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Putting a Value on Cornstalks

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Beef producers in hard-hit drought areas of South Dakota have expressed interest in purchasing baled cornstalks from growers in the eastern part of the state. There is no hard-and-fast rule about what to charge for a bale.

Cornstalks, supplemented properly, can supply the nutritional needs for beef cows in moderately good condition during the fall and early winter. The advantage of using cornstalks as roughage for beef cows is the availability and the low cost. In most situations stalks can be used for livestock bedding as well.

As in any market, buyer and seller must settle on a price. There are several different methods of valuing cornstalks: (1) feed value per ton or per bale, (2) standing in the field, and (3) cost of lost fertilizer value.

Cornstalks value based on feed value

You can generally figure you will be feeding a mixture of 90% stalks and 10% soybean meal. Corn stalks are generally considered to have 80 to 90% of the energy of mixed grass and legume hay per pound of dry matter but only 20 to 30% of the protein.

Thus, cornstalks can be valued at 85% of the price of hay minus the cost of 200 pounds of soybean meal (.1 ton) per ton of corn stalks. If hay is valued at \$70 and soybean meal is \$280 per ton, multiplying $\$70 \times 85\%$ gives \$59.50 per ton. Then, \$280

soybean meal multiplied by .1 ton gives \$28 per ton. Subtract the \$28 from \$59.50 to get \$31.50 per ton for baled corn stalks.

Pricing per bale is a little harder because you need to weigh a percentage of the bales to get a good average weight.

Say that the bale weight is 1200 or .6 ton. Multiply the \$31.50 per ton by .6 ton to get \$18.90 per bale.

Auction prices

Last winter (2002) the local hay auction at Pipestone, Minn., regularly had quotes for cornstalk bales. Prices in February and March 2002 ran from \$7 to \$14 dollars per bale, reaching \$20 a few times in late winter.

Current prices at the Pipestone hay auctions this fall have been in the \$20 per bale range. Remember that these prices are FOB at the hay auction site.

You have to dig a little through the national data, but this information appears weekly on the USDA website:

www.ams.usda.gov/LSMNpubs/pdf_weekly/feedseed.pdf

Standing cornstalks value

Both of the following methods are based on the grower baling the stalks and selling them baled. So how do you figure the cost of stalks in the field when someone else puts them up?

Method 1

The easy way is to subtract the cost of chopping, raking, and baling stalks from the value of finished bales.

In the SDSU Custom Rate Guide, custom chopping is \$6.80 per acre, custom raking is \$4.25 per acre, and custom baling is \$9.15 per bale. Add \$6.80 and \$4.25 for a total of \$11.05.

If you harvest about 3 tons per acre, that is 5 bales per acre. Divide the \$11.05 by the 5 bales per acre to get \$2.21 per bale. Add baling costs of \$9.15 per bale to the \$2.21 for a total of \$11.36 per bale.

On a per-acre basis, raking and baling would be \$13.40 per acre. If you get 2.5 tons or 4 bales per acre, that figures up to \$1.06 to rake and \$9.15 per bale for baling, for a total of \$10.21. You would then subtract baling costs from the estimated value of the bale to arrive at a standing price.

Method 2

Another way to price cornstover is to look at the amount of fertility removed in the cornstalks. It is easier to figure lost fertilizer value than to add in lost organic matter.

For baled cornstalks, research at land-grant universities shows a similar number of pounds of corn stover left as the bushels of corn harvested. A 150-bushel corn crop will produce 8400 pounds of stover (150 bushels times 56 pounds/bushel).

This fall, fertilizer prices were nitrogen at \$185 per ton for 46-0-0 (20 cents per pound); phosphorus at \$200 per ton for 0-46-0 (22 cents per pound); and potash at \$190 per ton for 0-0-60 (16 cents per

pound). The SDSU Soils Lab uses 1/2 pound of nitrogen per bushel in the stover, .15 pound per bushel of phosphorus, and 1.2 pounds per bushel of potash.

In 150-bushel corn, there are 75 pounds of nitrogen, 22.5 pounds of phosphorus, and 180 pounds of potash. This adds to \$15 per acre for nitrogen, \$4.95 for phosphorus, and \$28.80 for potash, for a total of \$48.75 per acre (\$11.43/ton).

Mechanically harvesting cornstalks will not remove this much material. If we use 8400 pounds or 4.2 tons per acre of material from a 150-bushel corn crop, baling 3 tons per acre of material would reduce the amount removed and bring down fertilizer replacement cost to \$34.82 per acre. At 5 bales per acre, fertilizer replacement value would be \$6.86 per bale plus whatever value you put on the organic matter.

If you remove only 2.5 tons or 4 bales/acre by raking and baling, the cost would then be \$28.58/acre or \$7.15/bale.

Valuing baled cornstalks

If you baled up your own cornstalks to feed or sell, you need to add both fertilizer replacement value (\$6.96/bale) and the cost of chopping, raking, and baling (\$11.05/bale) for a total of \$18 per bale, plus some charge for hauling them home to feed.

If you just raked and baled the cornstalks, the cost would be \$6.53/bale for fertility loss and \$10.21 for raking and baling for a total of \$17.35/bale.

In many autumns, we can fall-graze stalks. This is much cheaper, but sometimes early snows cover up the stalks so that grazing is not possible.

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