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## *Futures Marketing*

# A MANAGEMENT TOOL FOR GRAIN ELEVATORS

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Grain elevator managers expect a fair return from their investment in grain inventories. When cash prices go up, the inventory represents greater value; when cash prices decline, the grain represents less value.

Grain inventory ownership is speculative business! The owner has taken a position at the risk of a loss or a profit. He is committing his best judgment about the direction of price change and against the market by deciding to hold rather than sell. If he is right, he profits; if wrong, he loses!

### **FUTURES MARKETING**

Grain elevator managers are not in the business of speculation. Although grain ownership is speculative, the responsible manager will seek ways to reduce risks inherent in grain ownership. The profit and loss statement produced to the board of directors reflects his ability to cope with these risks.

One method used to reduce some risk of price change on grain inventories is futures marketing.

### **Current Knowledge Required**

Supply, disappearance, production and export information is available from many sources. Statistical reporting services and other USDA agencies release weekly, monthly, quarterly and annual data used by top management. Most grain firms use this data to note changes in markets and their influence on demand. Some state universities release marketing information which is readily available through county Extension offices.

Managers of grain firms frequently generate their own market intelligence. Their own staff members are assigned to analyze markets and pro-

ject market reactions to various changing market conditions.

Grains currently traded on the futures market include grain sorghum, wheat, soybeans, oats and corn. While these commodities are somewhat interrelated, each has distinct characteristics.

### **Futures Markets**

Members of the exchanges or boards of trade include a combination of interests. Through the interaction of these interests, a price level is produced through open bidding which represents the best judgment at that moment about the future value of a commodity. Trading is conducted in a highly regulated arena under rules established by the Commodity Exchange Authority and the markets' boards of directors.

### **HEDGING IN THE FUTURES MARKET**

Elevator managers can protect themselves against risks of price change through hedging their grain inventory. Taking a futures market position equal to and opposite the cash position taken, or to be taken, is known as hedging.

Two basic concepts should be understood when attempting to hedge.

First, cash and futures market prices tend to parallel each other over time. Cash prices represent the *now* value of a grain while futures marketing attempts to measure value of the grain at some *future* date. Exceptions to this parallel movement may be observed in local markets where cash price levels reflect stronger demand than that produced by national and international trading interests. Less-than-free price movements within an area can also produce exceptions.

Second, cash and futures prices tend to converge as the selected futures contract month approaches maturity. The option of delivering grain at the

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approved delivery points causes this convergence. When the cash price is too low in relationship to futures price at maturity, sellers find it advantageous to make deliveries to fulfill their futures contract terms. Conversely, a high cash price in relationship to futures would encourage buyers to accept deliveries as fulfillment of their futures contract terms.

Where no advantage exists in making or taking deliveries, most find it more convenient to terminate their futures market positions with offsetting trades.

From a practical viewpoint, transportation differences and insurance, interest, and shrinkage should be computed. This is done by knowledgeable hedgers before any futures trading transactions are made.

### Transportation Adjustment

Transportation differences reflect the adjustment necessary to localize "basis," the spread between cash and futures prices. These adjustments may be plus or minus, depending on warehouse location, location of the major market and approved delivery points established in the futures contract.

One method of transportation adjustment follows:

Selected Futures Contract Price	<u>\$2.10</u>	
Major Market Price—15 cents over	<u>+ .15</u>	
Base price at major market		\$2.25
Major Market Bid <b>12 over</b> Delivered	<u>\$2.22</u>	
Less: Freight to major market	<u>-.10</u>	
Local f.o.b. track price	2.12	
Selected Futures Contract Price		\$2.10
Local f.o.b. track price	<u>2.12</u>	
Local "Basis" (— or +)	<u>+ 2</u>	

This transportation adjustment example assumed no advantage in making or taking delivery at approved warehouse locations specified in the futures contract, which is normally the case. Elevator managers whose conditions are the same as in the example would consider their localized "basis" (adjusted for transportation) as 2 over the futures market price quotation. A close observation of "basis" behavior is continuously monitored by the experienced hedger.

The same format can be used in computing transportation adjustment by any elevator manager, regardless of location.

### Insurance, Interest and Shrinkage Adjustment

Elevator managers' major variable costs of operation are grouped into three categories: insurance, interest and shrinkage. These costs increase or decrease depending on quantity of grain stored

in the warehouse and the ability of the manager. These costs may appear as follows:

<u>Cost Items</u>	<u>Cent Per Bu. Per Month</u>
Insurance (rate @ \$0.85 per \$100 grain valuation @ \$1.30 per bu.)	.092
Interest (based on 8 percent rate with grain @ \$1.30 per bu.)	.867
Normal shrink, margin costs, other variable miscellaneous costs	<u>.542</u>
Total specified variable costs	1.501

The computation of these costs provides the base break-even price necessary to recover monthly variable expenses. For example, 2 months in advance, the price should be \$1.33 per bushel above current price (\$1.30 plus 3 cents) to break even; 4 months in advance requires 6 cents above current price, etc. These costs plus or minus transportation adjustment, are used along with "basis" behavior to gauge whether the futures market price level offers any potential benefit.

### ACTIVATING THE HEDGE

Consider the grain firm manager who purchases 500,000 bushels of wheat at June harvest for an average price of \$1.30 per bushel. Simultaneously, he observes Kansas City December wheat futures quoted at \$1.39 per bushel.

The firm's insurance, interest, shrinkage and miscellaneous costs are indicated at 1.501 cents per bushel per month. About 9 cents should be protected if hedged (\$1.39-\$1.30), while actual costs for the 5-month storage period will be 7 cents with a transportation adjustment of plus 2—a net 5 "basis" under the December futures.

Based on developing market conditions (stocks low at major terminals and export movements remain strong, producing a strong bid to the country elevator), the manager decides not to hedge at harvest, but to follow the cash-futures price relationships closely. By his actions, he accepts the full risk of price change. If he is right, he profits; if wrong, he loses!

The following conditions develop:

<u>Date</u>	<u>Cash Market Bid</u>	<u>Futures Market (Dec.)</u>
	\$ per bushel	
August 15	\$1.40	\$1.46
September 30	1.46	1.55
October 15	1.52	1.59
November 10	1.53	1.60
November 30	1.52	1.55

The manager decides to hedge his inventory on October 15. He positions himself in the futures market (sells 100 contracts @ 5,000 bushels each for \$1.59) equal to and opposite his cash market position (owns 500,000 bushel inventory). On November 30, he accepts his major market bid of \$1.52 and simultaneously buys his 100 contracts,

liquidating his futures market position. (In the interest of simplicity for this example, bulk sales and purchases were made simultaneously. In reality, the grain firm manager would probably sell in the cash market and simultaneously remove his futures position with varying quantities of grain over time. However, the procedure in the example can be followed.)

This decision is an interesting one. The cash market moved upward through October 15 faster than accumulated costs: the cash market increased 23 cents while costs increased only 6 cents. So far, the firm manager's decision was correct. During this same period, he observed "basis" (difference between cash and futures) widening through September 30, then tend to start narrowing.

His continuous analysis of developing conditions indicated stocks were larger at major terminals and exports were slackening, resulting in less need for strong bids to pull grain from country points. His alternative local market outlets remained fairly strong, indicating local cash market prices might not decline very rapidly (such condition could be produced by local feed requirements or other demand).

These conditions prompted the October 15 hedge. Accumulated costs between October 15 and November 30 were 2.25 cents while "basis" declined from 7 under to 3 under (tending toward the original localized "basis" of +2), producing a 4-cent risk of price change shifted into the futures market. Instead of absorbing the full risk of price change in the cash market, the manager covered

his 1.5 cents per month accumulated costs plus 1.75 cents per bushel by his futures transaction.

In retrospect, it would have been wise for the firm manager to have sold his grain for the cash market bid of \$1.52 on October 15 when net return was at its maximum. Another alternative would have been to hedge on November 10, where he would have shifted 5 cents of price change risk to the futures market. However, since he held until November 30 when the cash sale was negotiated, he salvaged \$20,000 (disregarding commission and interest on margin deposits) through futures marketing.

### SUMMARY

Futures marketing is another management tool which can be used by grain elevator managers. A thorough study of current and developing conditions and "basis" behavior is recommended before attempting to shift the risk of price change by hedging. It should be kept in mind that risks of price change can be in either direction, up or down.

Successful hedging defends a price level within fairly narrow limits. Such a position provides financial protection against price change.

Note: This is one of three in a series of fact sheets developed to supplement MP-918, *Futures Trading - A Grain Marketing Tool*, released and available through the Texas Agricultural Extension Service.



