

Value of Corn Stover

A common question each fall that comes up is trying to place a value on corn stover left in the field after grain harvest. Will the lost fertility from removing and selling the stalks cost me more to replace than what I will receive from selling the stalks for bedding? The following information can be used for determining corn stover value based on the fertilizer value of the stalks. When the 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. If you fail to maintain the required residue cover that is specified in your conservation plan by removing too many stalks you could increase soil loss and jeopardize government payments which would negate any profits gained from selling or pasturing the stalks.

The largest monetary factor to consider when removing stalks from a corn field is the loss of potassium and phosphorous fertilizer that leaves with the stover. Yields of corn stover will vary depending on grain yield. Corn yielding 150 bu/acre will produce a total of approximately 3.5 dry matter tons of stover, while a field yielding 170 Bu/acre would produce a total of approximately 4 tons D.M. of corn stover per acre. When stalks are chopped and baled you usually will remove anywhere from 50-80% of the total corn fodder in the field. Each ton of corn stalks removed has a fertilizer value of approximately 4.6 pounds of P2O5 and 32 pounds of K2O pounds.

Assuming a stover yield of 4 tons/acre and a removal rate of the stover at 65% you would remove 5,200 pounds of corn stalks per acre or 2.6 tons. This means that you would remove 11.96 pounds of P2O5 (2.6 x 4.6) and 83.20 pounds of K2O (2.6 x 32) per acre. Using current fertilizer prices of \$.30/lb. for P2O5, and \$.27 /lb. for K2O, the fertilizer value of the stalks removed per acre would be \$3.59 for P2O5 and \$22.46 per acre for K, resulting in a total fertilizer value of \$26.05/acre for removing 65% of the corn stalks.

The previous figures assume that the stalks are harvested in the fall. If they were harvested in the spring the amount of potassium removed would be reduced by approximately 50% due to the nutrients that would leach out of the stalks over winter. The amount of phosphorus would not be reduced because it is part of the cell wall structure and would not be broken down over winter.

Losses of organic matter from stalk removal are estimated at around 30 cents per ton of stalks removed. This means the value per acre for loss O.M. would be about \$1-2 per acre. Thus, if you are thinking about selling your stalks you would need to charge approximately \$ 27-28/acre to recoup the lost fertilizer and O.M. value taken from the field if 65% of the stalks were removed in the fall. If 80% of the stover was removed by shredding and raking prior to baling the lost value of fertilizer and O.M would be \$33-34/acre.

Approximate Removal rates of Corn Stover:

Shredding and Raking	80%
Raking only	65%
Combine windrow only	50%
Cattle Grazing	25-35%

