

Managing Beef Winter Feeding Sites to Protect the Environment and Save Fertilizer Dollars

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As beef cow producers bring their herds in from summer pastures to smaller lots for the winter, they should consider two potential situations that they are creating. The first is an opportunity to gather a winter's worth of manure in a small location, value this fertilizer and then utilize it in the spring. The second is the need to accomplish the first before snow melt and spring rains wash the nutrients away.

Cows utilize entire pastures during the growing season, but in winter, it's common practice to congregate them on smaller lots and provide them with feed, water and wind protection. These areas are likely to become void of vegetation, the soil will become compacted, and manure nutrients will accumulate. This can set the stage for runoff of soil nutrients to surface waters when the spring thaw and rains arrive. With this runoff go valuable plant nutrients that could be better utilized for crop production.

Value of manure nutrients

The economic value of those lost nutrients from a winter's worth of deposited manure can be staggering at today's fertilizer prices. The cost of fertilizer nutrients has increased three to four times over the past two years, and so has the value of the nutrients in manure. In one day, the average 1,250-pound beef cow produces 75 pounds of manure and urine. This manure has approximately 0.31 pound of nitrogen (not all of this is retained), 0.19 pound of phosphate and 0.26 pound of potassium. Multiply this by the current price of fertilizer nutrients, then by the number of head in the pasture, then by 180 days of winter time and find that manure has become a valuable resource!

Depositing manure in the same lot year after year and not collecting and spreading it in the spring is a missed opportunity. With potash and urea each approaching \$1,000 per ton, fewer cow/calf operators can afford to purchase these fertilizers for hay and pasture. Reallocating the manure nutrients from the winter lot to the surrounding pastures and hayfields will benefit the crops, help your pocketbook and protect the environment. Soil testing both the wintering area and the surrounding fields will indicate where manure nutrients can best be utilized.

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Site selection

Generally, cow herd wintering sites are selected because of their location. Important considerations are ease of providing feed and fresh water, availability of wind shelter, water drainage and ease of manager inspection. The most important site consideration from an environmental standpoint is distance from surface water. One way to keep the livestock as far away as possible from surface water is locating the feed as far away as possible. These wintering sites, no matter how flat the slope, will experience some spring runoff. Sometimes this occurs while the soil is still frozen, which increases the distance the nutrients will move. The greater the distance this runoff moves over adjoining pastureland or crop fields before it reaches surface water, the greater the chance for the nutrients to settle in the farmland and benefit crops rather than reach surface waters and contribute to aquatic weed growth. Maintenance of natural grass and wooded riparian areas is also important to water protection.

Reseeding winter areas

If the sod is destroyed in the winter area, consider reseeding it in the spring. Sorghum/ Sudangrass, millets, corn or pasture grasses can all be planted on these sites. It is best to plant harvestable crops on these sites and feed them somewhere else. If the cattle graze the crop, many of the nutrients in the crop are just recycled back in the cattle manure. Soil testing the site will show the value of the existing nutrients, and no additional fertilizer may be needed. A soil nitrate test will also be valuable for determining if there is sufficient nitrogen available and may also indicate if excessive levels could lead to accumulation in the feed crop, leading to toxicity or reproductive issues for the cows. Depending on the amount and concentration of the manure, it may be best to scrape and haul the top layer away or redistribute it in the pastures or crop fields before planting.

Feed and livestock management

Simply reducing the number of days that the cows are in the winter feeding sites can help balance and utilize the manure. Cows do not necessarily need to go to the winter lot until winter truly begins and can possibly leave before spring calving. Cows can walk a quarter of a mile or more for water, so even hayfields or crop stubble fields that have limited access to water can have temporary fencing

installed so cattle can be fed round bales for one or more of these months. Many years, these fields will firm up in early winter so that little hoof damage is done to hayfield sods or minimal soil compaction is done to grain fields. The key is to monitor the fields, rotate feeding sites and pull the cows when vegetation damage begins.

When using round bale feeders, move the feeder ring after each bale is fed. Leaving round bale feeders in the same location all winter will destroy the surrounding sod, compact the soil and concentrate nutrients in that location. Systematic linear movement of round bale feeders across a field, commonly called “bale grazing,” will go a long way to provide uniform manure distribution. Starting this feeding line at the opposite end of the field from where the water and the mineral source are located is one way to get the cows to spread the manure across the field.

The greatest challenge in letting the cow herd spread the manure rather than using a manure spreader is achieving uniform distribution and utilization. Using feed, minerals, water, shade and temporary fencing to control the cow’s summer and winter movement and congregation not only will achieve more uniform distribution but will minimize damage to the sod.

Despite the current market trends, there are opportunities for cow/calf producers to lower costs of production and realize a profit. Better management of manure nutrients at winter feeding sites is one of those ways!

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