

What is the Value of a Standing Corn Crop for Silage?

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Corn for silage sometimes is sold standing in the field, and farmers frequently ask how to determine a fair price for the standing crop. The following provides some guidelines for estimating the value of a standing corn crop.

Mature Corn – 50% Grain DM Content	Example 1	Example 2	Example 3	Example 4	Your Figures
1. Estimate of yield per acre in tons ¹	5	10	15	20	_____
2. Percent dry matter	35	35	35	35	_____
3. Value of silage per acre at \$48.03 per ton ² (calculations shown on Page 2)	\$ 240.15	\$ 480.30	\$ 720.45	\$ 960.60	_____
4. Less custom cost of chopping and hauling per acre ³	-\$60.00	-\$120.00	-\$150.00	-\$240.00	_____
5. Value per acre of standing corn for silage	\$ 180.15	\$ 360.30	\$ 570.45	\$ 720.60	
Immature Corn – 25% Grain DM Content	Example 1	Example 2	Example 3	Example 4	Your Figures
1. Estimate of yield per acre in tons ¹	5	10	15	20	_____
2. Percent dry matter	35	35	35	35	_____
3. Value of silage per acre at \$41.51 per ton ² (calculations shown on Page 2)	\$ 207.55	\$ 415.10	\$ 622.65	\$ 830.20	_____
4. Less custom cost of chopping and hauling per acre ³	-\$60.00	-\$120.00	-\$150.00	-\$240.00	_____
5. Value per acre of standing corn for silage	\$ 147.55	\$ 295.10	\$ 472.65	\$ 590.20	
Immature Corn – 0% Grain DM Content	Example 1	Example 2	Example 3	Example 4	Your Figures
1. Estimate of yield per acre in tons ¹	5	10	15	20	_____
2. Percent dry matter	35	35	35	35	_____
3. Value of silage per acre at \$35.00 per ton ² (calculations shown on Page 2)	\$ 175.00	\$ 350.00	\$ 525.00	\$ 700.00	_____
4. Less custom cost of chopping and hauling per acre ³	-\$60.00	-\$120.00	-\$150.00	-\$240.00	_____
5. Value per acre of standing corn for silage	\$ 115.00	\$ 230.00	\$ 375.00	\$ 460.00	

¹ The following formula may be used to estimate the wet yield of a standing corn crop with 22-inch rows:

- Select a representative row and measure 23.8 feet. (For 36-inch rows, use 14.5 feet of row. For 30-inch rows, use 17.4 feet.)
- Cut at normal chopping height and weigh, then multiply by 1,000 to estimate total weight per acre.
- Divide answer obtained in "b" above by 2,000 to convert to tons per acre.

² Corn silage is primarily an energy feed. The dry-matter value of silage can be compared with the local value of shelled corn and grass hay. Good-quality corn silage typically will average 50% corn grain by dry-matter weight.

³ The most frequent custom rate charged for field chopping and hauling was \$12 per ton. We assume the rate would vary between custom harvesters.

The value of the standing corn crop depends upon several variables, including yield, price of substitute feed crops, and harvesting and hauling costs. The figure on line 5 in the above examples indicates the maximum amount the buyer could afford to pay. The buyer should discount the computed price by the estimated spoilage. With this information, the parties would negotiate the price.

If you have all-risk crop insurance on your corn crop, check with your insurance agent before you begin chopping to determine how selling the standing corn crop will affect yield history and insurance payments if the situation warrants.

Failure to notify your insurance agent may result in forfeiture of any potential indemnity payment. If you have a potential insurance claim, your insurance company likely will require you to leave a number of rows unharvested at specified intervals across the field to be used for final appraisal. Also, selling unharvested corn results in a loss of beneficial interest prior to harvest. This means you will not be eligible for any potential loan deficiency payment.

Calculating the Value Per Ton of Corn Silage

If shelled corn containing 13% moisture is priced locally at \$4.25 per bushel and grass hay containing 10% moisture is priced at \$90 per ton, their value per pound of dry matter is computed as follows:

$$\begin{array}{l} \text{Corn} \quad 56 \text{ lbs.} \times 0.87 = 48.72 \text{ lbs. dry matter} \\ \frac{\$4.25}{48.72} = 0.0872 \text{ or } 8.72 \text{ cents per pound of dry matter} \end{array}$$

$$\begin{array}{l} \text{Hay} \quad 2,000 \text{ lbs.} \times 0.90 = 1,800 \text{ lbs. dry matter} \\ \frac{\$90}{1,800} = 0.0500 \text{ or } 5 \text{ cents per pound of dry matter} \end{array}$$

If silage contains 35% dry matter, there are 700 pounds of dry matter per ton, or the equivalent of 350 pounds of shelled corn and 350 pounds of grass hay. Mature, high-yielding grain corn should contain 50% grain by dry-matter weight.

$$\begin{array}{rcl} 350 \text{ lbs. corn equivalent} & \times & .0872 = 30.53 \\ 350 \text{ lbs. hay equivalent} & \times & .0500 = 17.50 \\ 1,300 \text{ lbs. water} & \times & .0000 = 0.00 \\ \hline 2,000 \text{ lbs.} & & \$48.03 \text{ per ton of silage containing 35\% dry matter} \end{array}$$

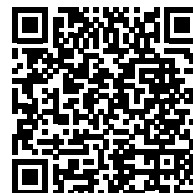
The above example is typical of good-quality mature corn made into silage. However, immature (early frost) or drought-impacted corn salvaged for silage contains much less grain relative to stalk and leaf material. Corn in the hard dough stage may be only 25% grain by dry-matter weight. In that case, the value would be computed as follows:

$$\begin{array}{rcl} 175 \text{ lbs. corn equivalent} & \times & .0872 = 15.26 \\ 525 \text{ lbs. hay equivalent} & \times & .0500 = 26.25 \\ 1,300 \text{ lbs. water} & \times & .0000 = 0.00 \\ \hline 2,000 \text{ lbs.} & & \$41.51 \text{ per ton of immature, drought-stressed corn silage} \\ & & \text{containing 35\% dry matter} \end{array}$$

Very immature corn with no grain content would be valued based on hay equivalent value only.

$$\begin{array}{rcl} 0 \text{ lbs. corn equivalent} & \times & .1129 = 0.00 \\ 700 \text{ lbs. hay equivalent} & \times & .0500 = 35.00 \\ 1,300 \text{ lbs. water} & \times & .0000 = 0.00 \\ \hline 2,000 \text{ lbs.} & & \$35.00 \text{ per ton of corn silage with 0\% grain content} \\ & & \text{containing 35\% dry matter.} \end{array}$$

NDSU Extension has a corn silage decision tool
www.ndsu.edu/agriculture/ag-hub/corn-silage-decision-tool



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