FACT SHEET

7/3/72
3,000

L-1047

Futures Marketing

A MANAGEMENT TOOL FOR GRAIN USERS

John J. Seibert*

Flour mills, feed manufacturers and feedlot managers face risks of price change when purchasing grains on demand in the cash market. For example, cash grain sorghum prices in the High Plains climbed 60 cents per hundredweight between August 1970 and May 1971! Cash market wheat price climbed 25 cents per bushel between June and October 1970; in 1971, the price jumped 10 cents in June, declined 20 cents from July through September, then climbed 13 cents between September and December.

Purchases when cash market prices are low reduce initial costs of raw inputs; conversely, high costs are absorbed when cash market purchase price is high.

Business firms using grains seek ways to reduce risks of price change inherent in cash markets. Although change in raw ingredient price is only part of the business cost, such investment represents substantial amounts of capital and can sometimes mean the difference between profit and loss.

High Level of Knowledge Essential

Analyses of market conditions as they are expected to occur require current, reliable information and past performance records of market reactions as reflected in demand-supply price changes.

Statistical reporting services, USDA and other governmental agencies compile and release daily, weekly, monthly, quarterly and annual data used by top management. Some state universities release marketing information which is readily available through county Extension offices.

Some grain consuming firms maintain a staff which analyzes markets and recommends purchasing strategies to management. When considered profitable, futures marketing is used by some of these businesses.

FUTURES MARKETS

Grains traded on the futures market include wheat, corn, oats, soybeans and grain sorghum. Oil and meal are basic products traded.

Members of the boards of trade and exchanges include a wide range of interests. Open bidding during specified hours of trading produces a continuous market. Price levels generated by these trades represent that moment's best judgment about the future value of a commodity. These price levels are then disseminated throughout the world. Trading is done with less than perfect knowledge in a highly regulated arena under rules established by the Commodity Exchange Authority and the market's board of directors.

Hedging in the Futures Market

Traditionally, grain inventory owners use the futures market to protect against some risk of price change. An equally important consideration is an attempt to shift some risk of price change on grain inventories to be acquired at some future date and held for short periods of time. This is hedging—a position taken in the futures market equal to and opposite the cash position taken or to be taken.

*Former Extension grain marketing specialist, Texas A&M University.

Texas A&M University • Agricultural Extension Service • John E. Hutchison, Director • College Station

This action is in contrast to that of speculators. Their goal is to enter and withdraw a futures market position for profit, with no intention of owning grain. The experienced hedger is interested in price protection: any profits generated are residual from trading and are not the objective!

Fundamentals

Two basic fundamentals should be understood thoroughly before a person engages in this kind of marketing.

First, cash and futures prices over time tend to parallel each other. This does not mean they will move in the same direction all the time. And, price changes will not always move at the same magnitude. Cash prices represent the *now* value of grain while futures marketing attempts to measure value of grain at some future date. Irregularities can and do occur, causing temporary dissimilar price movements. Market localities where strong demand pulls price levels up can and do exist. Such conditions may not be reflected 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 taking or making delivery in approved futures market warehouses as fulfillment of the contract terms causes this convergence. With low cash-to-futures price relationship at maturity, sellers would prefer to make delivery. Conversely, high cash-to-futures price relationship at maturity would encourage buyers to take delivery.

Where no advantage exists in making or taking delivery, most find it convenient to terminate their futures market positions by making offsetting trades and acquiring needed inventories in the cash market.

Transportation Adjustment

With the option of taking delivery at an approved grain warehouse at the specified futures market location, the expected grain inventory owner should consider transportation costs from this point to his location. These are compared with transportation from the major market normally used. The difference, if any, is used to localize the futures price quotation at his plant.

One transportation adjustment method follows:

	(Price per unit)	
Selected futures month		$1.98
Major market normally used (bid for delivery)	$+.10	
Base price f.o.b. plant from major market		2.08
Freight from futures market location	+.25	
Plant f.o.b. price		2.23
Transportation adjustment from futures market location to plant (+ or −)		+$0.15

This adjustment provides the futures-cash market purchaser an immediate comparison of cash market f.o.b. plant price with f.o.b. plant price considering the option of taking delivery at the selected futures market location.

From a practical viewpoint little advantage or disadvantage exists from taking delivery at the approved warehouse location specified in the futures contract.

Management Considerations

The plant manager with conditions identical to the above example would consider his localized price at 15 cents over the selected futures contract month. Any deviations from his localized price level should receive appropriate adjustment. This localized price level helps the manager decide when to trigger his hedging transaction.

Based on market analysis, the grain-consuming firm expects demand to increase with a limited available supply over the next 4 months, resulting in a rising cash market. The firm manager attempts to contract in his local market for delivery 4 months in advance at less than his purchasing department's projected increase. The grain warehouse manager is not willing to contract at this lower price because he will lose revenue based on his market projection for 4 months hence!

Second, entering into the decision to hedge or not to hedge are the projected price and demand of the processed or finished product. For example, feedlots compute a break-even price for finished cattle—a major component of which is grain cost. A similar procedure is followed by flour mills, feed manufacturers, etc. To maintain a profit margin, the analyst projects a maximum grain cost. Any cost above this will reduce the desired profit margin to the company's stockholders or investors.

The flour mill manager may do likewise with his processed product, of which grain is a major cost item.

Third, another management consideration is the financial posture of the company. Can the firm absorb all, or part, of the cash market risk of a price rise or of a price decline?

A fourth consideration is the margin capital commitment and brokerage charges necessary to maintain the futures market position. A leverage of approximately one to ten is committed: 10 percent of the market value of the quantity of commodity hedged per futures contract.

Futures contracts scheduled to mature in 4 months indicate a satisfactory price level, adjusted for transportation, which keeps grain cost at the company's desired minimum.

The grain-consuming firm elects to buy futures contracts scheduled to mature in 4 months. When the cash market purchase is made, simultaneous selling of equal contracts purchased originally is made (the firm withdraws its futures market position).

The grain-consuming firm defends a future price level through futures trading. With parallel cash-futures price movements, futures contract sale price is at a higher level than when purchased, offsetting the gain in cash market price.

In the event of an unexpected price decline, the grain-consuming manager may liquidate his futures market position, making his cash purchase in a lower-than-anticipated cash market. If prices climb again within 4 months, he might attempt to defend his future price level goal with new futures contract purchases.

ACTIVATING THE HEDGE

Suppose the manager of grain-consuming Firm A seeks to shift to others, through futures marketing, some risk of price change on grain purchases to be made 4 months hence. His intelligent analyst projects cash market prices to climb 10 cents — reducing the firm's profit by 30 percent.

Date	Cash market	Futures market
Sept. 23	Observes @ $1.88 per bushel	Buys Dec. futures @ $1.98½ per bushel

The above shows Firm A's initial hedged position. Grain purchases will be made in December. December futures contract purchases were made on September 23. These actions commit Firm A to (1) a protected December purchase price of $1.98½ plus 15 cents (transportation adjustment), or $2.13½ if the futures contract is held to maturity; (2) a protected $0.10½ difference between cash and futures on September 23; or (3) protection against a cash market price rise.

The following conditions occur between September 23 and December 16:

Date	Cash market	December futures market
	Dollars per unit	
Sept. 23	1.88	1.98½
30	1.88	1.98½
Oct. 7	1.88	1.95
14	1.90	1.96
21	1.90	1.99¼
28	1.90	2.00
Nov. 4	1.90	2.01
11	1.90	2.02½
18	1.90	2.00¾
Dec. 2	1.90	1.99½
9	1.90	2.11
16	1.98	2.18

The initial and close-out hedge follows:

Date	Cash market	December futures market
Sept. 23	Observes @ $1.88	Buys @ $1.98½
Dec. 16	Buys @ $1.98	Sells @ 2.18
Gain (or loss)		+ $0.19½

Approximate cash grain price $2.08 ($1.98 + 10¢ transportation) less $0.19½ = $1.88½

Disregarding broker commission and interest on margin deposit (less than 2½ cents), Firm A's net price for purchased grain was around $1.88½. The purchasing analysts were correct on the projected cash price rise.

Firm A's manager faced several decisions between September 23 and December 16.

1. On October 14, cash grain rose 2 cents while December futures were down 2½ cents — a narrowing cash-futures price relationship. If the futures position were liquidated, this transaction would result in a loss.
2. Between October 14 and December 9, cash-futures relationships fluctuated, with a tendency to widen. This condition produced some price protection. The decision to maintain the hedge was profitable.
3. On December 16, Firm A's manager purchased cash grain in his local market at $1.98 plus 10 cents transportation. He simultaneously sold December contracts at $2.18. His hedged position yielded a grain price of approximately $1.88½ — close to the cash market price observed on September 23.

More than expected risk of price change was shifted into the futures market. However, these conditions actually occurred in the grain sorghum market during 1971.

Timing the Hedge

Cash-futures market conditions occurring between September 23 and December 16 indicate the most successful timing to place the hedged position was October 7. The narrowest point between cash-futures occurred at this time – providing an additional 3½ cent advantage at the planned cash purchase date over the time when the hedge was placed.

When attempting to protect a present price level for a planned future date, a narrow cash-futures price relationship may be desirable. But this is not foolproof! Using the futures market in this manner merely protects against a cash market price rise and is subject to marketing uncertainties, including unexpected disruptions by strikes, etc.

Experienced hedgers follow historical patterns of cash-futures price relationships when timing the hedge. Previous conditions provide insight into cash-futures price reactions accompanying various changes in demand and supply. Market price sensitivity can be gauged partially by speculative and hedging interests in the futures market.

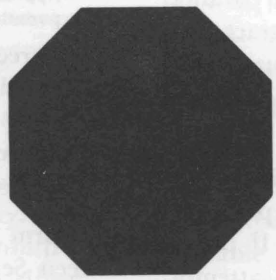
SUMMARY

Futures marketing is another management tool which can be used by grain-consuming firms. Risks of price change may be in either direction, up or down. A thorough market analysis is recommended before hedging is attempted. Planned hedging can be rewarding–acting on emotion can be disastrous!

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

Acknowledgment

During the preparation of this fact sheet, helpful suggestions were received from Mr. Lloyd Bergsma, executive vice president, Texas Cattle Feeders Association, Amarillo; Mr. Don Hayes, treasurer, and Mr. Ed O'Rourke, manager, export sales, Union Equity Cooperative Exchange, Enid, Oklahoma.



Futures Marketing – A Management Tool for Grain Users

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.

Cooperative Extension Work in Agriculture and Home Economics, Texas A&M University and the United States Department of Agriculture cooperating. Distributed in furtherance of the Acts of Congress of May 8, 1914, as amended, and June 30, 1914.
3M–5-72 AECO