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Thinking of Changing Your Mind, Now That You Already Planted Wheat?

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Because wheat prices had increased dramatically this past year relative to other commodity prices, and seemed to remain strong, some producers decided to plant wheat this fall on acres that traditionally were planted to corn or soybeans. With the recent upswing in the corn market these producers may now be wondering if they should stick with the wheat they already planted or reconsider their plans and plant corn.

An electronic spreadsheet has been created to help those interested in looking at the possible outcome of such a decision. Two different crop environments are considered; irrigated and dryland acres. This spreadsheet, along with this brief synopsis, can be accessed on the internet by going to http://westcentral.unl.edu/agecon/ and clicking on the decision aid titled “Wheat or Corn.” In order to use the spreadsheet it is necessary to have a computer capable of reading and using files in the Microsoft Excel format.

The best choice, between keeping the wheat or replacing it with corn depends on many factors; the equipment complement of the producer, his/her ability to grow wheat versus corn, the producer’s cost of production and the expected prices that the producer anticipates receiving for wheat and/or corn this coming year.

Since each producer’s production ability, machinery complement, crop preference, cost or price expectations is unique, some simple assumptions have been made for this analysis. Producers or stakeholders
are encouraged to access the spreadsheet via the internet and use their own information and assumptions.

In the case of the irrigated cropping system, we compared 90 bushel/acre wheat to 195 bushel/acre corn using cost information from the Nebraska Crop Budgets and Bob Klein, University of Nebraska–Lincoln District Agronomist. The analysis includes the cost of planting wheat, and in the case of growing corn, the added cost of removing the wheat. The prices used in the analysis were observed on November 29, 2006 for the 2007 September wheat futures contract ($5.07) and the 2007 December corn futures contract ($3.60). Ignoring any differences between futures and local prices, calculations showed that irrigated corn would have about a $60 net advantage per acre over wheat. At these prices there would be about a $33 net decrease/increase for every 10 bushels more or less of corn produced, with 177 bushels/acre corn being the breakeven yield, 16 bushels/acre less than the assumed yield/acre, with wheat yields held constant at 90 bushels/acre.

In the case of wheat, each 10 bushels/acre yield change results in about a $49 change in net income. If wheat yields were increased by 12 bushels/acre, from 90 bushels/acre to approximately 102 bushels/acre, there would be no advantage in switching from wheat to corn. If the expected yields were held constant at 195 bushel/acre for corn and 90 bushels/acre for wheat, wheat prices would have to increase $.66 per bushel or corn prices would have to fall $.31 per bushel for the net incomes of the two crops to be equal.

The analysis of the dryland cropping systems assumed wheat yields to be 65 bushels/acre with corn yields at 100 bushels/acre. The dryland analysis indicated that wheat has a $57 per acre advantage over corn. This advantage is a direct result of the yield assumptions. Dryland wheat yield was only 25 bushels/acre less than the irrigated crop, while the yield for dryland corn was 95 bushels/acre less than its irrigated counterpart.

Using the same futures prices as the irrigated scenario, there would be about a $35 net decrease/increase for every 10 bushels more or less of corn yield. A corn yield of about 116 bushels/acre is comparable to the 65 bushel/acre wheat yield. In the case of wheat, each five bushels represents about a $25 change. If wheat yields were reduced to approximately 53 bushels/acre there would be no advantage to either wheat or corn. In the case of price changes while holding the expected yields at the 100 bushels/acre for corn and 65 bushels/acre for wheat, corn prices would have to increase $.57 per bushel or wheat prices would have to fall $.87 per bushel to have equal net incomes.

The value of crop residue was not included in any of these analyses. Water costs were included in these analyses but no explicit value was included for any water savings. Irrigators who have limited water may put a value on the water saved by producing wheat.

From this analysis it appears that spraying out the wheat and planting corn is a good choice on irrigated land, while leaving the planted wheat is the best choice for dryland conditions. However, producers are encouraged to make their decision based on their own analysis and assumptions. The spreadsheet found on the West Central Research and Extension Center (WCREC) website may be useful, but its results will be no better than the information entered and the assumptions used.

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