K-STATE Research and Extension

Non-Confined Beef Cattle Feeding Sites

Non-confined (NC) feeding sites are used by beef cattle producers to reduce stress on cattle and allow utilization of grass, crop residue, or cover crops. The number of cattle at a feeding site is based on the carrying capacity of the pasture or planted crop. Cattle can remain on NC pastures until they reach market weight.

Design Considerations

- NC feed bunks should have a 100-foot grass buffer between the denudated area around the bunks and any drainage channel (ditches, waterways, terraces, etc.).
- Permanent feedlot fencing should not be located around the feeding sites and water troughs when developing NC feeding sites.
- To meet environmental conditions of NC feeding sites, the quality and quantity of grass and/or crops must be maintained.
- Manure should be removed frequently from the denudated area around the bunks and applied to cropland at agronomic crop utilization rates.
- Consider visibility and traffic safety when locating an NC feeding site. Travelers on the public road may consider an NC feeding area to be a confined feedlot due to the lack of grass near the feed bunks.

Runoff Control

Selection of pasture size, stocking rates, feed bunk placement, grass buffer areas, and proximity to streams and waterways are environmental concerns that must be considered when establishing NC feeding sites. NC feeding sites use grassland or crop stubble as the primary environmental control (**Table 1**). Adequate grass areas must be available to filter and allow infiltration of runoff from the feeding site. The feed bunk area should be constructed to allow efficient manure collection and removal. Manure should be applied to crop fields at an appropriate agronomic rate. Rainfall, soils, and topography of the pasture area also must be considered when planning NC facilities.

Pasture Management

Adequate grass for the cattle stocking density is maintained by delivering supplemental feed to bunks in NC pastures. Producers may deliver 75 — 100% of the cattle's nutritional requirements through supplemental feed, allowing stocking densities of 1 to 2 head/acre. Cattle stocking density is a function of the feed value of grazing the crops and/or grass and

Table 1. Comparison of pasture and crop stubble/cover crop NC feeding areas.

	Pasture	Crop Stubble/Cover Crops
Annual Usage	9 to 12 months (depending on grass and stocking density)	Crop Stubble — 3 to 5 months between fall harvest and spring planting Cover Crops — 2 to 4 months between fall harvest and spring planting
Feed Bunk Location	Top of ridge or fence line	Fence line or in field
Feed Bunk Utilization	Cattle feed along one or both sides of the feed bunk	Cattle feed along one or both sides of the feed bunk
Water Source	Pipeline, pond, or stream	Pipeline, pond, stream, or hauled to a water trough
Stocking Density	1 to 2 head per acre depending on grass availability	2 to 4 head per acre
Environmental Concerns	Maintaining grass density, Trailing and erosions, Direct access to bodies of water, Damage to riparian areas	Damage to riparian areas if stream is source of water Uniform grazing and waste distribution
Environmental Benefits	Nutrient cycling and organic matter accumulation	Nutrient cycling and organic matter accumulation

supplemental feed delivered to the NC feeding site. Pasture should be allowed to regrow at least four weeks during the prime growing season. Tall fescue will tolerate greater traffic and abuse than most grasses. Other species, including native grasses, will require a lower stocking rate; the regrow period may be increased to 12 weeks.

Cattle will return to the bunks two or more times during the day, which will result in lower grass density near the bunks. Increased pasture regrow time and/or reduced stocking rates are necessary when the bare space between the bunks and a reasonable stand of grass is greater than 100 feet. Other bare areas may appear around individual trees, posts, or equipment.

Feed Bunks and Placement

Permanent bunks in pastures should be located strategically on ridges to eliminate extraneous drainage onto the site and provide maximum opportunity for runoff infiltration. Manure nutrients will accumulate near the bunk area. Careful site selection is necessary to ensure that runoff is directed away from road ditches and other water flows to avoid contamination of creeks, streams, or other waterways.

Fenceline vs. Pasture Bunks

Locate fenceline bunks where there is maximum grass or crop stubble to provide adequate buffer for infiltration of manure nutrients (**Figure 1**). Manure nutrients should not drain into a road ditch or stream without adequate buffer (**Figure 2**). Do not locate a permanent feed bunk in low-lying riparian areas or near draws or ponds. North-south bunk orientation along an open ridge is preferred to allow the sun to dry areas on both sides of the bunks. Most often, cattle will access both sides of the bunks at pasture feeding sites, so bunk space should allow all cattle to feed at the bunk at the same time. Typically, bunk space is about 16 to 24 inches per head.

Permanent feed bunk pads in pastures should be at least 26 feet wide (**Figure 3**). The pads allow 14 feet along one side for feed delivery equipment, 3 feet

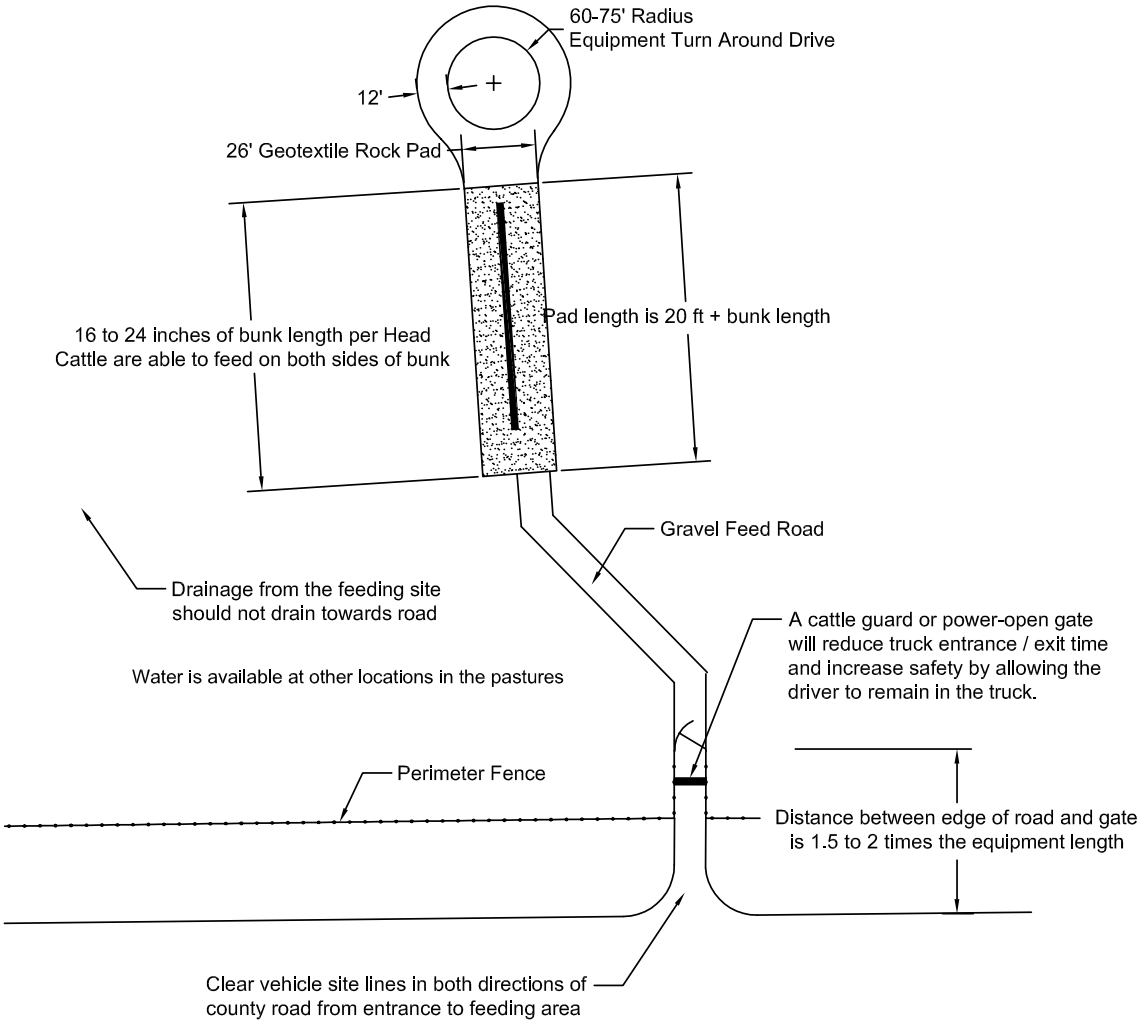

Figure 1. Example of a pasture feeding site that is moved away from access road along a ridge to maximize infiltration between the feeding site and road drainage channels.

for the feed bunk, and 9 feet on the opposite side for cattle access to the bunk. The feed delivery side should be wide enough for the driver to keep all vehicle tires on the permanent base. Tires rolling off the pad will form a trench during wet weather, allowing runoff to accumulate and cause maintenance problems. Ideally, a gate accessing the permanent bunks should be near the ridge of the road so no culverts are necessary. Feed equipment will be entering and exiting the pasture daily so the operator should have a clear line of sight along the entire road.

Additional Site Considerations

Feeding equipment requires 100 to 150 feet of additional space to turn around at the end of a bunk (**Figure 4**). If pens to collect cattle for transport or

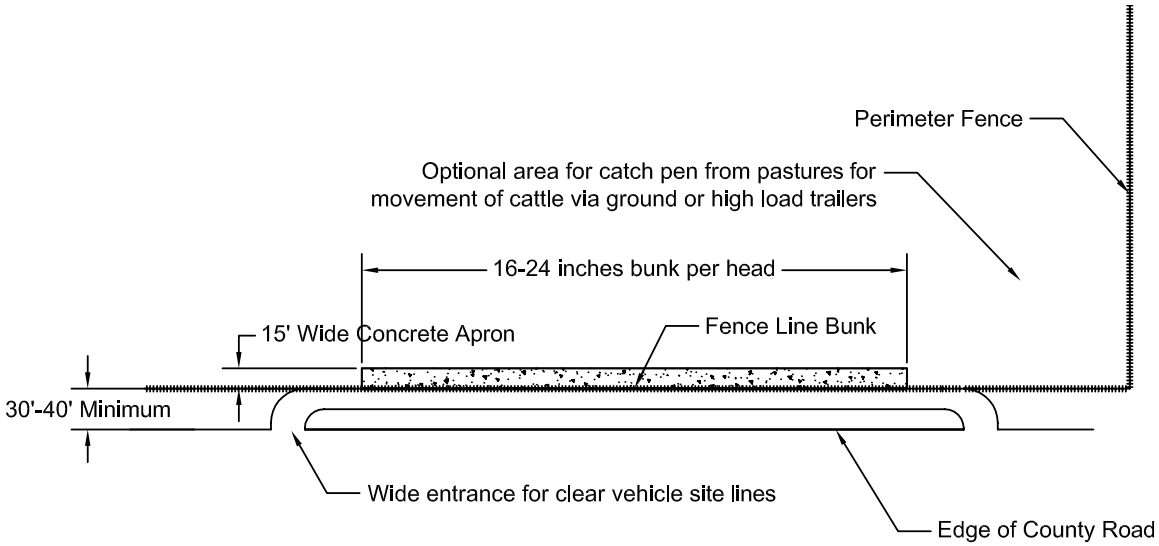

Figure 2. Example of a fenceline feed bunk located along the edge of a pasture or cropping field.

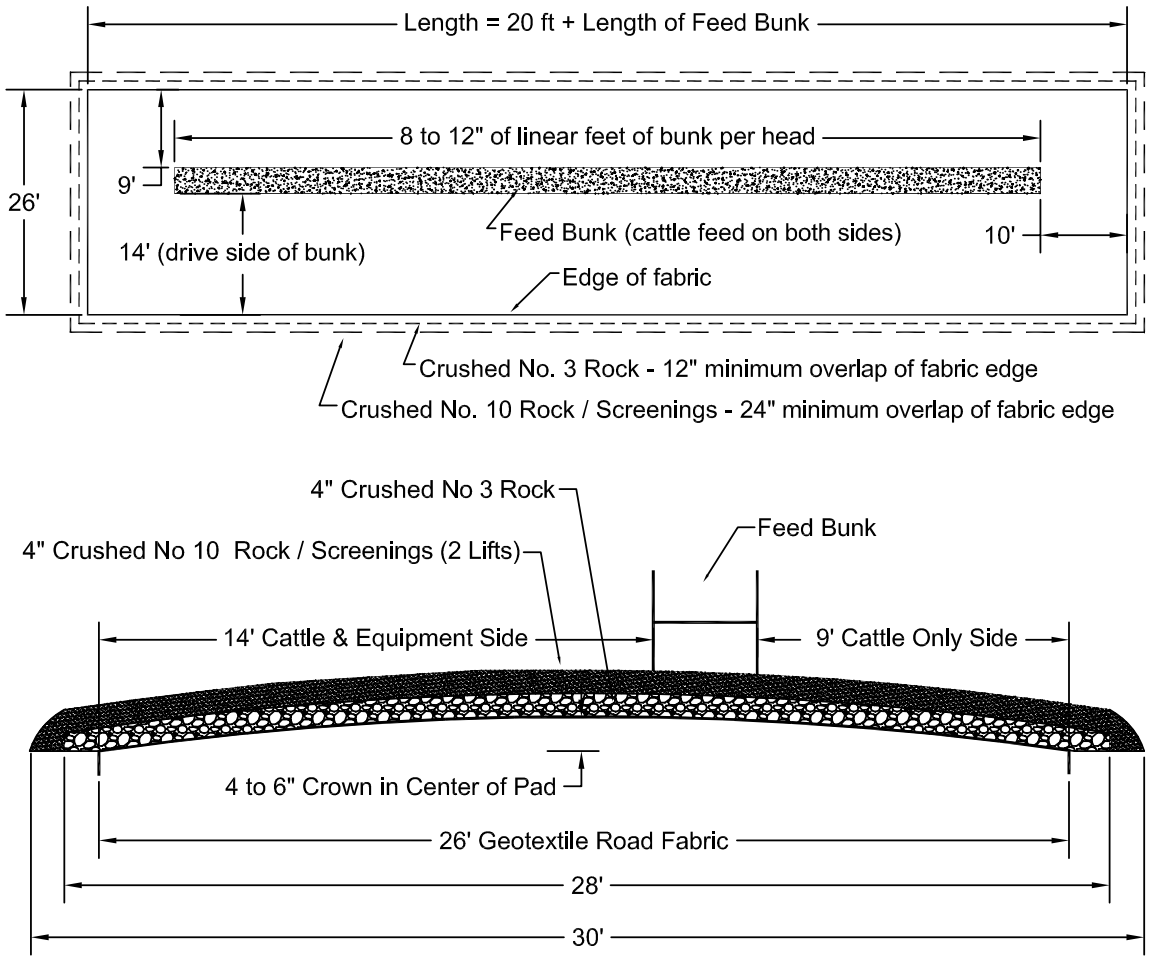

Figure 3. Diagram, including example measurements, of permanent feed bunk pads.

treatment are located near the feeding site, the pens should not be used for long-term confinement. The catchment area should be sized at 100 to 150 square feet per head.

Supplemental feed

Feed for cattle is typically high in fiber to maintain desirable rumen microbes. Wet distiller grains and wet gluten products are good choices to supplement grazing because they provide most of the protein and enable cattle to digest lower quality forages.

Fence line feed bunks can be located within or along the edge of crop fields. After the crop is harvested, livestock can be used to glean the fields. Feeding while grazing crop residue extends the gleaning period and returns manure directly to the field for use by the next crop.

NC feeding sites can be modified to fit the needs of producers who use cover crops with soil health as their priority. Cover crop fields near the main NC feeding pasture can be grazed, allowing a rest period for grass in the primary feeding pasture. Temporary bunks also can be used in the cover crop fields if adequate water is available.

Water

The water source should reliably supply 15 gallons of water per 1,000 pounds of live weight per day during a 30- to 60-minute period following feeding. The high water demand after feeding may require larger tanks or waterers with access for more cattle. At a minimum, 10 to 15% of the cattle should be able to drink simultaneously. If cattle will be confined in a catchment area for longer than six hours, water must be provided.

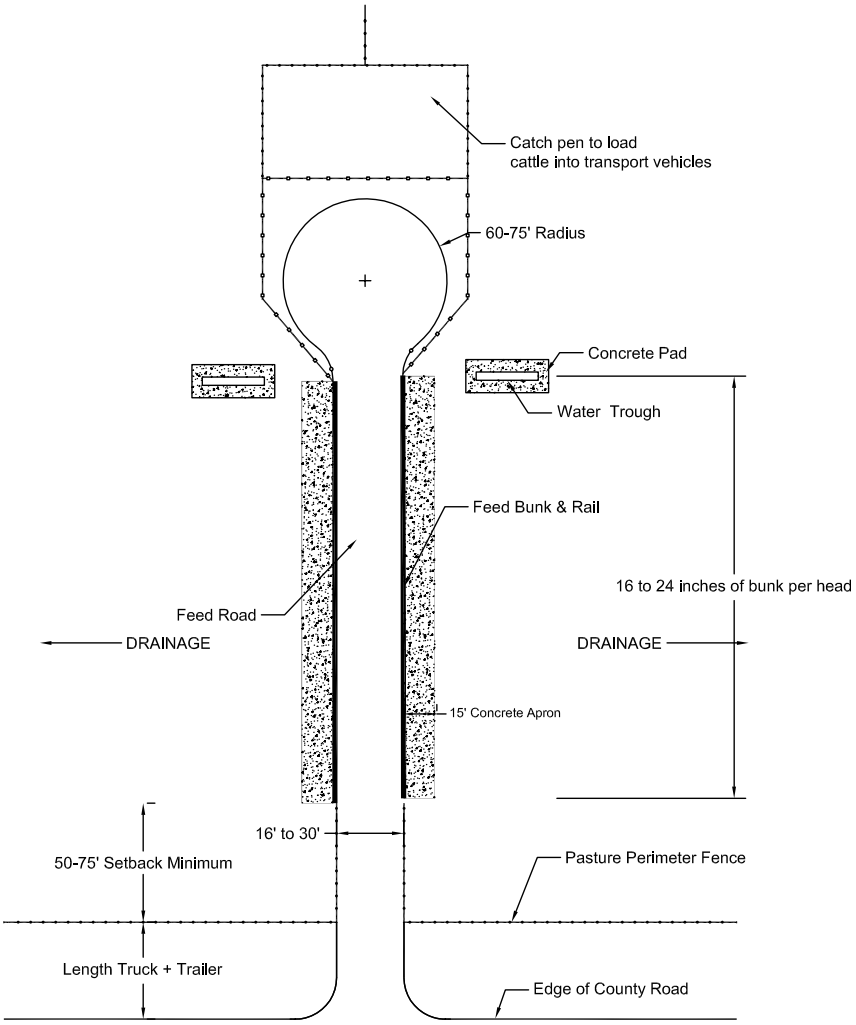

Figure 4. Design showing bunks on both sides of a road to feed either one or two pastures.

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