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# What Crop Should be Grown If the Drought Continues?

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# Cornhusker Economics

## Cooperative Extension

Institute of Agriculture & Natural Resources  
Department of Agricultural Economics  
University of Nebraska – Lincoln

### What Crop Should be Grown If the Drought Continues?

Market Report	Yr Ago	4 Wks Ago	1/21/00
<b><u>Livestock and Products,</u></b>			
<b><u>Average Prices for Week Ending</u></b>			
Slaughter Steers, Ch. 204, 1100-1300 lb Omaha, cwt. ....	\$60.00	\$67.85	\$67.89
Feeder Steers, Med. Frame, 600-650 lb Dodge City, KS, cwt. ....	76.85	89.12	91.45
Feeder Steers, Med. Frame 600-650 lb, Nebraska Auction Wght. Avg. ....	81.91	94.02	96.04
Carcass Price, Ch. 1-3, 550-700 lb Cent. US, Equiv. Index Value, cwt. ....	96.09	107.02	104.48
Hogs, US 1-2, 220-230 lb Sioux Falls, SD, cwt. ....	27.50	35.50	37.75
Feeder Pigs, US 1-2, 40-45 lb Sioux Falls, SD, hd. ....	23.00	35.50	49.50
Vacuum Packed Pork Loins, Wholesale, 13-19 lb, 1/4" Trim, Cent. US, cwt. ....	112.44	110.75	96.50
Slaughter Lambs, Ch. & Pr., 115-125 lb Sioux Falls, SD, cwt. ....	*	74.00	67.37
Carcass Lambs, Ch. & Pr., 1-4, 55-65 lb FOB Midwest, cwt. ....	150.00	163.00	151.00
<b><u>Crops,</u></b>			
<b><u>Cash Truck Prices for Date Shown</u></b>			
Wheat, No. 1, H.W. Omaha, bu. ....	3.16	2.81	2.95
Corn, No. 2, Yellow Omaha, bu. ....	1.99	1.81	1.92
Soybeans, No. 1, Yellow Omaha, bu. ....	4.94	4.43	4.69
Grain Sorghum, No. 2, Yellow Kansas City, cwt. ....	3.38	2.99	3.32
Oats, No. 2, Heavy Sioux City, IA, bu. ....	1.21	*	1.24
<b><u>Hay,</u></b>			
<b><u>First Day of Week Pile Prices</u></b>			
Alfalfa, Sm. Square, RFV 150 or better Platte Valley, ton. ....	*	82.50	82.50
Alfalfa, Lg. Round, Good Northeast Nebraska, ton. ....	*	35.00	32.50
Prairie, Sm. Square, Good Northeast Nebraska, ton. ....	70.00	*	*
* No market.			

Drought! Although it is a dreaded word in Nebraska we have not had to deal with a serious drought for many years. As of late January there is virtually no moisture in the soil profile. It is about 9 months before harvest and our moisture conditions can change significantly in that period. However, crop selection and crop insurance decisions will soon need to be made. The deadline to purchase crop insurance for spring seeded crops is March 15. In light of the low soil moisture conditions, should non-irrigated growers plant corn or grain sorghum? Over the past 10 years there has been a sustained and significant shift in the “traditional” grain sorghum areas to corn.

The current conditions raise two basic questions:

1. Is this the year to switch back to grain sorghum?
2. If grain sorghum has not been grown in recent years, what are the implications of not having a yield history for crop insurance purposes?

#### Comparative Returns for Grain Sorghum and Corn

The basic assumptions needed to make a comparative analysis are presented below. This is followed by a comparison of the two crops for different moisture situations. You can insert your numbers to make the analysis specific to your farm.

#### Discussion

If a grain sorghum yield of 75 is achieved, the returns over cash costs are:  $(75 \times \$2.02) - \$75 = \$76.50$ . To produce the same returns, corn would have to yield 80 bu/ac:  $(\$76.50 + \$100, \text{ corn cash costs})/\$2.20 = 80.2$ . Based on the subjective yield probabilities assigned below, the expected grain sorghum yield, for current conditions, is 70 bu/ac (calculated by multiplying the probabilities times the corresponding expected yields and summing the



## Basic Information to Compare Corn and Grain Sorghum

	Corn	Grain Sorghum
<b>Expected yields for average conditions</b>	100 bu/ac	90 bu/ac
<b>Cash operating costs including labor</b>	\$100	\$75
<b>Expected harvest cash price</b>	\$2.20	\$2.02
<b>Return above cash cost for average yields</b>	\$120.00	\$106.80

### Expected Returns for Alternative Moisture Conditions

Moisture* Conditions	Probability**	Grain Sorghum Yield, bu.	Return Over Cash Costs	Corn Yield for Equiv. Return, bu.
<b>Above Average</b>	.10	105	\$137.10	108
<b>Average</b>	.20	90	\$106.80	94
<b>Somewhat Dry</b>	.20	75	\$76.50	80
<b>Moderately Dry</b>	.35	60	\$46.20	66
<b>Very Dry</b>	.15	45	\$15.90	53

\* Accumulated moisture conditions, now through the growing season.

\*\* Subjective probabilities based on soil moisture conditions in late January.

results). With these conditions, a corn yield of 76 bu/ac would be necessary for an equivalent return.

### Crop Insurance Considerations

To establish an Actual Production History or APH yield for crop insurance purposes, a grower must have a minimum of 4 consecutive years of actual yields for a specific farm unit. If, in the current situation, grain sorghum has not been grown on that farm for a number of years, there are two alternatives to establish a yield for a crop insurance coverage guarantee. First, if yield data for 4 consecutive years, but not necessarily the last 4 years is available, that yield average can be used. For example, if data is available for 1992 through 1995, that average can be used to establish an APH. The alternative is to use the procedures established by the Risk Management Agency to establish a transition yield. While it is advantageous for a grower to have actual yield data, the transitional yield procedures are not as restrictive as in the past. Growers should check with their insurance agent to determine their yield guarantees and their crop insurance alternatives before making their crop selection and insurance coverage decisions. Crop Revenue Coverage (CRC) is available for both corn and grain sorghum in Nebraska. In 2000, CRC

for corn is available up to 85% coverage. The maximum CRC coverage for grain sorghum is 75%. If transition yields are used, the maximum coverage for the first year is 65% of the applicable "T" yield.

### Discussion

Assume the corn APH is 100 bu/ac. The maximum coverage available for a regular APH policy is  $.75 \times 100 = 75$  bu/ac. For CRC, the maximum coverage available is  $.85 \times 100 = 85$  bu/ac. The 2000 price elections for APH policies are \$1.90 for corn and \$1.75 for grain sorghum. The CRC planting time price guarantees will be announced at the end of February. Assume there is no grain sorghum yield history and the "T" yield is 70 bu/ac. The maximum coverage available is  $.65 \times 70 = 45.5$  bu/ac.

For more information on 2000 crop insurance programs, a 2-page fact sheet is available at the phone number below. We hope the moisture situation at planting time makes this discussion and analysis a moot point. In the meantime, an analysis of the situation on your farm is a good risk management strategy

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