

11-7-2007

Corn Stalk Grazing: A Matter of Economics

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Stockton, Matt; Wilson, Roger K.; and Stalker, Leslie Aaron, "Corn Stalk Grazing: A Matter of Economics" (2007). *Cornhusker Economics*. 341.

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CORNHUSKER ECONOMICS

November 7, 2007

University of Nebraska–Lincoln Extension

Institute of Agriculture & Natural Resources
Department of Agricultural Economics
<http://www.agecon.unl.edu/Cornhuskereconomics.html>

Corn Stalk Grazing: A Matter of Economics

Market Report	Yr Ago	4 Wks Ago	11/2/07
<u>Livestock and Products,</u>			
<u>Weekly Average</u>			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight.....	\$88.77	\$90.79	\$91.57
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.....	114.97	120.93	117.21
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.....	*	118.39	112.57
Choice Boxed Beef, 600-750 lb. Carcass.....	147.52	146.64	140.03
Western Corn Belt Base Hog Price Carcass, Negotiated.....	62.59	56.57	50.91
Feeder Pigs, National Direct 50 lbs, FOB.....	56.71	38.36	37.72
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean.....	66.80	60.97	57.48
Slaughter Lambs, Ch. & Pr., Heavy, Woolled, South Dakota, Direct.....	*	97.25	91.25
National Carcass Lamb Cutout, FOB.....	251.62	259.90	265.02
<u>Crops,</u>			
<u>Daily Spot Prices</u>			
Wheat, No. 1, H.W. Imperial, bu.....	4.75	8.00	7.17
Corn, No. 2, Yellow Omaha, bu.....	3.15	2.98	3.53
Soybeans, No. 1, Yellow Omaha, bu.....	6.26	8.52	9.41
Grain Sorghum, No. 2, Yellow Dorchester, cwt.....	5.09	5.77	6.50
Oats, No. 2, Heavy Minneapolis, MN, bu.....	2.71	*	*
<u>Hay</u>			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.....	135.00	135.00	*
Alfalfa, Large Rounds, Good Platte Valley, ton.....	87.50	87.50	97.50
Grass Hay, Large Rounds, Good Northeast Nebraska, ton.....	82.50	*	*

* No market.

The United States Department of Agriculture's January 1, 2007 "Cattle Inventory" report indicated that there were 1,940,000 beef cows that have calved in Nebraska. In another USDA report titled "Crops Planted, Harvested, Yield, Production, Price (MYA), Value of Production" it was estimated that there will be 9,000,000 acres of corn harvested in 2007. These numbers indicate the potential opportunity to graze cattle on corn stalk residue in Nebraska is huge. With corn harvest nearing completion and weaning time for many producers happening this month, farmers and ranchers are likely to be negotiating the terms of agreements to graze these corn stalk residuals.

The two most common ways to price corn stalks used for grazing is on a per head per day and per acre basis. Rates vary considerably reflecting variations in lease terms and forage potential. In some cases, the fences are built and maintained by the land owner, while in other cases the cattle owner provides the fence. The same is true of watering equipment. Other negotiable items include who monitors the cattle, makes minerals and supplements available, and provides hay and feeding when winter conditions prevent grazing.

Perhaps the most important factor to consider by both land owner and cattle owner is the amount of feed available on a particular plot of ground. An article in the 2004 Nebraska Beef Report titled "A Review of Corn Stalk Grazing on Animal Performance and Crop Yield" provides the mathematical relationship between corn yield and forage available. Figure 1 (on next page) shows this relationship. This function provides the basis for determining forage yield, which can then be directly linked to lease value. When this information is combined with the concept of the animal unit month (AUM), where an AUM is based on a 1,000 pound animal, the carrying capacity of any field with known yields and size can be estimated.



While this information is not new, it has not been combined in an easy to use format easily accessed by producers, until now. An Excel spreadsheet called “Corn Stalk Grazing Calculator”(CSGC) has been designed by two economists and an animal nutritionist from the University of Nebraska’s West Central Research and Extension Center to include this information, as well as other vital decision making information. The CSGC will estimate the number of animals which can be supported on a given field of corn stalks with a specified yield. It also includes economic evaluation, as well as the cost to transport the livestock and check their care and condition, which may be more costly than the corn stalk rent.

It is necessary that your computer be capable of reading and using Excel files if you wish to use this program. This spreadsheet can be accessed at:

www.agmanagerstools.com
or <http://westcentral.unl.edu/agecon/>

One way to use this tool would be to determine if the corn stalk acres leased are adequate to support the number and size of cattle for the planned grazing season. If not, either the number of cattle or length of the grazing system would need to be altered. These inputs can be varied quite easily, until the acres required match the acres available.

Another possible use is in assisting cattle owners to evaluate the feasibility of grazing their cattle on corn stalks which are various distances from their primary production center. While corn stalks may appear to be economical to lease, the transportation cost and the cost to supervise and care for the cattle may need to be considered carefully, since they may dramatically increase the cost of utilizing the crop residue.

As an illustration, the CSGC decision aid showed 130 acres of corn stalks would support 70 animals, weighing 1,000 pounds, for 112 days if the corn yielded 200 bushels per acre. If the grazing lease was \$10 per acre, the cost for the stalks would be \$1,300. If the cattle had to be hauled 75 miles at a cost of \$5 per load per loaded mile, and there were 35 animals per load, the cost to haul the cattle to the corn stalks and back would be \$1,500, \$200 more than the grazing lease. If the distance traveled to check the cattle

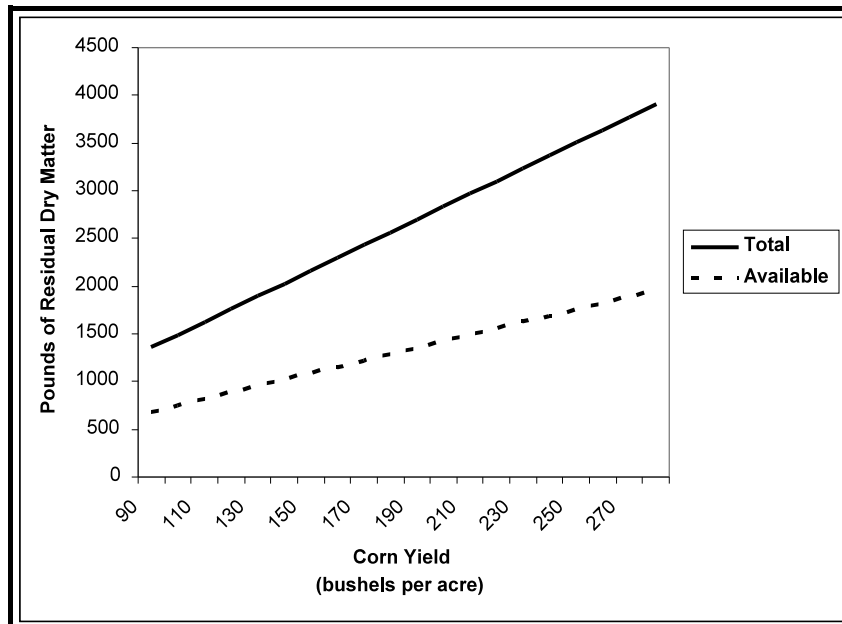


Figure 1. Corn Yield and Residual Dry Matter

\$0.41 per head per day. In this instance every 10 miles of decreased distance in cattle transport and checking resulted in a reduction of about \$0.03 per head per day.

While the above example shows the importance of including cattle transportation and monitoring costs, the information provided is limited to the specific situation. Since everyone has a different circumstance, the CSGC was designed to be flexible and is why it allows users to use inputs that apply to them.

The goal of this tool is to permit farmers and ranchers to quickly evaluate the different information unique to their circumstances and obtain information critical to making good business decisions, making Nebraska families, farms, ranches and communities stronger.

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was 60 miles one way, it would add an additional \$420 to the total costs if the cattle were checked five times using \$0.45 cents per mile vehicle cost and \$30 per trip for labor. The cost to lease the corn stalks would be \$0.17 per head per day, the total cost including the lease, cattle transportation and supervisory checks would be an additional \$0.24 per head per day, making the actual total cost