet per head per side. Cattle will move from one side of the mound to the other, depending on wind direction, temperature and sunlight.
6. Mound stabilization is also important. Build the mounds primarily of soil, preferably clay.

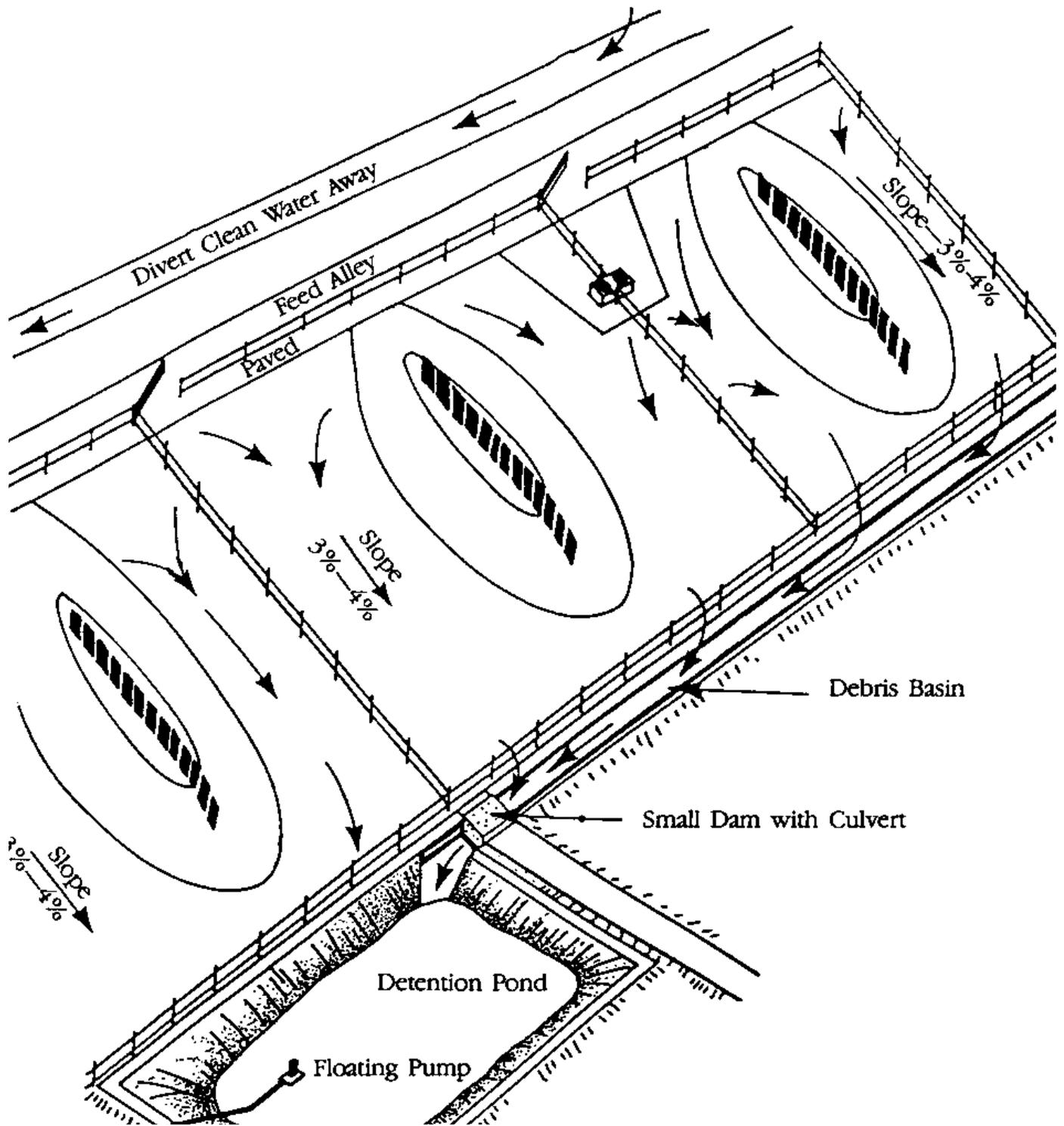


Figure 1. Location and slope of mounds in feedlots to promote drainage and cattle comfort. Windbreak fences on top of mounds are highly recommended for feedlots in the Central and Northern Great Plains but are usually unnecessary for Southern Great Plains and Southwest.

- 7. Feedlot manure or scrapings containing a mixture of soil and manure are less desirable for mound construction. Manure has about one-third or one-half the density of soil and absorbs more water.
- 8. Pack the material in 8 to 12-inch layers using heavy equipment.
- 9. The finished height of feedlot mounds should be 5 to 8 feet. This will allow a sufficient margin for natural settling and gradual flattening.
- 10. The side slopes of mounds should be steep enough for good drainage but still allow cattle to rest on them comfortably. A slope of about 4:1 to 5:1 is recommended (Figure 2).
- 11. Crown the top of the mound for good drainage. If

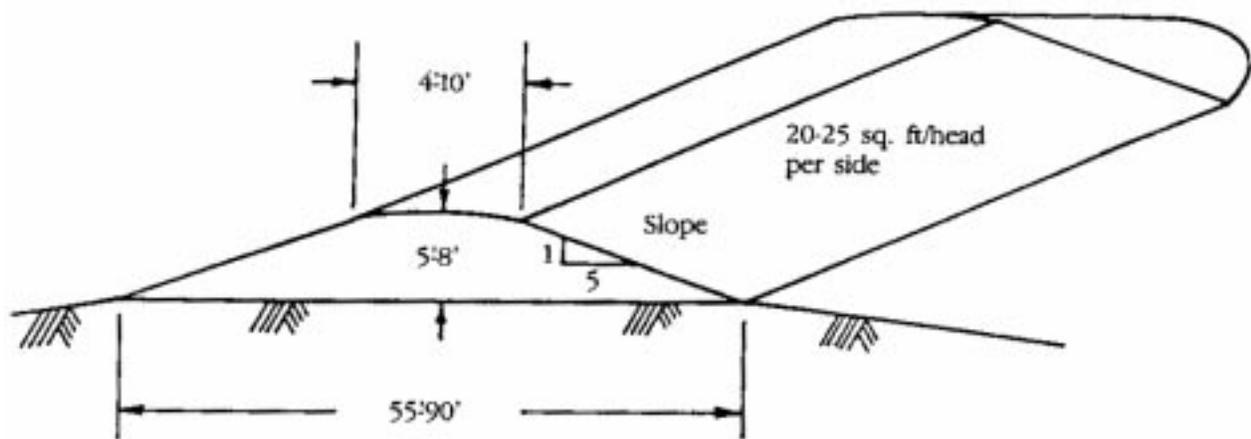


Figure 2. Recommended area, width and slope for properly constructed feedlot mounds. Direction of mound should be perpendicular to prevailing wind and parallel to main slope of feedlot surface.

the top of the mound is flat, it will soon have pockets where liquids will stand, leading to breakdown of the mound surface. The top should be fairly narrow, about 5 to 10 feet wide to help maintain a crown.

12. Mounds will provide some wind protection for cattle lying on the sloping sides. However, a wooden windbreak fence along the ridge of the mound will provide even greater wind protection. Windbreak fences are strongly advised from central Kansas northward through the Great Plains. Windbreak fences should be a minimum of 8 feet high and have an open area of at least 20 percent. A fence using 1 x 8-inch boards spaced 1.5 inches apart works well.
13. Covering the mound with bedding, corn cobs and straw may temporarily help protect the mound surface and insulate the animal's body from the frozen ground, but it may also hold moisture. Therefore, bedding is usually unnecessary and undesirable. Old bedding should always be removed in the spring.

The best time to build mounds is during site grading for feedlot construction before fences and water lines are installed. Once the feedlot is built, soil should be hauled into feedpens from off-site to create the mound base. Care should be taken during manure collection to preserve the mounds and soil surface shape.

Feedlot managers should observe how cattle use mounds. This provides valuable feedback on slopes, space allotment and orientation that cattle find most comfortable.

Summary

Mounds are a very important management tool for avoiding problems associated with muddy feedlot conditions. These problems include decreased feed intake, reduced gains and feed efficiencies. Mounds provide cattle with a dry place to lie down or stand as well as offering some protection from cold winds. Mounds must be properly constructed and maintained to enhance conditions for satisfactory cattle performance during inclement weather.

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