

Ross Mosteller
District Extension Agent, Livestock & Natural Resources

Buy or Sell Corn Stalk Bales???

About a month ago I spent some time working through the economics of determining rental rates for grazing corn stover in a column. If you've followed my writing or spoken with me at all, you know I prefer to let the grazing animal harvest, process and redistribute nutrients from forages, versus expensive equipment doing the same. However, there are times and places where baled forages come into play. A recent conversation on this topic makes me think this will be a good one to discuss today.

Grazing and baling corn stalks is a typical practice for many producers on both the crop and livestock side of the operation. The most nutritional value comes from the fallen grain, husk and leaves. Grazing animals return manure (nutrients) and organic matter to the field, but cornstalk bales can be used as part of winter feed rations. Approximately 1 ton of stover is produced per 40 bushels of dry corn. Removal of crop residues (stover) can reach 50 to 80%, with raking and baling removing more than the recycling effect of grazing.

The questions to utilize crop residues can include nutrient removal, soil compaction, extension of the grazing season, incorporation of lower cost forages into rations, or economics, to name a few. For the livestock producer decisions are based upon the nutritional value unit cost, as well as supply and demand. Currently, the national supply of higher quality hay is in better condition than some recent years, so the desire to purchase lower quality forage sources like corn stover is likely less this year.

Crop producers may also consider stover removal from the field to warm the soil sooner in the spring. If the corn crop averaged 180 bushels per-acre, there are 4.5 tons of stover laying on the soil. The stover can be a blanket, keeping the spring sun from warming the soil and delaying planting. Removing some of the stover may also make planting more manageable in the spring due to a reduction of residue on the ground. Lower grain prices may encourage the thought of additional revenue from baling and selling corn stalk bales as well.

The flip side of stover removal is erosion potential and nutrient removal. Careful consideration to baling corn stalks should be considered in highly erodible fields, particularly those with low soil organic matter content. Work at the University of Nebraska shows the typical nutrient content in one ton of stover is roughly 17 pounds of Nitrogen, 4 pounds Phosphorus, 34 pounds Potassium and 3 pounds Sulfur. Depending on the price of these nutrient input prices, this could equate to \$25-30 per ton. Forage harvesting cost can run in the \$15-25 per ton, if raking, baling and hauling are considered.

Corn stover is low in nutritive value to livestock. It roughly contains about 5% crude protein, 70% NDF concentration, and 50% dry matter digestibility. It can be used in maintenance rations of non-lactating beef cows. Supplementation with energy and protein are required if corn stover is the primary ingredient in rations for growing and lactating animals. Sorting can be a problem if fed without further processing, like grinding, which adds additional equipment and cost. A recent Kansas Hay Market report showed a wide range of market value in corn stalk bales from \$60-130 per ton delivered.

At the end of the day, it often comes down to economics. Can a livestock producer purchase corn stalk bales and supplements for less money than using other higher quality available forage/feed sources? The farmer must compare the cost of nutrients removed from the field and harvest costs versus the income potential from selling the stalks. Pushing a pencil to see what makes sense for your operation is always an exercise worth doing. Iowa State University has a good resource titled [Estimating a Value for Corn Stover](#) to help. The decision-making tool called "Corn Stover Pricer" quickly helps work through the math.