

Placing a Value on Corn Stover

Many farmers are asking about the value of corn stalks in response to both the shortage of forage and bedding supplies this year. In most years farmers were mainly concerned with the value of Phosphorous and Potassium that would be lost from their field if the stover was removed. However, this year corn stalks are being used as a forage to replace high priced hay in both dairy heifer and dry cow rations. With the combination of high priced feeds and a lower supply of corn stalks available this year, corn stalks are currently selling for more than double the prices paid in most years.

When corn stalks are removed in the fall there are several factors that are impacted in the field. One is that there will be less ground cover that could lead to more soil erosion and you need to make sure you leave adequate residue cover to meet the requirements in your conservation plan. The erosion factor is difficult to put a dollar value on because the amount of erosion is determined by many factors such as how much residue is removed, the soil type, and the slope. However, if you fail to maintain the required residue cover that is specified in your conservation plan by removing too many stalks you could risk losing top soil which would negate any profits gained from selling or pasturing the stalks.

The largest monetary factor that a farmer needs to recover from selling and removing stalks from a field is the loss of potassium and phosphorous fertilizer in the stover. When stalks are chopped, raked and baled you can remove up to approximately 80% of the total corn stover in the field. However, if the field is pastured the cattle will probably only remove about 25-30% of the total stover, while just baling behind a combine without chopping or raking will remove about 50%. To get a rough estimate of the amount of stover yield in the field you can multiply the corn yield in bushels by 56 to get an estimate for the number of pounds of stover per acre in that field. For example, if your field yielded 80 bushel/acre you would have approximately 4,480 pounds, or 2.24 tons of stover per acre ($56 \times 80 \text{ bu.} = 4,480 \text{ lbs. of stover/acre}$). Remember that even with the best harvest methods you will only actually be able to harvest 50-80% of this total amount.

Each ton of corn stalks removed has a fertilizer value of approximately 5 pounds of P205 and 25 pounds of K20. These numbers will vary but are a good base to use in calculating fertilizer values for corn stalks. This means that with fertilizer prices of \$.50/pound for P205 and \$.55/pound for K20 each ton would be worth at least \$16.25 ($(5 \text{ lbs. P} \times \$0.50) + (25 \text{ lbs. K} \times \$0.55) = \$16.25$)). This is the minimum that a farmer should get back to recoup his P and K fertilizer losses. Many also want something for the removal of organic matter and nitrogen, although the nitrogen cannot be credited towards the following crop. A spread sheet is available on my UW-Extension Agriculture web page at: <http://green.uwex.edu/agriculture/> that allows you to do your own calculations in determining the fertilizer values of corn stalks, wheat straw and soybean straw if you are selling them out of the field.

So why are corn stalks currently selling for approximately \$70-80 per ton if the fertilizer value is only around \$18-20 per ton? The answer is because corn stalks are worth much more than just the fertilizer value when used as a forage replacement in beef and dairy cattle rations. Supply and demand almost always sets a price and with stalk only yielding about half of their normal yield and being used for both bedding and a forage the demand far exceeds the supply of stalks this year. Corn stover will test around 6% Crude Protein, 52% TDN, with an NDF of 65% and many producers are using chopped corn stalks in their rations to help stretch their limited forage supplies and to avoid having to purchase additional forage at high prices.

Feedval is a spreadsheet developed by UW-Extension to help dairy producers determine which feeds are a good buy based on current commodity prices. When corn stover is entered into Feedval and compared to purchasing high quality hay at \$275/ton, poor quality hay at \$150 /ton, and corn at \$7.75/bushel the program places a value of over \$100/ton on corn stalks on as fed basis. This means that if you can buy stalks for less than that amount they are a good buy as compared to those other feed prices. The Feedval spreadsheet to compare feed costs is available at the UW Dairy Science website at <http://www.uwex.edu/ces/dairynutrition/>