

## **6. Short-Dated Corn and Soybean Options**

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### **Abstract/Summary**

*Short-dated crop options provide a shorter tenor alternative for hedging corn and soybeans. Short-dated crop options offer enhanced hedging flexibility during the growing season. Because these options expire earlier than the traditional options, they allow hedgers to manage risk and take advantage of hedging opportunities at a relatively lower cost.*

## Short-Dated New Crop Options

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## Agricultural Commodity Options

- Options grants the right
- But not the obligation
- To buy or sell a futures contract
  - At a predetermined price
  - For a specified period of time

## Strike Price

- The predetermined price of the futures contract
- Price at which the futures contract can be bought or sold

## Premium

- The cost of the right to buy or sell a futures contract
- The buyer loses the premium regardless of whether the option is used or not

## Real Estate Example

Suppose that on June 1, a farmer is approached by his neighbor about purchasing acres of adjacent land at \$1,600 per acre. The farmer is almost certain that he wants the land but is unable to arrange financing for six months. The neighbor proposes to grant a six-month option on the property at \$1,600 per acre in exchange for a \$12 per acre fee (\$1,200).

## Real Estate Example (cont'd)

- This option is similar to a commodity option with the following characteristics:
  - Purchaser = The farmer (Option buyer)
  - Grantor = The neighbor (Option seller)
  - Exercise price = (Strike price)
  - Expiration date = December 30
  - Premium = \$1,200

## Options are Popular because:

- Price insurance
- Limited financial obligation
- Marketing flexibility

## Two Types of Options

- Put option
  - Gives buyer the right to sell a futures contract
  - Provides protection against falling prices
  - Sets a minimum price target
- Call option
  - Gives buyer the right to buy a futures contract
  - Protects against rising prices
  - Allows participation in seasonal price rises

## Components of Premium

- Intrinsic value
  - Difference between the strike price of the option and the price of the underlying futures contract
- Time value
  - Length of time to option expiration
- Premium = Intrinsic value + Time value

## Intrinsic Value

- Positive difference between the strike price and the underlying futures price
- For a put option – strike price above futures price
- For a call option – strike price below futures price

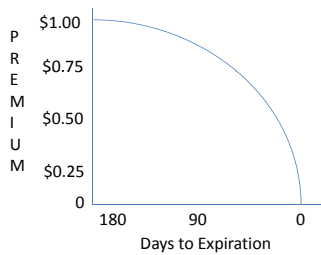
## Time Value

- Portion of option premium resulting from length of time to expiration
  - Expiration is the date on which the rights of the option holder expire
- Decreases with length of time until expiration
- Increases as price volatility of the underlying futures contract increases

## Components of Time Value

- Time
- Volatility
- Interest rates
- Underlying futures price
- Strike price

## Time Decay



## Reasons why a Producer might buy Options

Action	Reason
• Buys a Put	• Needs price protection (floor) for crops
• Buys a Call	• Needs price protection (ceiling) on feed requirements
• Buys a Call	• Has sold crops and believes prices are going to rise

## Options Worksheet

### Put

- Strike price
- Expected basis
- Premium
- Commission
- = Expected minimum net price

### Call

- Strike price
- Expected basis
- + Premium
- Commission
- = Expected maximum net price

## Short-Dated New Crop (SDNC) Options?

- Compared to standard options SDNC options provide
  - Lower time value
  - Lower premiums
- SDNC options may provide a hedge during the life of the option as effective as one with standard options, but at a more attractive price

## Minimum Price Contracts (MPCs)

- Because of the lower premium, SDNC options allow elevators to offer MPCs at a reduced cost compared to MPCs structured with standard options
- The tradeoff in using an SDNC option is the shorter length of protection (time value) provided by the contract for a lower premium cost

## How do SDNC Options work?

- SDNC options expire earlier than standard options
- In all other ways are identical to standard options
- SDNC options are offered on
  - December corn
  - July wheat
  - November soybeans

## SDNC Corn Options Expirations

Corn Underlying Futures: December											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
May SDNC											
July SDNC											
September SDNC											
December Standard Option											

## Minimum Price Contract Basics

- An elevator can structure an MPC using a Forward Contract + Call
- The farmer will deliver a specific quantity of corn to the elevator during a specific time period for an established minimum price
- The farmer would have the option to re-price the corn should any price improvement occur

## Forward Contract + Call

- The farmer enters into a Forward Contract with the elevator and the elevator purchases a Call option
- The Forward Contract price is reduced by the premium price of the call
- This establishes the minimum price the producer will be paid

## Forward Contract + Call (cont'd)

- If futures prices increase, the farmer can re-price the forward contract at a higher price
- The elevator sells the call and adds the sale price of the call to the minimum price
- If the call has remaining time value, the elevator may either retain the time value or may return it to the farmer

## Comparing MPCs with SDNC vs. Standard Corn Options

	Standard	Short-Dated New Crop		
	December Call Option	September Call Option	July Call Option	May Call Option
On July 10, 2013				
December Corn Futures	5.20	5.20	N/A	N/A
- Basis	(0.20)	(0.20)	N/A	N/A
= Forward Contract Price	5.00	5.00	N/A	N/A
- Premium	0.38	0.24	N/A	N/A
= Offered MPC Price	4.62	4.76	N/A	N/A
Protection Period	326 days	235 days	172 days	109 days

## Comparing MPCs with SDNC vs. Standard Corn Options

	Standard	Short-Dated New Crop		
	December Call Option	September Call Option	July Call Option	May Call Option
<b>Call Expires Worthless</b>				
December Corn Futures	5.20	5.20	-	-
- Basis	(0.20)	(0.20)	-	-
= Forward Contract Price	5.00	5.00	-	-
- Premium	0.38	0.24	-	-
= MPC Price	4.62	4.76	-	-
December Corn Futures	5.00	5.00	-	-

## Comparing MPCs with SDNC vs. Standard Corn Options

	Standard		Short-Dated New Crop	
	December Call Option	September Call Option	July Call Option	May Call Option
<b>Sell Call @ \$0.80</b>				
December Corn Futures	5.20	5.20	-	-
- Basis	(0.20)	(0.20)	-	-
= Forward Contract Price	5.00	5.00	-	-
+ Premium*	0.80 (0.38) <b>0.42</b>	0.80 (0.24) <b>0.56</b>	-	-
= Net Price	5.42	5.56	-	-
December Corn Futures	\$6.00	\$6.00	-	-

- In actuality the premiums are not going to be the same if futures increase. The December Call option will have more remaining time value and the September Call option will experience a larger increase in intrinsic value.

## Protection when you need it most

- If a weather event is going to happen, it's not going to happen in the fall, it's going to happen in the spring and summer.
- May SDNC protects when the corn crop is going in
- July SDNC protects when the corn crop is coming up
- September SDNC protects when the corn crop is pollinating