

## Risk Management

# Considerations When Using Grain Contracts

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The grain industry has developed several new tools to help farmers manage increasing risks and price volatility. Elevators can use grain options markets to offer minimum and maximum price contracts. Yield futures can help producers manage production risk. The rapid growth of electronic information systems has accompanied the new risk management tools.

In some cases, you may need more information to effectively use available marketing tools and market information. This publication explains risk management features of various grain contracts and important business practices needed for successful contracting.

## Grain Contracting Requires Sound Business Principles

Contract details vary from elevator to elevator, and with the type of contract being considered. Common types of contracts include forward cash, basis, minimum price, and hedge-to-arrive contracts. Other publications in this series discuss specific factors important for each kind of contract.

Important business principles apply, regardless of the type of contract:

- Before you sign a contract, know and understand all of its features and how they will affect your business.
- Understand how it reduces market risk, where it exposes you to risk, and your obligations.

- If in doubt, don't sign. Get assistance if you do not understand any aspect of the contract. Ask the elevator manager or other buyer and, if necessary, an attorney.
- Know the other party to the contract. If possible, have information on the party's financial condition and ability to perform obligations. Be sure the other party can explain to your satisfaction how the contract works under all possible market conditions.
- Know how your net grain price will be determined under all conditions. If a formula is involved, be sure you understand how it works. Use it to determine what your price would be with extreme market conditions.
- Understand the implications if your production falls short of the quantity you have contracted to deliver. A production shortfall can affect your net income and financial risk exposure, as well as your ability to meet contract obligations. The contracting firm establishes a position in the futures or options market to support your contract, and hence has financial obligations that depend on timely fulfillment of your contractual obligations.
- Maintain good communication with the other party to the contract before signing and throughout the life of the contract.
- Work through a sensitivity analysis using extreme price movements and considering the possibility of your production dropping well below the contractual volume.



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Examine and thoroughly understand each of these areas before you enter into a sale or purchase contract. Remember that the contracts are legal instruments that obligate both you and the other party to certain financial commitments.

## Key Elements in Grain Contracts

While some details of grain sale or purchase contracts may vary, seven key details should be present in all contracts:

1. The quality (grade) of grain delivered or to be delivered
2. The date by which delivery is to be completed
3. The location for delivery
4. The price or formula to be used in determining the net price
5. Price adjustments if you are unable to meet the specified grade
6. The quantity being contracted
7. Signatures of both parties and the date of signing

More complex types of contracts require additional details. For example, with hedge-to-arrive contracts, alternative delivery dates may be allowed,

with extra costs involved. Changes in delivery dates, in turn, may affect price and risk exposure. The specific process for changing delivery dates should be spelled out. The delivery details are important to both farmers and grain elevators because delivery is required for the completion of contractual obligations. Some contracts also have conditions that apply if special circumstances prevent an elevator from receiving the grain by the scheduled date. Contracts also may have provisions to be used when the farmer's crop is below the contracted volume because of adverse weather or other unforeseen conditions.

## Risk Management Features and Purposes of Various Contracts

Grain prices and price risk can be separated into three components: price level (as reflected by nearby futures prices); the basis (difference between local prices and the futures market); and spreads (which reflect price differences for later delivery). Some grain pricing contracts manage only one or two of these sources of risk. Others are designed to eliminate or help manage all three types of market risk (see Tables 1 and 2). Price-related risks are not the

**Table 1. Risk exposure with various grain pricing alternatives and contracts.<sup>1</sup>**

Pricing alternatives	Areas of risk exposure									Industry risk rating
	Price level	Basis	Intra-year spreads	Inter-year spreads	Options volatility	Production risk if pre-harvest	Tax risk	Counterparty risk	Control risk	
Cash market	X	X	X						X	Moderate
Forward cash						X		X		Low
Basis	X		X <sup>2</sup>			X	X	X	X	Moderate
Price later	X	X				N/A	?	X	X	Moderate
HTA: non-roll		X				X	X	X	X	Low
HTA: intra-year roll		X	X			X	X	X	X	Moderate
HTA: 1-year inter-year roll		X	X	X		X	X	X	X	High
HTA: multi-year inter-year roll		X	X	X		X	X	X	X	Extremely high
Minimum price					X	X	X	X	X	Low

<sup>1</sup> An X in the table cell indicates the pricing alternative has significant exposure to the risk.

<sup>2</sup> Spread risk occurs if spreads change because of action in nearby futures, but basis contract is based on a later futures contract month, such as July. Narrowing spreads would mean the cash and nearby futures prices could rise more than the price obtained from the basis contract. Also, on rare occasions, basis contracts are rolled to give the farmer a longer period for choosing a price. This can involve spread risk if rolled to a later crop year, but nearby prices do not follow distant futures price moves.

Adapted from National Grain and Feed Association, "Hybrid Cash Contracts" white paper, April 1996.

only risks facing grain farmers. Other risk areas include production risk and the potential failure of the contracting party to fulfill his obligation. When a farmer prices a crop before harvest, he or she increases exposure to production risk but, depending on the kind of contract used, may reduce exposure to price risks. If production risk is large enough to

cause serious financial concerns, farmers using pre-harvest grain contracting may want to consider crop insurance to help manage such risks.

Some kinds of grain contracts require only one decision—the decision to use the contract. Other contracts may require one or more decisions at later times. When a series of decisions must be made in

**Table 2. Types of risk.**

**Price-level risk**—the risk that futures prices will change in an adverse direction from the present level. This risk typically is large and difficult to predict.

**Basis risk**—the risk that the difference between the local cash market and the futures price will move in a direction that reduces the net price to the seller. This risk usually is much smaller than price level risk and inter-year spread risk. For major crops such as cotton, corn, soybeans and wheat there is a strong seasonal pattern, although transportation problems and other unforeseen developments can alter its seasonality.

**Spread risk**—the risk that price differentials between nearby and distant futures will move in a direction that reduces your net price. This risk can be divided into intra-year and inter-year spread risk. Spread risk within a single crop year normally is relatively small, but it can be sizable in years when supplies are extremely tight. Inter-year spread risk is much larger and unpredictable. Its volatility increases sharply when supplies are small. This risk is involved when using hedge-to-arrive contracts that involve rolling the delivery date forward.

**Market volatility risk with minimum price contracts**—the risk that the net price on such contracts will not change one-for-one with cash and futures prices as the price level rises. The same kind of risk exists with maximum price contracts used for feed purchases. The size of this risk varies with market volatility, distance between options strike price and the underlying futures price, and the length of time until contract delivery. It tends to be largest with volatile markets and when the delivery date is several months away.

**Tax risk**—includes the risk of whether futures or options-based losses in contracts will be ordinary business expenses or capital losses, as well as other tax issues. For individuals, a maximum of \$3,000 per year can be deducted as a capital loss unless offset by equal amounts of capital gains. Provision is made to carry capital losses forward to later years. For corporations, no capital loss is deductible unless matched by capital gains. Elevator contracts typically do not separate these price components, but tax issues can still be critical.

**Counter party risk**—the risk that the buyer will be unable to perform part or all of his or her contractual obligations or will be unable to pay for your grain. In Texas, and many other states, grain buyers are not required to be licensed or bonded. This risk is especially important for credit-sale contracts for grain, in which the title to grain has been transferred to the buyer but payment has not yet been made. When a public warehouse acts as a grain buyer, they do have a bond, but this bond protects grain depositors for storage. Bond protection does not apply to forward contracts or other grain purchasing activities.

**Control risk**—the risk that contracts will get out of control. Some contracts require several stages of decision making beyond the initial contract signature. With these contracts, there is risk that market action will move your net return to an unacceptable level before you realize what is happening and can take corrective action.

order to complete contractual obligations, another type of risk, called control risk, is involved. This is the risk that the market position will reduce income to an unacceptable level before the farmer is aware of the implications and is able to take preventive or corrective action. View contracts either as a way to reduce risk exposure or, in some cases, as an alternative to storage that will accomplish similar purposes. Do not view contracts as a source of profit by themselves. In grain contracting, the entire position should be considered, including the cash price, remaining areas of risk exposure, and the level of net income being protected.

### About This Series

Other publications in this series provide more detail on risk management features, pricing processes, and specific types of grain contracts. Contracts covered in the series include forward cash, basis, minimum price, and hedge-to-arrive (HTA) contracts.

### Tailoring Choice of Contract to Your Marketing and Risk Management Needs

The type of contract that best fits your marketing objectives and risk management needs probably will vary with market conditions. Figure 1 illustrates market conditions that best fit various types of contracts. Several of these types of contracts leave partial exposure to market risk. Market conditions are segregated by expected direction of price level and basis change. For example, suppose the basis is unusually strong for your area at the time you are making a pricing decision. This means local cash prices are unusually strong relative to the nearby futures market.

Suppose that you believe there is a good chance the level of prices (as reflected by the futures market) will rise. Also suppose that you are concerned that the basis may weaken, but would like to participate in higher prices. Alternatives for managing these risks include using a basis contract, selling the grain and buying futures contracts, or selling the grain and buying call options.

Suppose that you expect both the level of prices and the basis to strengthen. In that case, you might want to consider storing the grain, or selling on a delayed price contract or minimum price contract. If you expect both the futures price and the basis

to weaken, you might want to consider selling the grain immediately in the cash market or forward contracting. When you expect the level of prices to decline but the basis to strengthen, risk management alternatives include sales on (non-roll) HTA contracts or sales on futures contracts. Local basis patterns and market conditions must be studied to successfully anticipate basis changes. Consider minimum price contracts when you are unsure of the direction that price levels will change but believe there is a good chance prices will rise. Minimum price contracts are based on options markets. Structured in that way, these contracts give you the ability to benefit if futures market prices rise sharply.

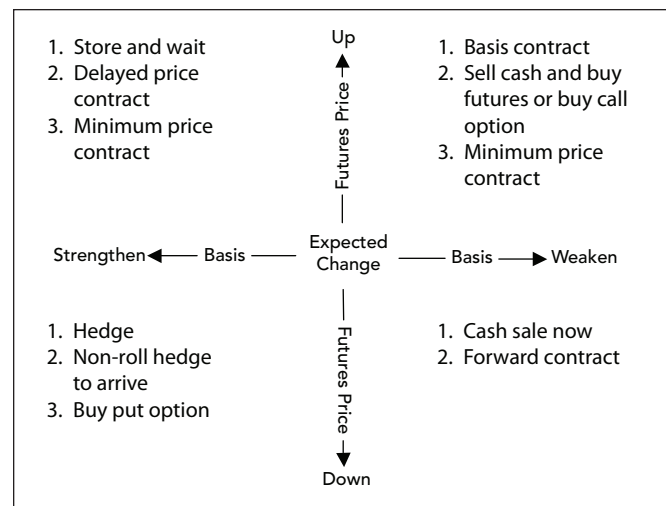


Figure 1. Best-fit alternatives for selected market conditions.

### Conclusions

Grain contracts are important tools for managing price and income risk in the volatile price environment that exists today. Using them successfully requires a complete understanding of how various contracts work, the kinds of risk they are designed to control, and the areas of risk that remain after the contract is signed. Some contracts require only one decision—whether or not to use the contract. More complex types require one or more decisions after the contract is signed. Good business rules in grain contracting are: 1) understand the contract before you sign it; 2) know and communicate with the firm or individual with whom you are doing business; and 3) understand the decision processes required for successfully using the contracts you select.

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## References

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- Ferris, John. "Developing Marketing Strategies and Keeping Records on Corn, Soybeans, and Wheat." NCR 215-4. December, 1985.
- This publication was adapted from "Commonly Used Grain Contracts," PM1697A, by Robert Wisner and Ed Kordick, December, 1996.

## Disclaimer

This publication provides information to help you understand risk management features of grain contracts. It is neither a legal document nor an endorsement of any type of contract by The Texas A&M System. Contract provisions vary and some contracts may have provisions not discussed here. Seek professional assistance if there are details you do not understand. Before entering into a contract, each individual should evaluate his or her risk exposure with extreme market movements.

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