Ridin' Herd

by **RICK RASBY,** *beef specialist, University of Nebraska*

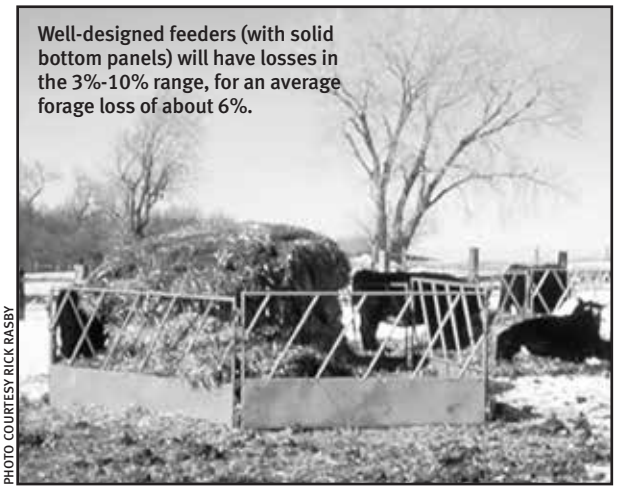
Contain forage feeding losses

In drought years, forages are expensive. It is less expensive to have cows graze to meet their nutrient needs compared to hauling harvested forages to them. Not all production systems are designed so that the cow grazes year-round with minimal supplementation. It was a challenge to secure forages this summer for the winter feeding program.

Financial commitment

In some hay-feeding systems there can easily be losses of up to one-third of the forages that were intended to be fed to the cow herd. A good example of this is when cows are allowed unlimited access to hay in a feeding situation. Livestock trample, overconsume, foul on, and use for bedding 25%-45% of the hay when it is fed with no restrictions or is not processed.

As forage-feeding systems are incorporated to reduce feeding losses to the lowest possible, the financial commitment, especially for equipment, will increase. The key is to balance the financial outlay to implement a feeding system to reduce forage losses with the dollars saved in reducing the amount of forage needed. Many times this is dependent on the cost of the forage. As the cost of the harvested forage increases, it is easier to justify the cost of machinery and feeding devices.



Well-designed feeders (with solid bottom panels) will have losses in the 3%-10% range, for an average forage loss of about 6%.

PHOTO COURTESY RICK RASBY

Feeding frequency and amount

Hay loss and waste can be reduced by feeding hay daily according to diet needs, compared to feeding a several-day supply of feed each time hay is provided. Daily feeding will force livestock to eat hay they might otherwise refuse, overconsume, trample and waste. Cattle will waste less hay when the amount fed is limited to what is needed in a single day. One-fourth more hay is needed when a four-day supply of hay is fed with free-choice access than when a one-day supply of forage is fed.

Excessive hay consumption can be a major problem for forage losses when large hay packages, like big round bales, are fed without restriction. A dry, pregnant cow can eat up to 15%-20% more hay than what she needs when allowed free access to good-quality hay. A cow that is 1,200 lb., needing to consume 27 lb. of hay daily "as is" to meet her nutrient needs, with free access to good-quality forage could consume 31 lb. daily. This can amount to almost 500 lb. per cow over a four-month feeding period for spring-calving cows. A 100-cow herd may overconsume 24 tons of hay if the cows have free access to hay when it is fed.

This is in addition to the extra needed to replace wasted hay when fed free access. Feeding the "right" amount daily, especially when fed without bale feeders, seems to be the easiest means to reduce forage feeding losses.

Ideas to reduce forage losses

Feeding losses when hay is fed daily in bunks can be kept in the 3%-14% range. Well-designed feeders (with solid bottom panels) will have losses in the 3%-10% range, for an average forage loss of about 6%. Large bales fed

free-choice without a rack or feeder in muddy conditions can result in forage feeding losses exceeding 45%. Feedbunks are excellent for feeding small square bales. Round bales can be fed in specially designed racks. Loose or compressed haystacks can have collapsible racks or electric wire around them to reduce trampling the hay around the edges.

No matter how hay is fed, efforts that limit the amount of hay accessible to trampling will save feed.

Feed hay at a well-drained site and on firm ground when possible. Hay racks or bale feeders with solid barriers at the bottom prevent livestock from pulling hay out to be stepped on. Some producers have fed forages on an up-slope with the hay next to an electric fence. Their observation is that, when the hay is spread in a long line so that all cows have access next to the electric fence, forage losses due to trampling are minimal.

The type of forage presented to the cattle can impact the amount lost during the feeding process. Allowing cattle free access to forages that have a thicker stalk or stem results in greater forage losses during feeding compared to thin-stemmed forages like hays. When cattle are fed forages like sorghum-Sudan hay and the feeding method and access are not controlled, they tend to select the leaves and upper parts of the stalk and not the lower part of the stalk, resulting in greater feeding losses. When feeding method and amount to which cows have access are controlled, feeding losses are not much different among forage types.

Even if big-round-bale feeders are used to reduce forage feeding losses, there still can be substantial losses. There is not a lot of data on bale packaging quality on feeding losses. It appears loosely packaged bales fed in a bale feeder can result in high feeding losses. Cows pull the loose hay through the feeder, and forage is deposited on the ground around the feeder.

Dry-matter losses occur when handling hay from field to feeding. By the time the hay is fed, losses can be substantial and can essentially increase the amount of production needed or purchased by 35%.

Grinding or processing

There are some misconceptions that grinding forages will increase forage quality. This is not true. In some grinding situations, quality may decrease, especially if the hay is ground on a windy day.

Grinding decreases particle size, and when particle size is decreased, the amount of time that the ground forage needs to stay in the rumen to be digested decreases. A decrease in rumen retention time means that forage intake will increase. This means that a cow can consume more of the forage. This concept becomes important when feeding cows a low-quality forage and intake is restricted because it will not pass through the rumen at a very rapid rate because it takes so long to digest. Grinding or processing hay in a bale processor is a method to increase consumption of low- to medium-quality forages.

Grinding different forages together will allow producers to combine forages of differing quality for best use in a cow feeding diet. It also allows a way to manage problem forages such as those forages that contain nitrate levels that are at the potentially toxic level.

Final thoughts

Controlling forage feeding losses is important. It must also be recognized that as forage feeding losses move closer to zero, money will be invested on extra equipment or material such as bunks, feeding racks, inverted tires, etc. If the forage is ground, a feed wagon and/or loader on the tractor is needed. Costs need to be balanced with savings.

Editor's Note: *"Ridin' Herd" is a monthly column written by Rick Rasby, professor of animal science at the University of Nebraska. The column focuses on beef nutrition and its effects on performance and profitability.*