

# The Minimum Price Contract

# Purpose of a Minimum Price Contract

- Minimum price contracts are one of the marketing tools available to producers to help them cope with decreases in farm program support, price variability, and the growing need to be competitive in the global marketplace.

# Advantages and Disadvantages of a Minimum Price Contract

Advantages	Disadvantages
Locks in a minimum price but has upside price potential	Must pay a premium and any transaction charges
Provides some leverage in obtaining credit	Grain must be delivered to a specific elevator
Establishes a price floor and helps in production management decisions	May lose option time value
No need to deal directly in futures or options markets	During volatile markets, the premium associated with this contract can be high
Limited risk, no margin calls	
Contract quantity is often negotiable (i.e. can contract less than 5,000 bushels)	

# When to Use a Minimum Price Contract

- When the producer is concerned about protecting his break-even cost of production and needs some price protection, but the market is not offering enough profit potential to meet his objectives. The price floor of the minimum price contract offers some security for covering costs and some protection against falling prices. Thus, the producer can afford to wait and see if the market will move higher later on and bring him a better final price.
- When prices are trending higher and he finds it difficult to sell in a rising market. With a minimum price contract, he can lock in a floor price and still have upside potential if the market rallies.

# When to Use a Minimum Price Contract *cont.*

- When major and sustained price trends are occurring. The threat of margin calls makes a futures-based strategy alone much more costly in such situations. However, price volatility increases the cost of option premiums and increases the fees associated with writing and implementing minimum price contracts.

# Example 1. A Minimum Price Contract that Combines a Forward Cash Contract with the Elevator and the Purchase of a Call Option

In this case, the producer is considering locking in a floor price before the crop is even planted. During the winter (January), the producer looks at the corn futures prices for next fall to see what the market might be offering. Because he intends to harvest his corn in October, he looks at the December futures and sees that the price is \$5.20 per bushel. He also notices that the December \$5.20 call option is trading at \$0.60 per bushel. Seeing this, the producer calls his local elevator and asks at what price he can forward contract the coming year's corn production. The elevator manager says he will offer a forward contract at \$5.30 for delivery in early October (basis = +\$0.10). The producer decides that while this price is high enough to cover his costs, it is not high enough to meet his price objective and achieve his financial goals. As a result, the producer asks the elevator manager what he would offer as a minimum price contract.

In this case, the minimum price bid would be \$4.65. While this is a lower price than the \$5.30 forward contract bid, the minimum price contract has upside potential, and the producer can do better than the minimum price bid of \$4.65 if the December futures price moves above \$5.20.

If the producer chooses to accept the minimum price contract, he will sign a cash forward contract with the elevator, and the elevator will purchase the \$5.20 December call option. The long call option allows the purchaser to buy futures at \$5.20, so the elevator will make money on the call option if the future price moves above \$5.20. This is the money the elevator will return to the producer as the amount above his minimum price.

December corn futures .....	\$5.20
Forward contract for October delivery .....	\$5.30
December \$5.20 call premium .....	\$0.60

Forward contract .....	\$5.30
December \$5.20 call premium .....	-\$0.60
Commission, interest, and fees .....	<u>-\$0.05</u>
Minimum/floor price .....	\$4.65

## Example 2. Price Increases

If by harvest, the December futures price has risen to \$6.00, the December \$5.20 call option should be worth at least \$0.80. In that case, the producer would receive the \$4.65 minimum price plus \$0.80 from the call premium, for a net final price of \$5.45 per bushel.

### Harvest/October:

December futures .....	\$6.00
December \$5.20 call option value .....	\$0.80
Cash price .....	\$6.10

### Final Result:

Minimum price .....	\$4.65
December \$5.20 call option value .....	<u>\$0.80</u>
Final price .....	\$5.45

# Example 3. Price Declines

If by harvest the December futures price has declined to \$4.40 and the cash price is \$4.50, the December \$5.20 call premium should be worth \$0.00. In this case, the producer would receive the \$4.65 minimum price, and the call option would expire having no value. As prices fell, the producer was protected from the price decline by a forward contract that assured him a minimum price of \$4.65. This is 15 cents per bushel better than the \$4.50 he would have received had he sold for the cash price at harvest.

## Harvest/October:

December futures .....	\$4.40
December \$5.20 call option value .....	\$0.00
Cash price .....	\$4.50

## Final Results:

Minimum price .....	\$4.65
December \$5.20 call option value .....	<u>+\$0.00</u>
Final price .....	\$4.65

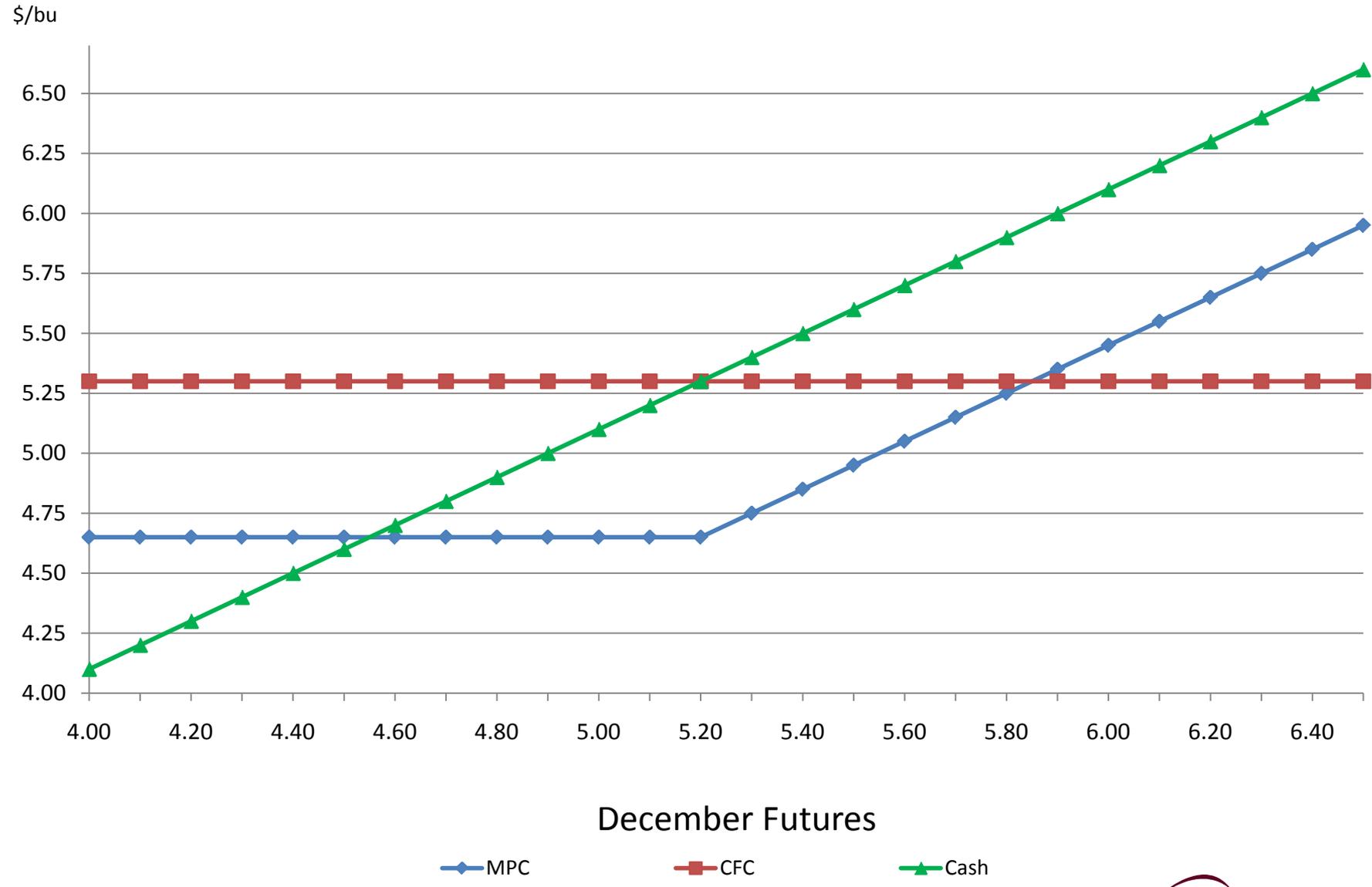
# Explanation of Figure 1.

Figure 1. compares the prices the farmer can expect to receive at harvest from a cash-only sale, a cash forward contract (CFO) based on futures prices at the time, and a minimum price contract (MPC). This assumes a current futures price of \$5.20, a +\$0.10 basis, and -\$0.65 for call option premium and fees.

The cash price is equal to the futures price at any point in time adjusted for the basis (+\$0.10). The cash forward contract locks in a price at current levels and is equal to the current futures price adjusted for basis ( $\$5.20 + \$0.10 = \$5.30$ ). The minimum price contract (MPC) is equal to the cash forward contract less premium and fees below the call option strike price of \$5.20 ( $\$5.30 - \$0.65 = \$4.65$ ). At futures prices equal to or above the strike price, the floor price is the cash forward contract price + option value – premium and fees.



Figure 1. Minimum Price Contract  
Minimum/Floor Price = \$4.65



December Futures

◆ MPC      ■ CFC      ▲ Cash

# Choice of Call

Since there are always a number of different strike prices trading at any given time, the elevator may allow the producer to choose the call option he prefers to use. This gives the producer some control over the minimum price he will receive and the amount of upside potential he will have if the market rallies later.

Since the call options with a higher strike price have a lower premium cost, the producer can get a slightly higher minimum bid price by selecting a call option with a higher strike price and a cheaper premium. Figure 2. shows that a minimum price contract using a \$5.00 call option has a floor price of \$4.55; the \$5.10 call option has a floor price of \$4.60; and the \$5.20 call option has a floor price of \$4.65. However, selecting a call with a higher strike price means that the market will have a rally further before the producer will benefit from the rise in price.

## January:

Futures price	\$5.20		
Strike price	\$5.00	\$5.10	\$5.20
Forward contract price	\$5.30	\$5.30	\$5.30
Call premium	-\$0.70	-\$0.65	-\$0.60
Commission and interest	-\$0.05	-\$0.05	-\$0.05
Minimum/floor price	\$4.55	\$4.60	\$4.65

## October:

Price if futures market rallies to \$6.00

Minimum price	\$4.55	\$4.60	\$4.65
+ Gain on call	\$1.00	\$0.90	\$0.80
= Final price	\$5.55	\$5.50	\$5.45