## Hedging grain production with futures

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Grain and oilseed producers are faced with risk associated with the price they will receive for their crops. For agricultural commodities, such as corn, prices can fluctuate widely for different reasons. The commodity futures markets provide a means to transfer risk between physical commodity holders, or hedgers, and other hedgers or speculators operating in the market.

One of the most basic hedging strategies for grain and oilseed producers is the short futures hedge. By taking a short position in a futures contract, the producer can eliminate the risk of lower prices when he is ready to sell his crop in the cash market. The futures position can be initiated ahead of harvest, and that provides protection to potentially weaker prices until the crop is sold. Upon the sale of the crop, the hedger simultaneously closes the futures position by buying back the contract at market price. In grains and oilseeds, the cash market in general moves closely with the futures market, gain in one will be offset by loss in the other.

## A CASE STUDY

A farmer has planted 1,000 acres of corn in spring, and assuming a yield of 160 bushels per acre, he expects to harvest around 160,000 bushels. He has also calculated his production cost at $\$ 5.00$ per bushel, while December corn futures are currently trading at $\$ 6.00$ per bushel. If he could sell his crop now, he would realize a profit of $\$ 1.00$ per bushel. But even though his crop has not been harvested, he decides to forward sell a part of his crop with futures, to lock in the profit of $\$ 1.00$ per bushel on that hedged

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portion of his crop. Since the size of one futures contract of corn is 5,000 bushels, on July 1 , he sells 20 December corn futures at $\$ 6.00$, for an equivalence of 100,000 bushels, slightly over $60 \%$ of his anticipated production.

In the fall, when he harvests his crop, corn price has dropped to $\$ 4.50$ per bushel, below his cost of production. He sells his crop in the cash market, losing $\$ 0.50$ per bushel for the portion of his crop that he has not hedged ( 60,000 bushels), for a loss of $\$ 30,000$. He then simultaneously buys back his 20 short December futures contracts at $\$ 4.50$, for a profit of $\$ 150,000$, which more than covers the loss in the "non-hedged" cash transaction, leaving him with a net profit of $\$ 120,000$. Looking backward, the farmer should have hedged all of his production but since the yield can have a major impact on the production, farmers rarely hedge $100 \%$ of their estimated production. Had corn price been higher over the duration of the hedge, he would have sold his crop at a higher price, but that would have been offset by loss on the future transaction.

July 1: Sold 20 December corn at $\$ 6.00$
November 1: Bought 20 December corn at $\$ 4.50$
Profit equals: 20 contracts $\mathrm{x} \$ 1.50$ ( $\$ 6.00-\$ 4.50$ ) x 5,000 bushels $=\$ 150,000$
For more information about grain/oilseed hedging, or commodity/financial futures, please contact us.

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