

# The Grazier

## Save Money Feeding Hay

Reader shares money-saving idea

We noticed our cows were wasting too much hay even though we used hay rings. Perhaps you're noticing this same problem with your hay feeding program. We estimated about one-fourth of every bale of hay was being wasted — that's 25 out of 100 bales fed. At \$30 a bale, that's \$750/100 bales.

I designed and had mobile hay racks built in which to place round bales. These racks hold two large 5x6-foot (ft.) bales (see photo below). Because the hay is off the ground, it doesn't become wet and soggy when it rains.

The hay racks have metal pipe skids for moving with a tractor. We move the rack every time before refilling, which spreads out the cow manure to more evenly fertilize the pasture.

These hay racks are designed so any loose hay will fall into the bottom of the rack and very little reaches the ground. The cows will usually eat the hay that falls on the ground because they have not trampled or contaminated it. Therefore, there is very little wasted hay.

The rack is 6 ft. wide and 6 ft. high, including the skids and top pipe. It is 12 ft. long. Sucker rods are placed 5 1/4 inches apart so cows and calves can't get their heads stuck between the rods. Also, the cows can't pull out large amounts of hay to be trampled and wasted.



We remove the binding strings before lowering the bales into the rack. We use a front-end loader with attached hay mover. We insert the spears midway in the bale so when we back the tractor away from the rack, the rack itself will pull the bale into the rack.

Another problem can be eliminated by using two racks, each in a different pasture. By keeping the cows confined to one pasture with one rack at a time, you can load the rack in the vacant pasture without being pestered by the cows. Then, open the gate to rotate the cows to the newly filled rack.

These mobile racks have done more to save hay than even the hay barn we had built, and that translates into saving lots of money. They should last about 30 years if they are stored on blocks so the skids won't rust when not in use.

My husband and I are retired and we very much enjoy our Angus cattle, but saving money is also important to us. Anyone else interested in saving money on their hay dollars can contact us for more information. We don't build or sell the racks.

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## On Solid Footing

*Geotextiles offer a lower-cost alternative to get feeding surfaces out of the mud.*

by **Larry W. Turner**  
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Mud robs beef producers of performance from their herds in winter and spring. To help avoid the problems associated with mud and reduced performance, concrete pads or lower-cost all-weather surfaces can be used wherever animals congregate, such as in feeding areas, animal traffic areas and loafing areas.

Although concrete is probably the most desirable surface for durability and low maintenance, an all-weather surface can be constructed of geotextile fabric, rock and fine surface cover for less than one-third the cost of concrete. Rock over bare soil requires approximately 12 inches (in.) of depth for stability. In contrast, by using geotextile fabrics, rock depth can be cut in half and the rock stays in place, cutting down on repeated maintenance.

There are basically two types of geotextile fabrics — a "geotextile" fabric material and a plastic derivative cross-hatched "snow fence" type grid material. Both are used in the highway industry to support rock bases for roadbeds and to distribute the loads of vehicles. Figure 1 illustrates the recommended construction details for animal-use pads.

The filter fabrics are porous, so water and moisture pass through the material while the rock is held in place. Even with mud and manure buildup on the surface, the animals have a solid footing.

A 4- to 6-in. layer of No. 4 crushed limestone is recommended for the base material (see Figure 1). A 2- to 3-in. cover of sifted lime or dense-grade material (sometimes called "road mix") will allow for easier scraping of the surface and less loss of rock through the box manure spreader. The use of the finer aggregate for surface cover also improves animal comfort/welfare and reduces potential foot injuries compared to crushed rock.

A sand surface was tested, but the sand tended to shift easily and did not provide as firm a footing.

The dense-grade material is generally available from suppliers of highway surface material. It's typically composed of

aggregate no larger than 0.75 in., with mostly finer aggregate and fines. Although some fines are desirable for packing and stability, the lime surface should be sifted so it will not have a large portion of fines.

On-farm trials and a trial installation at the University of Kentucky Animal Research Center have been very successful in illustrating the effectiveness and durability of geotextile and rock pads.

As shown in Table I, the cost of geotextile pads is about \$0.49/square foot (sq. ft.), while concrete costs in the range of \$1.50/sq. ft. Rock over bare soil requires approximately a 12-in. depth for stability. In contrast, by using geotextile fabrics, rock depth can be cut in half and the rock stays in place, cutting down on the repeated maintenance usually required for rock pads.

**Table 1: Costs of a geotextile-based rock pad**

	\$/sq. ft.
Geotextile filter fabric	0.10
Rock base (No. 4 crushed limestone)	0.18
Fine cover material	0.09
<b>Total materials</b>	<b>0.37</b>
Labor/grading work	0.12
<b>Total cost</b>	<b>\$0.49</b>

Feeding pads next to a bunk should be 10- to 12-ft.-wide as a minimum, depending upon the size of animals. Pads should be sloped 3/4 to 1-in./ft. away from the feed bunk.

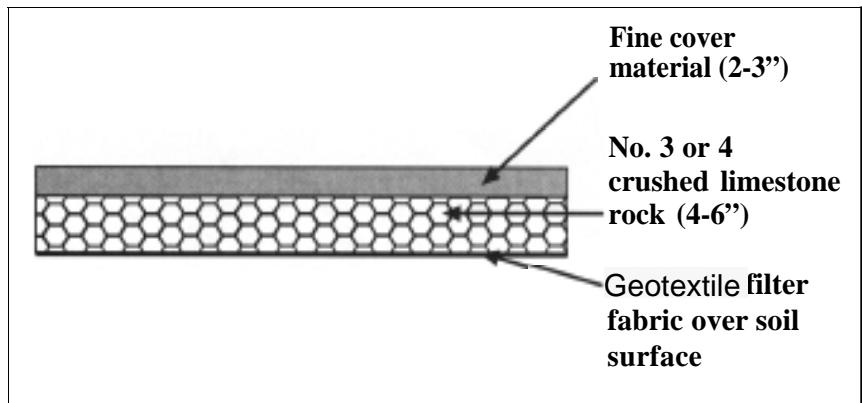
The bunk and pad should be located in a generally well-drained area that offers good drainage away from the site, as well as an area where excess manure buildup can be stored if the pad is not scraped daily.

For traffic surfaces, widths should be 8- to 12-ft. Traffic lanes should be slightly crowned in the center of the traffic lane.

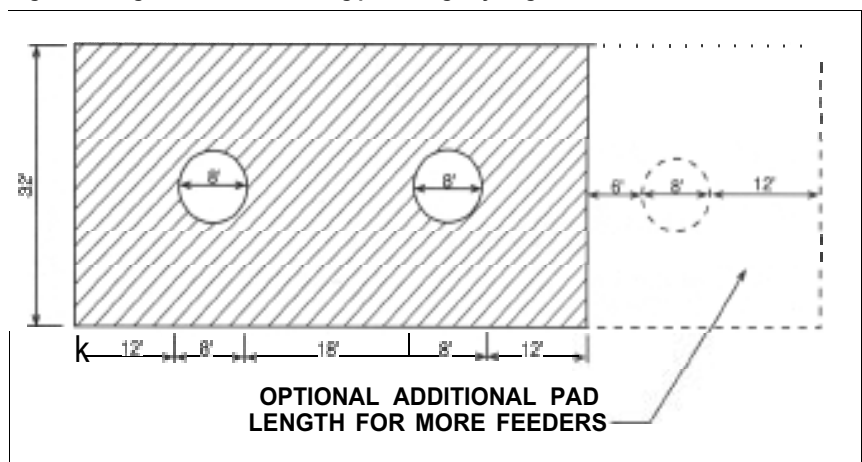
Figures 2 and 3 present typical layouts for cattle feeding pads using geotextiles. These installations will improve animal performance, while reducing erosion and runoff from feeding sites.

For more information, contact Larry Turner at (606) 257-3000, ext. 109 or E-mail: lturner@bae.uky.edu. You can also find information and a supplier listing for geotextiles at the website <http://bluto.bae.uky.edu/~lturner/extpubs.htm>

**Figure 1: Construction details for animal-use pads**



**Figure 2: Large round bales feeding pad using hay rings**



**Figure 3: Geotextile pad for feeding with portable trough, both sides feeding**

