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1985

## G85-770 An Introduction to Grain Options On Futures Contracts

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# An Introduction to Grain Options On Futures Contracts

**This publication, the third of six NebGuides on agricultural grain options, explains how to use futures options as a marketing tool.**

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- [What is An Options Contract](#)
- [Buying Options](#)
- [Buying a Call Option](#)
- [Selling Or Writing Options](#)
- [Conclusion](#)
- [Agricultural Grain Options](#)

A new agricultural marketing tool is available to farmers. A futures agricultural option is much like an insurance policy. It is a marketing alternative that gives farmers insurance against unfavorable price moves, but allows producers to take advantage of favorable price moves. To better understand terms used in this paper, please see NebGuide G85-768, *Basic Terminology For Understanding Grain Options*.

## What is An Options Contract

Options contracts give a farmer a choice; he is not "locked" into the market at a set price. He has the right, but not the obligation, to buy or sell a specific commodity within a specific period of time at a specific price. Farmers can use options contracts to establish a minimum selling price for their crops or livestock, while still retaining the right to any price increase. Livestock producers can utilize options contracts to establish a maximum cost for feedgrains, while retaining the right to any price decrease. Both strategies involve buying an options contract.

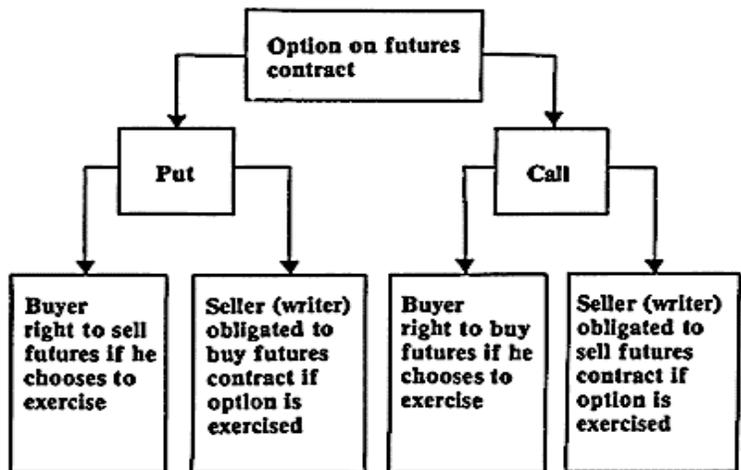
To illustrate a simplified options contract, consider a call option that conveys the right to purchase a used tractor from your neighbor. You are debating whether to buy a used tractor or to put up the capital for a new tractor. You persuade the neighbor to sell you an option to purchase the tractor at any time before April 1. In turn, the neighbor gives you the right to buy the used tractor for \$5000. For this right, you pay \$1500.

In options terms, the tractor is the underlying commodity, and \$5000 is the strike price. April 1 is the expiration day, and the \$1500 you paid for the option is the premium.

Prior to the expiration date, your option contract gives you the right, but not the obligation, to exercise your option and purchase the tractor. However, you are not obligated to buy the tractor. You may choose to not exercise your option--or simply let your option expire. You may offset your current position by selling your option to someone else. Whatever measure you take, the writer or seller of the option, keeps the \$1500 premium.

### Buying Options

Put means sell; call means buy. Buying a put option conveys the right to sell the underlying commodity and protects against falling prices. Buying a call option conveys the right to buy the underlying commodity and protects against rising prices. One concept that is frequently misunderstood is that a put and a call are not opposite sides of the same transaction. For every purchase of a put option, there is a sale of the same put option. For every purchase of a call option, there is a sale of a corresponding call option. The following flow diagram presents this concept:



### Buying a Call Option

The option price quotes listed below give strike prices and premiums for both put and call options.

CORN (CBT) 5,000 bu.; cents per bu.						
Strike Price	Calls - Settle			Puts - Settle		
	Sep-Call	Dec-Call	Mar-Call	Sep-Put	Dec-Put	Mar-Put
2.40	15 3/4	15 1/4	--	1	4 3/4	--
2.50	8 3/4	9 5/8	17	3 1/4	8 1/2	7
2.60	3 1/2	5 1/2	11 1/4	8 1/2	14	10 3/4
2.70	1 1/2	3 3/8	8	16 1/4	21 1/4	16 1/2
2.80	5/8	2	5	24 1/2	29 1/2	22 3/4
2.90	1/2	1 1/8	4	34 1/4	--	--

Assume that a corn farmer estimates his cost of production to be \$2.95. The current futures price is quoted at \$2.51. Because market indicators suggest an even more depressed price, the farmer decides to use options as a form of price insurance against future declines and yet retain opportunity to take advantage of a price increase. He decides to purchase the December put option, which has a strike price of \$2.60. To establish this floor price, he must pay an associated premium of \$.14 per bushel. The farmer can estimate his return at \$2.60 [strike price] - \$.14 [premium] - \$.01 [broker fees] = \$2.45. The December options contract expires in November, not December. (See Extension NebGuide, G85-769 *Options Contract Specifications on Grain Futures Contracts* for determining the expiration date.) The producer now has the right, but not the obligation to sell corn at \$2.60 per bushel anytime before the expiration date in November. For this right, the producer paid a \$.14 premium per bushel.

## Marketing Flexibility

Options offer the producer flexibility. Now that he has established a floor price, he has three alternatives:

- Let the option contract expire;
  - Exercise the option contract; or
  - Offset the option contract.
1. If corn prices increase before the expiration date, the farmer could simply let his options contract expire. He is not obligated to sell at \$2.60. He would then be free to take advantage of the price increase and use another marketing alternative (such as forward contracting and cash sale). However, by letting his options contract expire, he has lost his premium and brokerage fees which must be deducted from his final corn sale.

The maximum risk assumed in buying an option is equal to the sum of the premium plus the broker fees.

2. If prices fell, the farmer could exercise his option by selling corn at \$2.60/bushel less the premium and brokerage fees. For example, \$2.60 [exercise price] - \$.14/bushel [premium] - \$.01 [brokerage fees] = \$2.45.

When a put option is exercised, the option buyer assumes a short position in the futures market. If a call option is exercised, a long position in the futures market is established.

3. If prices fell and the premium value increased (i.e., \$.32/bushel), the producer may decide to offset his put option. He would offset by *selling* an equal and opposite put option. He must sell an option identical to the one previously bought; it must have the same strike price and expiration date.

By offsetting his option contract, he can take advantage of the change in value of the premium.

Buy put option @ \$2.60	-----Premium \$0.14
Sell put option @ \$2.60	-----Premium \$0.32
	-----
	-----+ \$0.18

The farmer could then pocket \$.18/bushel and would be free to market his crop using alternative

methods such as forward contracting and cash sale. The cost of premium and broker fees must be deducted from the final corn sale.

## **Selling Or Writing Options**

Sellers (writers) of call and put options do not expect the buyer to exercise the option. The option seller would then receive the entire premium.

Unlike buyers of options, sellers face limited profit and unlimited risk. The maximum profit is the premium amount. If the market moves against the writer's position, the writer must maintain the margin account in anticipation that the buyer will exercise the option. If the option is exercised, the seller is subject to unlimited losses.

### **Covered and Uncovered**

Why would any producer choose limited profits and unlimited risks? Situations do arise in which a farmer may choose to become an option seller. However, only experienced marketers should consider selling options on futures contracts. When selling options, there are two types of strategies: covered and uncovered. Covered options would be used by farmers who have grain, either in storage or in the field, to back their position.

Suppose you are a soybean producer and expect static or lower prices at harvest. You sell (write) a call option in anticipation that prices will remain depressed and you can collect the premium. On the opposite side, the option buyer anticipates increased prices and thus, purchases a call option to protect himself. If prices remain static or decrease, the option buyer will let the contract expire. The writer will then add the premium to revenue from the sale of his grain locally.

If his market analysis is wrong and prices increase and the option is exercised, the farmer would assume a short position on the futures market. Any loss you might incur with rising prices is "covered" by an equal and offsetting increase in the cash market value of the commodity you own.

Uncovered or "naked" options are written without an underlying cash market commodity. This is a purely speculative position and would only be attempted by those who can afford high risk.

## **Conclusion**

Options can be a form of insurance against price fluctuations. Typically, farmers buy options contracts, and sophisticated marketers sell options.

The option buyer has limited risk. The most he can lose is the premium. The premium is the most he will ever deposit with the broker because he is not subject to margin calls. This is advantageous when the farmer considers the cost of monies to meet margin calls. Premiums are much easier than margin calls to explain to both banker and housewife. However, it must be clear that once an option is exercised, the farmer assumes a position in the futures market. He is now subject to margin calls.

Options sellers face a limited profit (the premium) and unlimited risk if the option is exercised. Two types of strategies are involved in selling options: covered and uncovered. A writer of covered options has an underlying physical commodity to offset risk in the cash market. A writer of uncovered options is not backed by the physical commodity and speculates in the marketplace.

For more applied uses of options contracts, and combined options and futures strategies, see other NebGuides in this series on grain options contracts.

## **AGRICULTURAL GRAIN OPTIONS**

This series includes the following NebGuides which may be obtained at your local Cooperative Extension office.

- *G85-768, Basic Terminology for Understanding Grain Options*
- *G85-769, Options Contract Specifications on Grain Futures Contracts*
- *G85-770, An Introduction to Grain Options on Futures Contracts*
- *G85-771, Evaluating Grain Options Versus Futures Contracts*
- *G85-772, Using Grain Options to Follow a Rising market*
- *G85-773, Evaluating Pricing Opportunities with Grain Options*

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***File G770 under: FARM MANAGEMENT***

***K-20, Management***

*Issued December 1985; 12,000 printed.*

*Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Elbert C. Dickey, Director of Cooperative Extension, University of Nebraska, Institute of Agriculture and Natural Resources.*

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