Lard Prices vs. Soybean Oil Futures

SINCE THERE IS NO LONGER a futures trade in lard, the question is sometimes raised about seeking price protection in some affiliated futures contract. It is generally assumed that grain sorghum, for example, is hedged in corn futures, so the practice of hedging across commodity lines is not new. The purpose of this study was to explore the practicability of using soybean oil futures in a similar manner.

There is some substitution of lard for soybean oil, and vice versa, in shortening, margarine and certain other products, though not a large percentage. The amount of substitution revolves on ingredient limitations and price relationships, as would be expected, with these relationships subject to all the normal influences of supply and demand, government programs, local conditions, etc. Therefore, a careful appraisal of these various influences should provide some indication of when lard can be hedged against soybean oil futures and when it should not.

In this study published quotations of loose lard at Chicago were compared with closing prices of soybean oil futures on the Chicago Board of Trade. Friday quotes were used with no accommodation for fluctuations during the week. This was done so as to remain objective in making comparisons, thereby eliminating the temptation of using selective choices made after the fact in order to prove a point. For futures prices, the July contract was selected as being most representative of seasonal carrying charges available to compensate for storage costs, thus mostly avoiding the not infrequent "weather market" of August and the season-end concern of September. In the interest of consistency, no deviation was allowed in using other futures months though sometimes this would have been advisable. No attempt was made to examine years prior to the marketing year 1961–62 since before that year there was less substitution between lard and soybean oil, and because beginning with that year, there have been a sufficient number of variable influences to test the range of deviation.

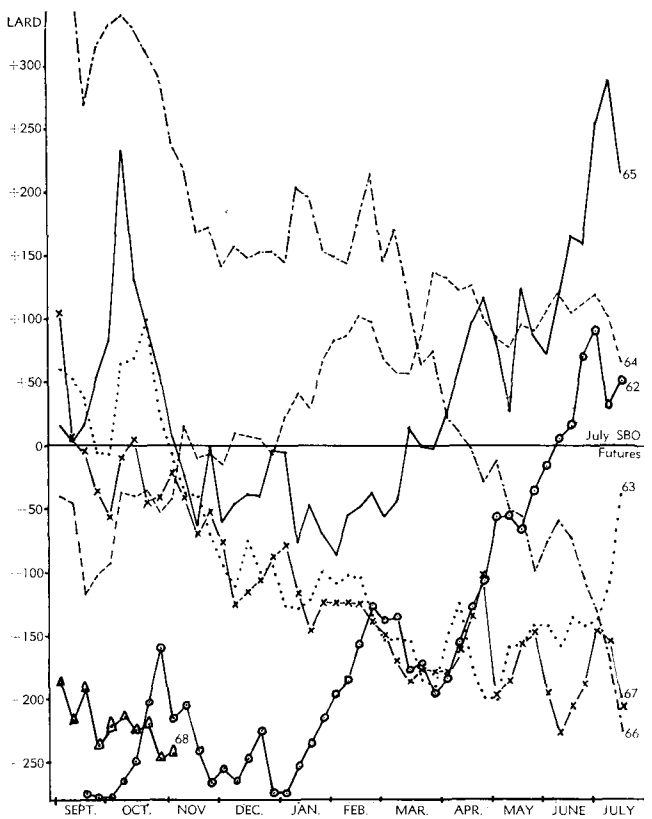

FIG. 1. Price loose lard Chicago vs. July soybean oil futures.

Objective

To determine the feasibility of using soybean oil futures to seek price-level protection on lard, while retaining the opportunity for securing profit on the cash basis difference. This is not hedging in the purest sense because lard cannot be delivered in satisfaction of soybean oil futures contracts. In some cases it may be possible, however, to actually price lard on a soybean oil basis just as cash oil would be priced, while in others cases it may not. This would depend on whether or not the party on the other side of the cash transaction also has a position in soybean oil futures.

Seasonal Variations

It was found that each year has sizeable changes in the price relationship between lard and July soybean oil futures, usually much larger than between cash soybean oil and soybean oil futures. Profitable pricing relative to futures in any commodity is dependent upon changes in the cash basis, but when these changes are of a magnitude such as shown in this study, price level protection while seeking a profit in basis changes becomes especially desirable.

Some years, however, are quite different from others as shown on the accompanying chart. These differences are explained by the variations in supply of and demand for lard as compared with soybean oil. Two important observations were noted in analyzing these differences. *One,* the lard basis worked higher during the years when these were reasonable "carrying charge" increments in soybean oil futures out to July, accompanied by a trend toward lighter hog slaughter. *Two,* the lard basis worked lower during the years when there were narrow "carrying charge" increments (or even inverted prices) in soybean oil futures out to July, accompanied by a trend toward heavier hog slaughter.

Techniques

With these conditions it is possible to describe some typical trading techniques for the person with a stored lard inventory and for the user of lard who has limited storage capacity.

1) *Lard in Storage.* When the lard price early in the season is *below* July soybean oil, there are reasonable "carrying charges" between futures months, and the trend is toward lighter hog slaughter, it is advisable to store lard and sell July futures. A profitable improvement can be anticipated in the basis when later in the season lard is sold and futures bought back.

When lard price early in the season is *above* July soybean oil futures, it is profitable, of course, to sell lard promptly with no consideration of storing or hedging. Later in the season a hedging opportunity may develop.

2) *Lard to Purchase.* When lard price early in the season is *below* July soybean oil, there are reasonable "carrying charges" between futures months and the trend is toward lighter hog slaughter, it is advisable to book lard for future delivery up to nine or ten months if possible. July soybean oil futures would be sold with futures being bought back as cash lard is actually purchased or sooner if lard basis continues to weaken. This transaction assumes the basis will improve at a more rapid rate than the monthly storage increment charged when the lard was booked.

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First Armour Creative Science Award Won by Armour Industrial Chemical Company

W. W. Prince, President of Armour and Company, tonight presented the first annual Creative Science Award to the Armour Industrial Chemical Company for successfully developing two new lines of chemicals.

The award, presented at a dinner in the Union League Club, salutes a team of eight Armour scientists: M. R. McCorkle ('47–56;'59), H. E. Tiefenthal, E. J. Miller, P. L. Du Brow, N. D. Gordon, L. D. Metcalfe (1959), R. H. Potts (1938) and S. H. Shapiro (1960). This scientific task force created two groups of chemicals called Beta Amines and Arylates.

The new chemical groups consist of approximately 100 new nitrogen and fatty acid derivatives. The Arylates are unique chemical specialties of interest to the textile, plastics and other industries, while the Beta Amines function better and are less costly than previously available amines.

Mr. Prince, in presenting the awards, said: "This is an outstanding accomplishment in chemical technology. The Beta Amine and Arylate program represents the most important development in the industrial fatty chemical field in the past 15 years.

"The breakthrough," he continued, "is equivalent in technical and economic significance to Armour's two earlier major chemical accomplishments—fractionation of fatty acids and development of the fatty nitrogen chemical business."

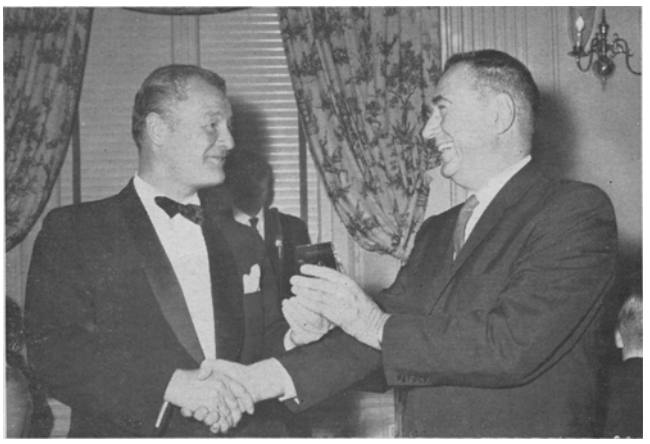
The Armour Creative Science Award was instituted this year in order to recognize outstanding scientific work accomplished by the research organizations of Armour's major operating groups, W. C. Lothrop, Vice President-Corporate Development, originator of the award, said.

The panel of judges on the Armour Creative Science Award committee are: Karl Folkers, President of the Stanford Research Institute, Menlo Park, Calif.; H. O. McMahon, President of Arthur D. Little, Inc., Cambridge, Mass., and B. D. Thomas, President of the Battelle Memorial Institute, Columbus, Ohio.

"It is significant that the Creative Science Award should be presented to the Industrial Chemical Division," Dr. Lothrop said, "because the growth and progress of this division depends heavily on the development of new products and new technologies."

In accepting the award on behalf of Armour Industrial Chemical Company, J. H. Gardner, President, said the research program succeeded because of the determined efforts of the scientists to overcome all obstacles and because of their ingenuity and creativity.

"It was a fine team effort under the leadership of M. R. McCorkle and the specific direction of H. E. Tiefenthal," Dr. Gardner said. "All the technical skills of Armour Industrial Chemical Company were employed in achieving the chemical breakthrough. It combined process, product and application technology plus a high degree of skill in solving engineering problems."



W. W. Prince, President of Armour and Company, congratulates M. R. McCorkle, Technical Director of Armour Industrial Chemical Company, for his directorship of team of Armour scientists who created new group of chemicals. Dr. McCorkle received crystal plaque commemorating first annual Creative Science Award made for outstanding research work at Armour.

The first award was an engraved crystal plaque presented to Dr. Gardner. Dr. McCorkle, Vice President and Technical Director, accepted a second engraved crystal plaque on behalf of the Research Laboratory located at McCook, Ill.

Individual engraved crystal plaques were presented to the team members: S. H. Shapiro, R. H. Potts, P. L. Du Brow, N. D. Gordon, L. D. Metcalfe, E. J. Miller, and to Dr. McCorkle and Dr. Tiefenthal, Assistant Research Director.

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When lard price early in the season is *above* July soybean oil futures the lard user would buy cash lard only for immediate needs in anticipation of a weakening basis relationship later in the season. He, therefore, would buy July soybean oil futures as a hedge for future needs, since the basis should weaken, followed by sale of futures as cash lard is bought.

Conclusion

Price relationship patterns between cash lard and July soybean oil futures are not repetitious from year to year, but there are recognizable causes for this diversity under most conditions. The basis changes during a given season are greater than usual commercial storage charges for lard. It therefore is possible in most seasons to make profitable hedging decisions while gaining protection from adverse price level changes.

Current Situation

What about the season ahead? It is shaping up to be a season when the lard basis starts low and moves higher. Just how much higher is difficult to say, but it is safe to assume from previous years' experience that the improvement will exceed usual storage costs.

During September and October the basis on lard was 200 to 250 points below July soybean oil futures. From here it could move lower, but any such move should be short-lived. Hog slaughter has been maintained at a higher rate than was expected, but animal weight has been dropping. This plus anticipated reduced rate of slaughter should help lard prices, while new crop soybeans are available for crush in larger quantities than ever in history. And there are reasonable carrying charges in soybean oil futures out to July. Then to top it off, the USDA has committed itself to a relatively high soybean support price, and has implied that it will do all it can to keep soybean oil from going too low so that soybean meal will not go too high. Beans are crushed for oil and meal. Crushing profits have to come from one or the other, or a combination of the two.

These factors all point to an improving price relationship between cash lard and July soybean oil futures in the months ahead.

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