

GENERAL GUIDELINES FOR UNPAVED BEEF FEEDLOTS

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These Guidelines apply to operations where runoff to surface waters flows from an area (feedlot) intended for the confined feeding, breeding, raising, or holding of beef cattle for at least 45 days out of a 12 month period and specifically designed as a confinement area in which animal waste may accumulate or where the concentration of animals is such that an established vegetative cover cannot be maintained.

- I. Beef feedlots should be located as far as practical from down slope drainage ways, perennial streams or ponds. No direct discharge as a result of a rainfall less severe than the 25-year, 24-hour storm event is permitted from these confined or concentrated cattle feedlots.
- II. Measures to manage beef feedlot runoff may include:
 - A. Diversion terraces immediately upslope of the feedlot to prevent surface water from entering the feedlot.
 - B. Decrease the feedlot area exposed to elements:
 1. Roof and gutter the feedlot surface area.
 2. Decrease the feedlot surface area.
 - C. Decrease the flow of runoff from feedlot area to surface waters:
 1. Grade feedlot surface to modify direction of flow away from feed bunks, waterers, and fence lines, and to promote sheet flow.
 2. Concentrated areas around feed bunks and waterers should have hard-surfaced aprons of pavement or filter cloth and gravel from which manure can be scraped and removed weekly.
 3. Scrape and remove manure accumulation from unpaved feedlot surface after each cattle group and land apply according to waste utilization plan.
 4. Consider use of level-spreader terraces on feedlot slopes of 4-8% to reduce flow concentration.
 5. Consider use of mounds on feedlot slopes of less than 4% to facilitate drainage and promote surface drying.
- III. Measures that can be used to collect and treat cattle feedlot runoff:
 - A. Collect liquids in a waste storage pond designed according to NRCS Standards and land apply according to waste utilization plan. Settling basins may be used in conjunction with storage structures or lagoons.

APPENDIX 5.1B

- B. Filter strips or vegetative filters should be used only to complement a site-specific group of BMPs that reduce flow and the sediment and nutrient load delivered from the feedlot to the filter.
1. A solids settling basin is essential. Use settling basins (Refs: 1) Livestock Waste Facilities Handbook, Midwest Plan Service; 2) Management of Dairy Wastewater, NCSU, BAE Dept.; 3) Manure Solids Concrete Settling Basin Design, NCSU, BAE Dept) as a pretreatment to separate solids from feedlot runoff at ponds of concentrated flow. Remove settled solids after each rain resulting in visible accumulations of solids in the basin and land apply according to waste utilization plan.
 2. The filter strip between the feedlot and surface waters must be at least 100 feet wide. Where a 100-foot filter strip cannot be installed, the use of a diversion or other means is required to gain at least the effective filter area as would exist if the 100-foot filter were in place.
 3. Filter strips are not an acceptable alternative to manage feedlot runoff on slopes greater than 15%. Implement more effective BMPs with consideration to the use of native trees and vegetation for slope stabilization.
 4. Use a spreader diversion between the feedlot and the upper edge of the filter strip to promote sheet flow.
 5. Fence the filter strip such that cattle only have access to graze on a controlled basis. Vegetative stand integrity shall be maintained on the filter strip. Erosion preventative measures shall be practiced. Cattle will not be allowed access to surface waters within the filter strip.
- IV. In some cases, relocation of the feedlot may be the only feasible or affordable alternative.
- V. A waste utilization plan must be properly prepared and implemented.

Due to the site-specific nature of beef feedlots, it is not possible to write guidelines to provide specific guidance for every situation encountered nor can plans be developed for most feedlots using one BMP alone. From the options listed above, a practical group of BMPs appropriate for the site should be selected which would provide the most water quality protection.