

Grain Price Risk Management

Did you miss getting \$5.00/bu. for your corn in 1996?
Did you sell some for \$1.50/bu that year?

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S E R V I C E

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Why Protect Your Price

Most farms do not have a grain price change protection plan in place. In July of 1996, the corn price in southern Minnesota reached \$5.00/bu. Very few farmers received prices near the \$5.00 level since they had priced their crop earlier in the year. Once priced, they did not put themselves into a position to gain from further price increases. Much the same scenario played out in 1998, only in reverse. In the fall of 1997 many farmers placed their crops in storage and held on for a price rally. Again, few farmers initiated any price protection against a declining market. The corn market did decline, from \$2.40/bu in March of 1998 to \$1.45/bu. in September of 1998. Soybean prices also declined from about \$6.50 to \$4.75 over the same period.

Most people would be very uneasy about owning an asset, like a \$150,000 house, without carrying insurance to protect it against loss. Yet, carrying a large inventory of grain which is subject to a price change loss of equal magnitude goes uninsured without a thought.

Market price volatility is a constant in the grain markets. For the last five crop marketing years Worthington cash corn prices have traded in an 73¢ range, compared to an average of 88¢ over the last thirty two crop years. Soybeans prices has varied by \$2.58 over the last five years and \$2.19 over the past thirty two years. **Protecting your current market position may be critical to the survival and prosperity of your farm business.**

Not Protecting Price Can Be Costly

One could argue that the average southern Minnesota farmer lost over \$30,000 in 1996 and again in 1998 because he didn't protect against adverse price movement. Assuming an average farm of 650 acres is divided equally between corn and soybean production, it would produce about 45,500 bushels of corn in a year and 14,500 bushels

of soybeans or about 60,000 bushel of grain. If price protection would have resulted in an increase of only \$.50 a bushel, it would have resulted in \$30,000 more net income per year per farm.

Options Can Provide Price Protection

One way to manage price risk is to purchase futures options. When options are used, price protection is purchased for a known fixed investment. With options, only the option cost is at risk. Option costs can be looked at almost exactly like an insurance premium which is paid to protect against a potential loss. If prices move against you, your option can provide some indemnification to make up for lost revenue. If your option expires worthless, it is like paying for auto, crop or fire insurance, if you don't have a loss within the given period, your premium is gone, but you have had the protection.

Using Options to Protect Price	
Sell Grain	Hold Grain
Need protection if prices go up	Need protection if prices go down
Buy Call Options	Buy Put Options

Protecting Against Prices Moving Up

If you've priced your crop, you face the risk of prices moving up after you have sold and missing out on that price increase. You can protect against missing a rising market by buying "call" options. A "call" option is the right to purchase a futures contract sometime in the future at a given price for a given cost. A "call" can give you unlimited upside price potential at a fixed cost.

The "strike price" is the per unit price at which you choose to set your purchase or selling price. For example, buying a "put" at a \$3.00/bu. strike price gives you the right to sell at \$3.00 per bushel. A \$3.00 "call", gives you the right to buy at \$3.00/bu. Determining what strike price to use or how much to invest in the price insurance is a difficult decision

to make. If you are willing and able to pay a big insurance premium for the “call” option, you would buy your “call” as close to the current futures price of the grain as possible (“at the money”). If the price goes up, you will get most of the increase, less your option cost. However, you may wish to go “out of the money” so that your option will be less costly. If a \$2.00 “at the money” call costs \$.20/bu. and a \$2.20 “out of the money” call is priced at \$.05, you can lessen the cost of your insurance by buying the \$.05 option. You will not receive as much price protection, but the cost is significantly reduced. It is difficult to effectively capture a small price gain with options. Therefore, it may be prudent to spend less for the option by staying “out of the money” and trying to capture only the big price moves if or when they happen.

Example: Buying a “call” option to protect against missing an increase in the price after you have sold your crop.

Sell corn today for \$2.00. (December)
 May Futures Contract is trading at \$2.40
 Buy a call option at a \$2.60 strike price for \$.06/bu. (May contract) Money invested in calls on 20,000 bu. @
 \$.06/bu. \$ 1,200
If price moves up to \$3.00/bu., you sell your option Profit on option (\$3.00-\$2.60=\$.40/bu. x 20,000 bu.) \$ 8,000
 Less cost of options \$ 1,200
 Net returns (before brokerage commissions) \$ 6,800

If price moves down to \$2.00. You loose \$1200.00

Maximum possible cost is \$1,200 plus brokerage fees.

storage. You may have purchased an “out of the money put” for \$.10/bu, (\$500 for a 5,000 bu. contract) which may have protected and captured about \$1.25 of the \$1.75/bu. price drop which occurred into September of 1998. So, an investment of \$.10/bu., may have returned you an additional \$1.25/bu. or more.

Example: Buying a “put” option to protect against a decline in the price of stored grain.

Store corn today (December) with current May Contract price at \$2.40. Buy a “put” option at a \$2.20 strike price for \$.08/bu. (May contract) Money invested in “puts” on 20,000 bu. @ \$.08/bu. \$ 1,600

If price moves down to \$1.80/bu., sell your options

Profit on options (\$2.20-\$1.80 =\$.40/bu. x 20,000 bu.) \$ 8,000
 Less cost of options \$ 1,600
 Net returns (before brokerage commissions) \$ 6,400

If price moves up to \$2.20 or above, you loose \$1,600.

Maximum possible cost is \$1,600 plus brokerage fees.

When executing an option strategy, you will have some trading costs for each contract. In addition, you will have an interest cost on any money tied up in options. Also remember, hedge options gains and losses are taxable income or tax expense items for a farm business.

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Protecting Against Prices Going Down

If you are storing unpriced grain, you may want to protect against lower prices with a “put” option. A “put” option gives you the right to sell a futures contract sometime in the future at a given price for a given cost. A “put” would place a floor under the market at a fixed cost. Assume that in the spring of 1998, you bought a “put” option to protect against a drop in price of the soybeans you were holding in