



# Extension Extra

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Agriculture and  
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Engineering

COLLEGE OF AGRICULTURE & BIOLOGICAL SCIENCES / SOUTH DAKOTA STATE UNIVERSITY / USDA

## Reducing Feedlot Mud Problems

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Wet weather during the past year has created extreme muddy conditions in South Dakota feedlots causing management problems for producers. These conditions have persisted much longer than normal but generally exist every year.

Muddy conditions decrease feed intake, slow average daily gain of cattle, increase problems with footrot, and negatively affect feed efficiency. A feedlot with 4 to 8 inches of mud can decrease feed intake by 8 to 15 percent, slow daily gains by 14 percent, and reduce feed efficiency by 13 percent. Severe conditions, such as belly deep mud, can reduce feed intake up to 30 percent and drop daily gain and reduce feed efficiency by up to 25 percent.

These extreme wet conditions, however, do provide a benchmark to evaluate your present feedlot situation and to identify improvements that should be made. Recommended practices include runoff diversion of surface water, good drainage of the lot, well-designed mounds, and adequate space for the animals.

### Diversion

The first step in reducing mud in feedlots is to prevent outside surface water from entering the lot. Where runoff from higher ground flows across the area, build a diversion terrace to divert the run off water around the lot. If water is coming off building roofs, use gutters to collect the rainfall and divert the water away from the lots. Keep these gutters good repair.

### Drainage

The feedlot surface needs to have adequate drainage. Shape the lot surface to provide the shortest route for runoff water to get to a drainage channel. A definite drain from each pen is desirable and proper grading will prevent ponded water.

A lot that is sloped 2 to 4 percent will provide for good drainage with minimum erosion. If your feedlot surface is relatively flat and has no possibility of unproved drainage, even with additional earth work, you may need to consider a new site or concrete floors.

### Mounds

Mounds can be used to reduce mud problems. Mounds provide a comfortable resting place for cattle and sheep at reasonable cost during long periods of wet weather. During muddy conditions, particularly in the winter, cattle and sheep will lie or stand on mounds that are properly designed. Mounds that are too steep, too narrow, or too small will not be used effectively and in some cases will do more harm than good by blocking drainage. An example of a feedlot mound with given design criteria is illustrated on page 2.

### Space Requirements

Lot space requirements for finishing cattle (800-1200 lb) range from 250-500 square feet per animal. More space is required per animal where lot surface slopes are flatter. A lot with a 2 to 4 percent slope typically requires 300 to 400 square feet of space per finishing head.

Additional information on square footage per head (cattle, dairy, and sheep) and feedlot planning can be obtained through the Midwest Plan Service Housing and equipment and beef production handbooks that are available at your county Extension offices.

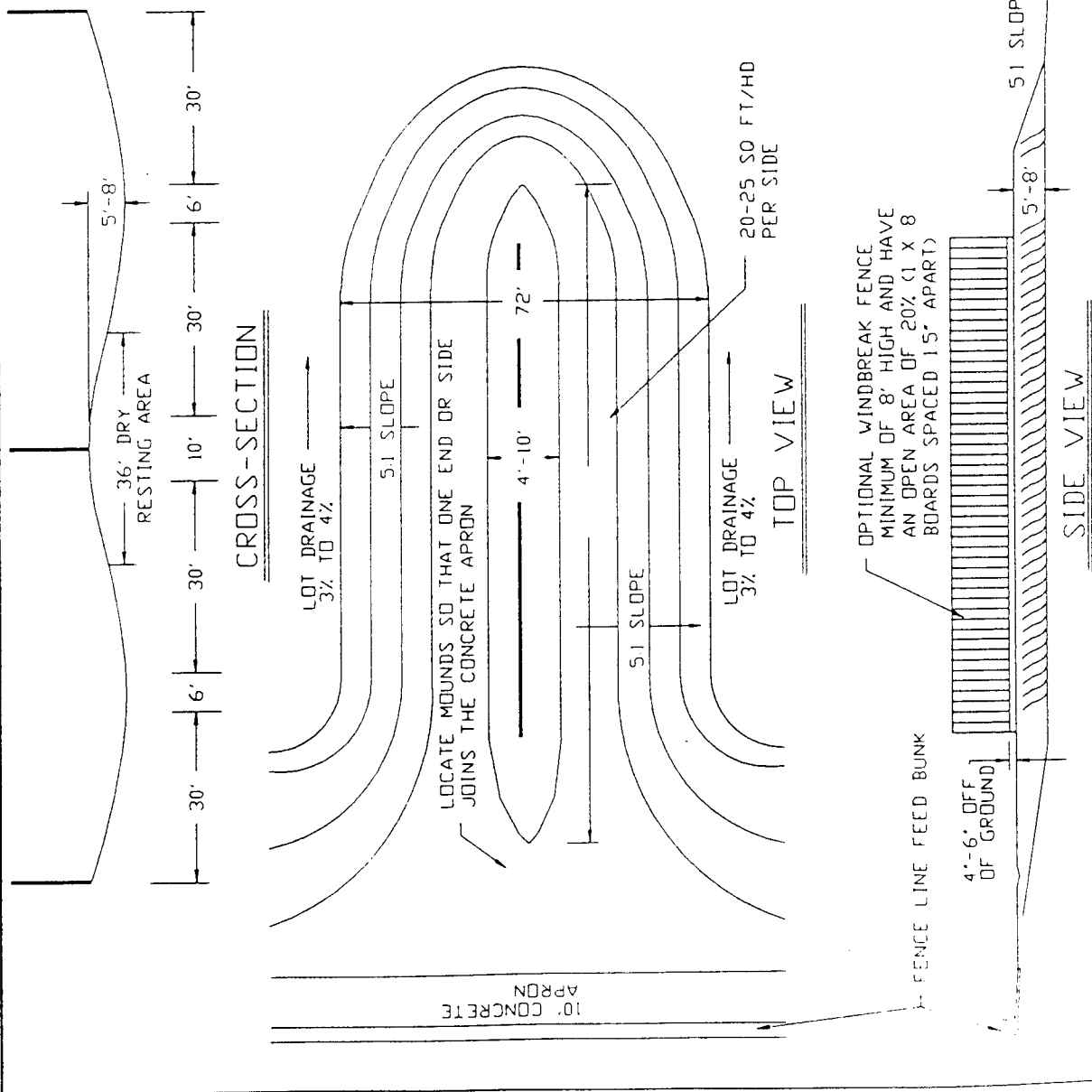
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# Feedlot Mound Design.



**NOTES:**

1. BUILD THE MOUND ROUGHLY PARALLEL TO LOT DRAINAGE.
2. PROVIDE ADEQUATE DRAINAGE AWAY FROM THE MOUND, 3-4% SLOPE.
3. LENGTHWISE ORIENTATION OF THE MOUND SHOULD PROVIDE PROTECTION FROM THE PREVAILING WINDS, IDEALLY NORTHEAST TO SOUTHWEST, SECOND CHOICE IS NORTH TO SOUTH.
4. BUILD THE MOUNDS PRIMARILY OF SOIL, PREFERABLY CLAY. LIMESTONE CAN BE MIXED WITH SOIL TO REDUCE WATER ABSORPTION.
5. PACK THE MATERIAL IN 8" TO 12" LAYERS USING HEAVY EQUIPMENT CROWN THE TOP OF THE MOUND FOR GOOD DRAINAGE.
6. COVERING THE MOUND WITH BEDDING, CORN COBS, AND STRAW MAY TEMPORARILY HELP PROTECT THE MOUND SURFACE AND INSULATE THE ANIMALS BODY, FROM THE FROZEN GROUND, BUT IT ALSO HOLDS MOISTURE. BEDDING IS USUALLY UNNECESSARY AND UNDESTROYABLE. OLD BEDDING SHOULD BE REMOVED IN THE SPRING.