

Pricing Forage in the Field

Questions often arise about how to arrive at a fair price for standing crops such as corn silage, oats, hay, and cornstalks. Although there are no widely quoted market prices for these crops, they can be valued according to their relative feed value and compared to some crop that does have a known market price, such as corn grain or baled hay.

Corn Silage

Corn silage can be valued according to the price of corn grain. Taking into account the value of the grain, the extra fertilizer cost, and the harvesting costs saved, a ton of corn silage in the field is worth between 8-10 times as much as a bushel of corn, depending on the potential grain yield. Silage from a field that would yield above 160 bushels per acre is valued at 10 times the corn price. But if the potential yield is less than 80 bushels per acre, the silage is valued at 8 times the corn price. Use the accompanying *AgDM Decision Tool*, [Corn Silage Pricer](#) to compute the value. Use the local harvest price as a guide for corn prices. If the current market price is below the county USDA loan rate, use the loan rate instead.

This ratio assumes silage is harvested at 65 percent moisture. To adjust for other moisture levels, subtract the actual moisture level

from 100, divide by 35, then multiply by the estimated value for 65 percent moisture silage.

Example 2

Silage moisture level	70%
Silage dry matter level	100% - 70% = 30%
Silage value at 65%	\$24.00 per ton
Silage value at 70%	$\$24.00 \times 30/35 =$ \$20.57 per ton

Corn silage that has already been harvested and stored is worth more, naturally, typically 10-12 times as much as a bushel of corn. The accompanying spreadsheet also computes values for harvested and stored silage. Adjustments can be made for the condition and accessibility of the corn silage.



Example 1	Low Yield	Mid Yield	High Yield
Potential corn yield	50 bushels per acre	120 bushels per acre	175 bushels per acre
Expected corn price	\$3.15 per bushel	\$3.15 per bushel	\$3.15 per bushel
Value of standing silage, (\$ per ton)	$\$3.15 \times 8 = \25.20	$\$3.15 \times 9 = \28.35	$\$3.15 \times 10 = \31.50
Yield of corn silage	9.4 tons per acre	16.6 tons per acre	23.2 tons per acre
Value of standing corn, (\$ per acre)	$\$25.20 \times 9.4 = \236.88	$\$28.35 \times 16.6 = \470.61	$\$31.50 \times 23.2 = \730.80

Oats

Standing oats sold for silage can be priced relative to oats grain. As with corn silage, the ratio of the grain/silage price depends on several factors. Given limited data on oat silage pricing, historical analysis shows that the oat grain/silage ratio is roughly double that for corn (that is, if the corn ratio is 8, the oat ratio is around 16). Roughly one ton of 70 percent moisture oat silage can be harvested for each 12 bushels of oats that could be harvested as grain. Oat silage is higher in percent crude protein than corn silage but lower in percent total digestible nutrients (TDN), so its feeding value is approximately 85 percent that of corn silage.

Hay and Haylage

Selling hay or haylage as a standing crop is essentially the same as renting established hay land. Cash rent for land with an established grass/legume hay crop varies widely depending on yield, hay quality and local demand. See *AgDM File C2-10, [Cash Rental Rates for Iowa Survey](#)* for updated hay rental rates. For the first cutting of hay or haylage a charge equal to 40 to 50 percent of the yearly rent is appropriate. Later cuttings are usually worth only 25 to 35 percent of the yearly rent.

The value of standing hay also can be estimated by subtracting harvesting costs from the market value of the same hay. Custom rates can be used to estimate harvesting costs.

Example 3 (Small square bales)

Price of alfalfa hay	\$5.00 per bale
Harvesting costs	\$1.00 per bale
Hay value in the field	\$5.00 - \$1.00 = \$4.00 per bale

For haylage, the feed value of a ton of 40 to 50 percent moisture unharvested haylage can be estimated as equal to roughly half that of a ton of dry hay, minus the costs for windrowing, harvesting, and hauling.

Example 4

Price of hay	\$90.00 per ton
Harvesting costs	\$18.00 per ton
Standing haylage value	$(\$90.00 \times 0.5) - \$18.00 =$ \$27.00 per ton

Some owners prefer to keep part of the hay crop instead of charging cash rent. For an established crop for which the owner pays all the fertility costs, the owner is probably entitled to about 60 percent. If the person who harvests the crop pays part of the establishment and fertility costs, the owner's share should probably be only 40 to 50 percent.

Cornstalks

Cornstalks can be used as a partial replacement for late fall pasture or winter hay. For beef cows, a ton of harvested cornstalks is worth about 50 percent of the value of grass hay per ton. If the buyer harvests the stalks, then a value of 25 percent of the price of grass hay is appropriate. See *AgDM File A1-70, [Estimating a Value For Corn Stover](#)*, for more information.

Cornstalks also can be rented for grazing. See *AgDM File C2-10, [Cash Rental Rates for Iowa Survey](#)* for updated grazing rental rates.

When hay or cornstalks are harvested as large round bales, weighing them may not be convenient. The weight of a large round hay bale can be estimated by multiplying the length of the bale (in inches) by the diameter squared (in inches) and dividing by 200. For cornstalk bales, divide by 300.

Example 5

Length of hay bale	60 inches
Diameter of hay bale	65 inches
Weight of hay bale	$60 \times 65 \times 65 / 200 = 1,267$ pounds

In years of low production, prices for standing forages may be considerably above those discussed. On the other hand, when feed is in good supply the landowner may have to accept a lower price. If there is no ready alternative use for the feed, then both buyer and seller will still benefit from the sale.



**Photos courtesy of USDA.*

. . . and justice for all

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Many materials can be made available in alternative formats for ADA clients. To file a complaint of discrimination, write USDA, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964.

Issued in furtherance of Cooperative Extension work, Acts of May 8 and July 30, 1914, in cooperation with the U.S. Department of Agriculture. Cathann A. Kress, director, Cooperative Extension Service, Iowa State University of Science and Technology, Ames, Iowa.

**By William Edwards,
retired extension economist
Chad Hart, extension economist and
associate professor
Department of Economics,
Iowa State University**

www.extension.iastate.edu/agdm
store.extension.iastate.edu
