Chapter 3: The Fundamentals of Hedging

Plain talk that brings clarity to the what, how, when and why of options and futures.

Topics Include:
- Flexible Marketing Strategies
- The Decision-Making Process
- Strong-Basis Hedging Strategies
- Weak-Basis Hedging Strategies

Includes instructional DVD with Pro Farmer Editor Chip Flory
Flexible Marketing Strategies

Flexibility. That’s what Chapter 3 in the Pro Farmer Marketing Education Series is all about. By using exceptionally liquid futures and options contracts, risk managers can enter and exit contracts to sell or reown commodities.

Active risk managers use the flexibility offered by futures and options to balance downside price risk against upside price potential (opportunity risk). In Chapter 1 of the series (Assessing and Managing Risk), we explain the difference between conservative and aggressive risk managers and how hedgers (those willing to use futures and options in risk management plans) are typically more conservative than cash-only marketers, which is counterintuitive. Most marketers believe hedgers are more aggressive because they are willing to use futures and/or options to manage risk. From our viewpoint, hedgers are conservative because they take advantage of the flexibility offered by futures and options.

Wrong Call Versus Right Call

Using futures and options in a marketing plan lowers the risk of making the wrong risk-management move. That isn’t to say hedgers always make the right move at the right time, but hedgers do have the flexibility to correct a wrong move by offsetting an inflexible cash-market position with a more flexible futures/options position.

It’s impossible to remove all risk from the market, nor should all risk be removed. After all, with risk comes opportunity. No risk equals no opportunity.

If a cash-only marketer sells 100% of production and removes all downside price risk, then he or she has 100% opportunity risk. Simply put, the risk for this cash-only marketer is that the crop was sold too soon, perhaps before the best cash marketing opportunity of the year.

By using futures and/or options in a risk management plan, hedgers can make the same moves as the cash-only marketer (selling 100% of the crop in the cash market), but they can reduce the opportunity risk by reowning a portion of those cash sales in long futures or call options.

That reduces the likelihood of making the wrong call at the wrong time, which is a much more conservative approach to marketing than cash-only marketers’ once-and-done strategies.

There are times that downside price risk should be removed, but a spot-market or forward-contract cash sale might not be the right tool to use. When basis (the difference between the cash market price and the futures price) is wider than normal, a strategy that locks in only the price gives hedgers the flexibility to capture basis appreciation as it returns to normal levels.

It’s Not Gambling

Throughout this chapter, we’ll discuss how futures and options can be used in low-risk marketing strategies to bring stability and certainty to your marketing plans. We’ll also explain how futures- and/or options-based marketing strategies work. You’ll become comfortable with these strategies, and it will become clear why we view hedgers as more conservative marketers.

While cash-only and futures/options strategies are very different in terms of execution, the decision-making process before initiating a strategy is the same. We’re talking about managing revenue risk on the crop you grow, not blindly speculating in futures.

The fact that speculation does happen in futures and options has led some to believe any futures or options position is speculation (or gambling) on grain prices. Throughout the years, speculation in the grain markets has become very sophisticated, and there are several different levels of speculation. Before the days of electronic or computer-based trading, “day trading” was generally controlled by local traders. These are the members of the Chicago Board of Trade who participate in open outcry trading in the grain pits.

Local traders still work in the pits, but the growth of electronic trade has degraded their role. Before the explosion in grain market volatility, local traders tried to make $1/4 on a trade as many times as possible in a day. That meant they bought and sold hundreds (even thousands) of contracts each day. These traders did not care if prices were going up or down—their primary concern was that prices were moving in a predictable pattern.

Local traders provide liquidity in futures trade. Their willingness to enter and exit positions throughout the day allows the buying and selling necessary for hedgers to easily enter (and exit) futures and options positions to offset the risk of their cash (or physical) commodity. Without local traders, a lack of liquidity would make entry and exit more difficult.

The growth in electronic trade and low-cost, high-speed access to trading opened up futures and options to a whole new group of speculators. It also added a huge amount of liquidity to the markets, making it even easier to enter and exit positions. In futures and options trading, there is a buyer for every seller and a seller for every buyer. Simply put, you can’t sell a futures contract if there isn’t anyone willing to buy at the same price.

Online trading ups the odds of finding another market participant who is willing to take the opposite side of the position you want to establish.
Selling Something You Don’t Own

For many who are just learning how futures markets work, it is difficult to understand the concept of selling something they don’t own. But that’s exactly what a speculator selling futures (establishing a short position or “going short”) is doing. These speculators are selling something they have no intention of ever delivering.

On the other side of the trade, a speculator buying futures (establishing a long position or “going long”) has no intention of ever taking possession of the physical commodity. Speculators can do this by liquidating long positions or by covering short positions ahead of the delivery period.

To liquidate a long position, the speculator simply sells back the same number of contracts purchased earlier. If a speculator is long one contract of corn, the position can be offset by selling one contract of corn. This is true, however, only in the same contract month. If a trader is long one July corn contract, he or she can only liquidate the position by selling one July corn futures contract. A long position in July corn futures cannot be offset by selling a September corn futures contract.

To cover a short position, the speculator simply buys back the same number of contracts sold earlier. If a speculator is short one contract of corn, the position can be offset by buying one corn contract. This is true, however, only in the same contract month. If a trader is short one July corn contract, the position can only be covered by buying one July corn contract.

Also, the volume traded on both sides of the transaction must be equal to balance the position. If a speculator is short one July corn contract and buys two July corn contracts to cover the short, the trader will now be long one July corn contract.

That’s the big difference between speculators and grain marketers. Speculators use futures to sell something they never owned and to buy something they’ll never possess. You use futures to manage risk on commodities that represent your revenue for a year. Importantly, hedgers can enter (establish a long or short position) and exit (liquidate a long or cover a short) the market just as easily and efficiently as a speculator.

It’s All About a Transfer of Risk

Futures contracts allow you to transfer the downside price risk on your cash commodity to another market participant who is willing to accept that risk. If you own 5,000 bu. of corn in the bin, selling one corn futures contract removes the downside price risk on those bushels. That downside price risk is transferred to the buyer of the futures contract, who then has the downside price risk on those bushels. Of course, when you remove all downside price risk, you also remove all upside price potential.

Conversely, after selling those 5,000 bu. of corn in the cash market, you can reopen upside price potential by buying one futures contract. Of course, when you reopen upside price potential, you also reopen downside price risk.

Futures Do Not Cover Basis Risk

A hedge is simply offsetting downside price risk on cash grain with an equal and opposite position in futures. If you own cash grain and want to offset the downside price risk, you would sell futures. If you have sold cash grain and want to offset the opportunity risk of higher prices, you buy futures.

Basis, however, is not protected in this transaction. As discussed in Chapter 1 of this series, basis analysis should be at the core of your decision-making process when determining which risk-management strategy best fits market conditions.

In times of weak basis, the best strategies lock in price but leave basis open. In times of strong basis, use strategies that will lock in basis. In times of strong basis and an acceptable price, use strategies that lock in both price and basis.
You want to capture current profitable prices, but the trend in new-crop futures is clearly up, and you see upside price potential to $7 in December futures.

**Current market value of forward-contract cash sale**

<table>
<thead>
<tr>
<th>December futures in July</th>
<th>$6.00</th>
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<tbody>
<tr>
<td>+ October-delivery basis</td>
<td>-25¢</td>
</tr>
<tr>
<td>Current-market value, forward contract</td>
<td>$5.75</td>
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It’s hot and a little dry, but you still expect a whole farm yield close to your five-year actual production history (APH) of 160 bu. per acre.

Because basis for October-delivery corn is stronger than normal, the price of the underlying futures contract (December) is high enough to generate profits, but you see another $1 in upside price potential, you initiate a sell-and-replace strategy. You do this by forward-contracting 25% of expected production (25,000 bu.) and buying five December corn futures contracts to reopen upside price potential on the forward-contract bushels.

This means you sold 40 bu. per acre (25% of 160-bu.-per-acle APH) at $5.75 to result in revenue of $230 per acre. Another way to look at it is that you sold 160 bu. per acre on 25% of your acres to result in revenue of $920 on 25% of your acres.

This means 120 bu. per acre are unpriced. The current market value of the unpriced bushels (for October delivery: 120 bu. at $5.75 per bushel) is $690 per acre.

Because you purchased December corn futures to reopen upside price potential (and downside price risk) on the 25,000 bu. sold via forward contract, the selling price on your initial sales (likely) will change when the sell-and-replace strategy is finalized.

Because of the sell-and-replace strategy on 25% of expected production, you erased basis risk (and potential) on 25% of expected production, but you have basis risk (and potential) on 75% of expected production.

**Current market value of expected production**

<table>
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<tr>
<th>Corn sold via forward contract</th>
<th>$230/acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ Value of unpriced corn</td>
<td>$690/acre</td>
</tr>
<tr>
<td>Current market value of crop</td>
<td>$920/acre</td>
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**SITUATION 1**

- It rained in the second-half of July, temperatures cooled and yield prospects are building.
- It’s now August, and December futures have fallen to $5.50.
- Basis for October-delivery corn is now at -40¢ (normal basis in August for October-delivery corn is -50¢).
- You also now expect your whole-farm average corn yield to exceed your APH by about 10%.

You estimate your whole-farm average corn yield at 175 bu. per acre.

**Current market value of forward-contract cash sale**

| December futures in August | $5.50 |
|+ October-delivery basis | -40¢ |
| Current market value, forward contract | $5.10 |

Because yield prospects are improving and the uptrend in futures has been broken, you decide to exit the buyback strategy by selling five December corn futures contracts to zero-out your buyback hedge position. Because a forward-contract cash sale locks in basis, the weakness in basis had no impact on the 25% of your production in the sell-and-replace strategy, but it did weigh on the value of the 75% of your unpriced production.

However, because you purchased five December corn futures contracts to reopen upside price potential on the 25,000 bu. in the sell-and-replace strategy, the price slide is reflected in the current market value.

**Current market value of sell-and-replace corn (25%)**

| December corn futures when corn sold | $6.00 |
| + Basis at time of forward contract | -25¢ |
| Forward-contract cash sale | $5.75 |
| + Gains on long futures hedge | -50¢ |
| Net cash selling price | $5.25 |

**Current market value of remaining production (75%)**

| December futures in August | $5.50 |
|+ October-delivery basis | -40¢ |
| Current market value, forward contract | $5.10 |

The value of the 25% of your production in the sell-and-replace strategy is 50¢ lower than at the starting point due to the 50¢ slide in December futures. However, the net-cash selling price is 15¢ higher than the current forward-contract pricing opportunity because the initial forward-contract cash sale locked in a stronger basis. Therefore, the 15¢ slide in basis had no impact on the net selling price of the sell-and-replace corn.

The market value of the 40 bu. per acre sold in the sell-and-replace strategy is $210 per acre (40 bu. sold at $5.25). Because yield potential has improved, you now have 135 bu. left to sell (175 bu. minus the 40 bu. forward contracted). The current market value of those bushels (135 bu. at $5.10 for October delivery) is $689 per acre.

**Current market value of expected production**

| Corn sold via forward contract | $210/acre |
| + Value of unpriced corn | $689/acre |
| Current market value of crop | $899/acre |