Profitable Soybean Hedging for Farmers

This is one of a series of articles explaining how various segments of the soybean industry may utilize the futures market both for risk protection and profit.

There are several opportunities for farmers to avoid the risk of a declining soybean price by use of the futures market. The risk is great, and it begins in early spring when the decision is made to plant soybeans. The risk continues until harvest and only then does the profit for the farming investment become apparent, *unless* the risk has been shifted to someone else via the futures market.

Farmers can join with others in the grain business who have been so successful in using the risk-shifting technique. Furthermore, they can often increase their total return by using futures just as those in the grain business do. After all, most business interests who use futures do so with profit in mind; not to just break-even on their trades.

How It Works

There are two basic functions which futures can provide to soybean farmers. The first is to shift the risk of declining prices from planting time to harvest. The second is to shift the risk of declining price from harvest until the beans are sold, in the event that sale is delayed beyond harvest.

In the first situation advantage is taken of usual strength in prices in spring or summer. In the second situation advantage is taken of the usual post-harvest gain in cash prices which is greater than futures prices.

Growing Season Hedge

Here is a specific example, using a typical situation in the Mississippi Delta area. The same principle applies to any area but at different local cash prices. In early spring, sell November futures. Keep this "short" position until harvest unless there is a rally in the meantime due to weather or other conditions. If the rally goes above the price where futures were sold, buy them back thereby liquidating the short hedge. If the rally is substantial and it is too late to plant more beans, or there is no additional land available for beans, it may even be advisable to buy futures which is another way of enlarging the farmer's participation in a strong market. When the rally has run its course, sell out the "long" futures position and sell "short" again as a hedge to be held until harvest.

The arithmetic looks like this for 1968, a year when there was no summer price rally:

Date	*Futures trades*	*Price*
Early in March	Sell Nov	\$2.72 per bus.
Early in October	Buy Nov	2.49
	Gross Profit	0.23
	Commission approx.	0.00½
	Net Profit	0.22½ per bus.

(See Figure 1.)

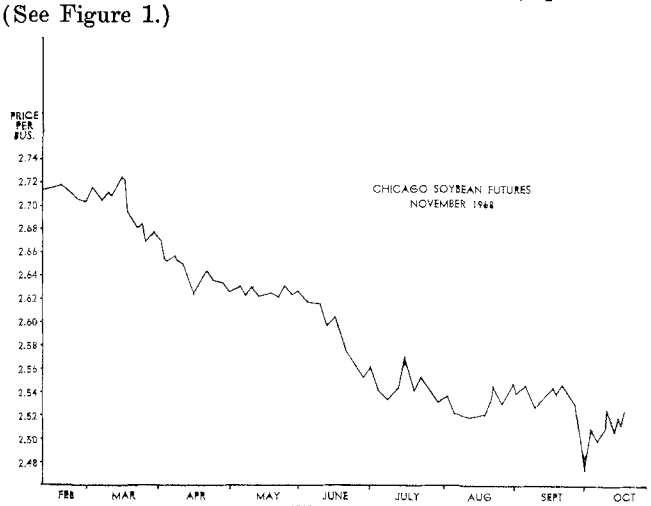

FIG. 1.

For 1966, a year when there was a sharp summer rally:

Date	*Futures trades*	*Price*
Early in March	Sell Nov	\$2.70 per bus.
Early in April	Buy Nov	2.72
	Loss plus commission	0.02½ per bus.
Mid April	Buy Nov	2.77
Mid July	Sell Nov	3.30
	Net Profit	0.52½ per bus.
Mid Aug	Sell Nov	3.30
Early Oct	Buy Nov	2.88
	Net Profit	0.41½ per bus.
	Total Net Profit	0.91½ per bus.

(See Figure 2.)

Profits from these futures transactions are added to the return for beans produced and sold. The cash price at harvest-time to a farmer in the area under consideration is usually about 15¢ under November futures each year. This year the price is \$2.38, to which can be added 22½¢ profit from futures shown above, for a total return of \$2.60½ per bushel. In 1966 the cash bean price was \$2.73 to which can be added 39¢ profit from the "short" hedge in futures for a total return of \$3.12 per bushel. There was an additional 52½¢ profit from the futures market for beans not actually produced.

Post-Harvest Hedge

As was indicated earlier, it is customary for cash bean prices to be at their poorest relation to futures at or close to harvest-time. This is because there is an abundance of cash beans offered for sale at that time. Elevators and rail cars get filled up and space is at a premium. So price drops in order to slow down marketing to a point where facilities can handle the influx. Economists refer to this as the rationing influence of price on supply in relation to demand.

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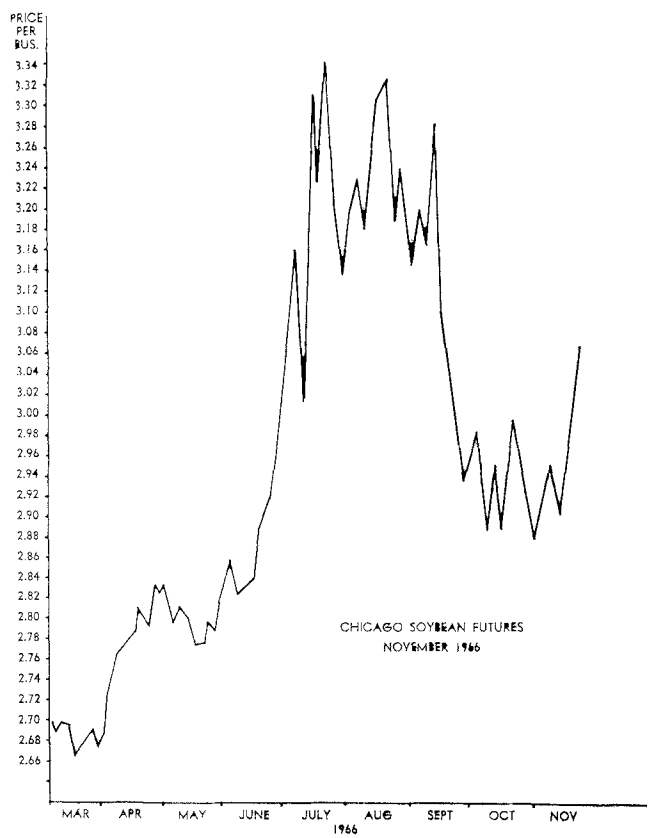

FIG. 2.

• Fats and Oils

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From the harvest-time low of cash price in relation to futures, the spread tends to narrow with a high degree of regularity. This again is an economic force which functions to draw cash beans out of storage and into use.

But beware! One cannot be certain that prices will go up after harvest. Both futures and cash prices may go down. Even when this happens, however, the cash relationship to futures can be expected to narrow.

It is for this reason that farmers, and others in the grain business too, should sell futures as a hedge when storing soybeans. There is a risk that prices will go down during the storage period. When this risk is not shifted to someone else, the one who stores grain is purely speculating. (However, if prices are at or close to the local loan level offered by CCC, this risk is not so large.) Without a futures market hedge in a declining market, the one who stores beans will surely suffer a loss and have no return for storage costs. Conversely, with a hedge in an advancing market, there is forfeited the opportunity for speculative profit but there is still a return for storage costs and probably more.

The arithmetic for 1968 may look like this, assuming futures go down:

Date	*Cash Transactions*	*Futures Transactions*
Oct 17, 1968	Store Soybeans with local price 2.38	Sell May Futures @2.63
May 1, 1969	Sell Soybeans to local elevator @2.52	Buy May Futures @2.58
	gain 14¢	gain 5¢

Total gain 19¢ (less ½¢ commission)

But even if futures go up the results are still favorable:

Date	*Cash Transactions*	*Futures Transactions*
Oct 17, 1968	Store Soybeans with local price 2.38	Sell May futures @2.63
May 1, 1969	Sell Soybeans to local elevator @2.62	Buy May futures @2.68
	gain 24¢	loss 5¢

Total gain 19¢ (less ½¢ commission)

Adding the growing season hedge profit of 22½¢ and the post-harvest hedge profit of 18½¢ to harvest price of $2.38 there would be a total return of $2.79 per bushel.

Conclusions

Farmers are particularly vulnerable to adverse price changes in soybeans. There is a large investment involved. Once the decision is made to grow beans, there is no turning back.

Farmers assume a large speculative risk if they don't use the futures market to their advantage. Even though a farmer may eventually decide to put his beans in the government loan, it is still to his advantage to use the futures market.

By using the futures market a farmer can:

1. Maximize his return for anticipated production of a growing crop.
2. Expand his market participation during summer months by buying futures in an advancing price situation even though he can't expand acreage.
3. Reduce risk of price erosion while grain is in store and expect a return to cover costs of storage.
4. Decide to not grow soybeans at all if the futures market indicates a price that pays a less profitable return than an alternative crop. Then later in the season if prices show an improving tendency but it's too late to plant beans, he can buy futures and participate in the price increase as though he had grown beans.

Cash prices are usually poorest when most farmers are selling, and highest when most farmers have no beans for sale. The futures market makes it possible for them to sell the crop when prices are to their best advantage.

David M. Bartholomew,
Commodity Analyst
Merrill Lynch, Pierce, Fenner & Smith
Incorporated

• *New Books . . .*

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media, including environments of each of the nonmetals. A final short section (9 pages) gives the toxicities of the elements.

The book has frequent examples of poor editing, which may make it necessary at times to recur to the original literature for confirmation of data. For example, the energy of lowest resonance for Pu-239 is given on page 221 as 0 + 0.05 and for Pu-240 as 1.057–0.002 kev instead of 0 ± 0.05 and 1.057 ± 0.002.

There are some curious omissions. For example, the table on abundance of elements in the earth's crust (page 8) includes all the stable elements except chromium and arsenic. In the table on the energy levels of nuclei, pages 181–197, which could not, of course, pretend to be complete, there are nevertheless many blanks for spins which were well established at the time of the American edition, when this table was added. A few examples include Fe-57 for which the spin in the ground state is given as 3/2; 1/2 and no spin is given for the 0.014 Mev state, Eu-151 for which no spin is given for the 0.020 Mev state, Eu-151 for which no spin is given for the 0.084 Mev state, Sn-119 with no spin for the 0.024 Mev state and I-129 with no spin for the 0.027 Mev state. For a table which purports to give such information this is inexcusable. A vexing omission is the lack of definitions of the symbols used in many of the tables.

Nevertheless, by its very nature this cannot help being a very useful book.

Although undoubtedly much of the information given in this handbook is available in other handbooks, this is the first instance which this reviewer has seen in which such a large variety of information concerning the chemical elements themselves has been gathered together in one place. Consequently it should be a most useful reference for anyone who has much occasion to deal with the elements in their elementary form.

A. Clifford
Chemistry Department
Virginia Polytechnic Institute
Blacksburg, Va. 24061

Technology of Paints, Varnishes and Lacquers, edited by Charles C. Martens, (Reinhold Book Corporation, 744 p., 1968).

This book contains 36 chapters dealing with all important phases of coatings technology. Its editor, Charles C. Martens, is the author of five chapters and the introduction. He has joined with 37 other highly qualified contributors to produce a comprehensive, well organized treatment of coatings technology. References are more than adequate for a book of this type although a few chapters are weak in this regard. The book has good pictures, graphs, charts and illustrations, and diagrams which are helpful in understanding chemical reactions.

Technology of raw materials, formulation, production, testing and application of protective coatings comprise over half the book. Performance evaluation is given for specific coatings for trade sales, industrial usage, and maintenance. Several related topics such as color science, aerosols and safety are discussed.

This book should be useful to all technical personnel working in the coatings field, formulators of coatings, raw

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