



Wealth Management  
Dominion Securities



## Hedging grain production with futures

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**Commodity Futures Specialists**

Grain and oilseed producers face risks 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 ready to sell 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 generally 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. Although he hasn't harvested anything yet, 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 portion of his crop. The size of one futures contract of corn is 5,000 bushels, so on July 1, he sells 20 December corn futures at \$6.00. In total, he has hedged 100,000 bushels or slightly over 60% of his anticipated production.

By taking a short position in a futures contract, the producer can eliminate the risk of lower prices when ready to sell the crop in the cash market.

By November 1, the price of corn has fallen to \$4.50 a 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. What if the price of corn had risen above \$6.00, instead of falling to \$4.50? The farmer would benefit up to \$6.00 but forego any opportunity above \$6.00 as the price rises. See the examples below:

### Price falls

July 1: Sold 20 December corn at \$6.00

November 1: Bought 20 December corn at \$4.50

Profit equals: 20 contracts x \$1.50 (\$6.00 – \$4.50) x 5,000 bushels = \$150,000

### Price rises

July 1: Sold 20 December corn at \$6.00

November 1: Bought 20 December corn at \$6.50

Profit equals: 20 contracts x -\$0.50 (\$6.00 – \$6.50) x 5,000 bushels = -\$50,000

**For more information about grain/oilseed hedging, or commodity/financial futures, please contact us.**