The Future of Soybean Meal Futures

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Those who trade soybean meal futures often find the price movements and trends to be more frustrating than in other commodities. This sentiment is expressed by commercial and speculative interests alike, and seems to be heard more often in recent months than in the past. There certainly are price making influences in meal that are not so prevalent in other items. It would be well to examine these, and perhaps the shroud of mystery can be penetrated.

Oil vs. Meal

When soybeans are crushed, the result is oil and meal. Until they are crushed they have no economic value. They are not crushed unless the demand for the products will make the crushing enterprise profitable. It is easier and less expensive to store beans than products.

Soybeans have less oil content than nearly all other oil seeds. Conversely they have more meal, and it is of higher quality than others. Therefore plant breeders have purposely developed them with meal in mind. Thus we should properly call soybeans a "meal seed" instead of an "oil seed."

This author wrote an article on this subject a few years ago, which appeared in the June 1967 issue of JAOCS. Then in the last half of 1969 the situation began to change. Oil supplies in the world, as well as the U.S., began to diminish. Production failed to increase as much as demand. This situation still prevails, but could be changed rapidly in 1972 if weather in major producing areas is favorable.

For the past two years a large proportion of the soybean crush has been due to the demand for oil, of which soybeans have less than nearly all other oil seeds. This has had the result of producing too much meal, with stocks of meal building up uncomfortably at frequent intervals.

Feeding Demand

Under such circumstances it would be expected that meal prices would slump lower than they did. It just so happens that in the 1969–70 period broiler numbers were increasing, and in the 1970–71 period hog numbers increased while broilers settled back. Now broilers are increasing again while hog numbers will be decreasing in the months ahead.

Fishmeal is a strong competitive factor against soybean meal, especially in poultry feeds. The supplies of fishmeal increased in this period, and could have been a price depressant on soybean meal. But the government of Peru chose to withhold sales of fishmeal, except at relatively high prices, so this pressure was never felt.

Corn Prices

A sharp reduction in the 1970 corn crop also played a dominant role in supporting soybean meal prices. The high price of corn caused animal feeders to use more protein in the feed ration so as to achieve more rapid weight gains with greater feed efficiency. In the case of cattle, it was cheaper to use more protein feed and less corn, than to use more corn with synthetic protein called urea. The high feed grain cost also forced animal feeders to seek out the cheapest source of proteins. This caused a narrowing in the price spread between 44% and 49% soybean meal. The demand for soybean hull feed increased, and this forced the production of more 49% soybean meal at the same time that broiler numbers were down. Broilers are the principal consumers of 49% meal. Meanwhile cattle feeders also turned more heavily to other protein sources, such as linseed meal and wheat mill feeds, since the cotton crop was lower and cottonseed meal was in restricted supply.

Crushing Profits

This extraordinary sequence of events caused crushing industry profits to reach unprecedented heights. There was a strong demand for both products, while at the same time soybeans were in surplus supply. The carryover had reached the unheard of level of over 300 myn bushels, which at that time represented one third of a year's demand. Much of this was in government inventory, and most of the rest was held out of free supply by farmers who utilized the loan program. All this surplus could be available to the free supply at a price, and prices gradually worked up to levels that drew the beans into consuming channels since new crop production in 1969 and 1970 was not large enough to meet the demand.

As futures prices for oil and meal advanced more sharply than the prices of beans, it was natural for crushers to buy bean futures and sell product futures—the traditional crusher spread. Then as the beans were crushed and the products sold, the futures positions were liquidated. Since the cash demand for products was strong, there was little need to make heavy deliveries on the futures. This kept product futures strong as the short-hedge positions were lifted. As a result meal futures stayed rather consistently over cash meal. There were other reasons for this discrepancy, however, and we will now move on to examine these.

Crushing Plant Expansion

In the 15 years after World War II most of the soybeans were grown in the midwest, and most of them were crushed there. During the past 10 years soybean production has been expanding in the south and southeast as an alternate crop to cotton, with some previously non-productive land being cleared to produce soybeans. This is partly because of the expanding export market for soybeans and products. Farmers receive more for beans when freight costs are less. (Soybeans are now the leading cash crop in Louisiana.)

The other principal reason for the expanded soybean acreage in those areas is the increased broiler production; simultaneously the crushing capacity in those areas has grown, chiefly to satisfy the protein demand for broilers. According to the U.S. Department of Agriculture, the proportion of the annual crush handled by mills in the midwest declined from 71% in 1960 to 58% in 1969. This development affects the soybean meal futures contract in two ways: (1) there is less demand for cash meal to flow from the midwest to the south and southeast, so midwestern cash meal has to frequently sell at discounts; and (2) the increased production of meal in areas which are not in futures contract deliverable territory cannot force an equilization of futures and cash prices via the delivery technique.

Making and Taking Deliveries

The question is quite properly asked: "If cash prices are disproportionately below the futures in a delivery month, why do not the processors in deliverable territory make delivery and why do not the users of meal take delivery?" It looks like a profitable situation for both. The answer is that it is not.

The user of meal can buy cash meal cheaper than futures price, so why bother with the futures position.

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Or he may have had a long futures position and found it more profitable to sell out his futures at a profit and then buy cash meal cheaper. There is nothing wrong with that and it can be quite profitable. Furthermore he may get delivery of meal via futures with freight billing which he cannot use, so he has paid for something he does not need. More on this later.

The crusher in existing deliverable territory has definite limits on how much meal he can put out for delivery. Since meal is not storable for any length of time, the delivery on futures is not a warehouse receipt. Instead it is a shipping certificate. In essence this means it is a lien on his future production. The regulations prohibit him from issuing more certificates than he can accomodate in a given length of time. It is conceivable that he may put out certificates up to that maximum amount, and then find himself in the embarrassing position of having to produce meal during that time for the person who took delivery via the futures while at the same time having to neglect his usual customers who then may switch to a competitive supplier.

Freight Rates

Railroads prefer hauls that are long distance, large volume and profitable, but they want business. Railroads are showing definite signs of abandonment of short distance-low volume traffic better suited to trucks. However when many rate making principles were established, getting the business seemed more important than how well it paid. This resulted in many special tariffs, including those called milling-in-transit or storage-in-transit rates. These allow raw materials to halt for storage and processing, or both, and then allow the same commodity, or the major product of processing that commodity, to proceed as if the stop had not been made. This is an advantageous rate because long hauls cost less per mile. To make sure that they get the outbound haul railroads "overcharge" on the short inbound haul, then "rebate" the "overcharge" by making the outbound rate low. Therefore the processor wants to make sure that the outbound move is long enough to recover his "overcharge." In addition the inbound "overcharge" is recoverable only if the beans (or meal) continue to move in the same general direction as they started. Since long, continuous hauls generally take beans out of the surplus (producing) area and into the deficit (consuming) areas, this encourages movement away from the heart of the belt. Cross-belt movements and "back-hauls" into the main belt are penalized, forcing Iowa meal to move west and Indiana meal east.

For illustration consider the major bean producing area to be a circle, with Illinois as the center, thus allowing Illinois meal to have the least restrictions. Consequently Illinois mills are the only ones that can offer "unrestricted" meal. "Unrestricted" means the price at which an Illinois mill will sell meal with no destination restrictions. Actually no inbound rail movement of beans will allow meal to go absolutely anywhere, but Illinois mills, centrally located and with so few restrictions, can usually find "billing" to any consuming point. In actual practice, a buyer normally does not buy "unrestricted." He knows where he will be taking the meal. By specifying a destination he can find a processor who can work billing there cheaper than the absolutely worst destination which the "unrestricted" asking price usually must cover. In reality Illinois meal moves most heavily for Illinois feed demand, to the Southeast, and for Gulf export.

The nation (and Eastern Canada) has become fragmented into sections by the railroad rate making bureaus, by competitive conditions, by trade custom, by mill location, and by transit regulations. Thus a set of cash meal quotations may specify separate Decatur prices for "Eastern Trunk Line," "Unrestricted," "Minnesota and West," "Michigan-Indiana-Ohio," "West of the River," "KC Gateway." Buyers in each territory, by glancing at this list, know roughly the delivered market in their areas.

The processor-seller has a somewhat longer and more complicated price list, including such items as different offer prices at a number of different export ports. The buyer's list is more concentrated, as he knows precisely where he needs the meal and where the consumption points are.

A centralized point had to be selected on which to base relative values for meal at other points. Decatur, Illinois, was chosen by both the cash trade and the futures market. This is because of its location in the heart of the bean production area and because of its focal point in the freight rate structure. Even meal sold from Minnesota to be consumed in California can be quickly expressed at a Decatur equivalent price.

In recent years there have been some freight rate innovations which have interjected more variables into the already complicated picture. The most important one is the hopper car, instead of the standard box car. Then there is wider use of bulk meal instead of bagged. And freight concessions are given for various aggregations of hopper cars, i.e., 5-car, 10-car, etc., up to full train load for export. Then there are mileage rates when transit rates do not apply, and of course more barges are now competing with rail rates on some hauls.

Discussion

It is normally expected that futures and cash prices should come to approximately the same level as the contract expires. If they habitually do not, there is a strong possibility that the futures contract is not performing its true economic function. The obvious conclusion would be that cash marketing patterns have changed and that the futures contract terms should be modified accordingly.

It has been explained how the cash market supply and demand factors have certainly been anything but typical of what would resemble "normal." Such abnormal circumstances will not likely prevail indefinitely, and maybe not even more than the next few months. If that is true then one would expect to see cash and futures prices again approach a similar level in the "spot" month.

On the other hand it has also been explained that production and consumption patterns have made some permanent and rather drastic changes, and the same is true of freight rates and movement patterns. Meanwhile the futures contract terms have remained virtually unchanged. It stands to reason that the industry, both buyers and sellers, cannot make extensive use of the futures market in soybean meal unless changes are made.

It appears that delivery on futures should be allowed at any qualified crushing plant, with price established f.o.b. plant. This would customarily be the equivalent of the current export price, less the freight differential from plant to port. It is assumed that export value would be the dominant influence because about 22% of the meal produced goes for export. Therefore domestic values go up or down depending on the strength of export demand for the surplus meal produced beyond domestic needs.

The futures contract should continue to be only for the 44% grade, which is still the basic norm in meal use. To trade only 49%, or to have both 44% and 49% would just invite more distortions between futures and cash. Also, to trade an export port contract would seriously disadvantage some plants in the interior and cause wide price dislocations. Furthermore a contract with delivery only for export is of little value to the domestic trade.

It is possible that the existing contract could be augumented by use of a "demand certificate" mechanism which is provided for in the soybean oil contract, but seldom used. This, however, seems to be only a patchwork remedy for a contract that is in basic need of improvement to make it more realistic for the changing cash market situation.

The soybean meal industry, both producers and users,

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• *Four Corners . . .*

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were followed by extensive discussions. The seminar was supported by the Society for Nutritional Research of the Swedish Margarine Industry, and a similar one is planned for next spring.

XIth World Congress on Lipids Planned for June of '72

The first preliminary announcement of the next World Congress on Lipids, which will take place in June 18–22, 1972, in Göteborg, has met with an unexpectedly large interest. More than 400 applications for attendance and more than 100 announcements of papers have been obtained. Participants from at least 25 countries are expected.

The program will include the following sections: (1) Lipid biosynthesis, composition and analysis (program chairmen: L-Å Appelqvist and O. Renkonen); (2) Lipid metabolism in relation to clinical problems (chairman: P. Björntorp); (3) Lipids in foods (O. Braekkan); (4) Surface chemistry (S. Friberg); (5) Oil processing (P. Möller); (6) Industrial fatty acids (R. Ohlson). Symposia planned are: (1) Flavours and lipids (chairman: S.S. Chang, USA; cochairman: E. von Sydow, Sweden); (2) Lipid biophysics (chairman: D. Chapman, England; cochairman: S. Abrahamsson, Sweden); (3) Lipid oxidation analysis (chairman: A. Seher, Germany; cochairman: R. Marcuse, Sweden); (4) Lipase and lipoxygenase (chairman: J. Boldingh, Netherlands; cochairman: C. Eriesson, Sweden); (5) Marine oils (chairman: E. Stansby, USA; cochairman: O. Notevarp, Norway).

Three courses will be arranged before and after the congress. One will treat "Mass Spectrometry of Lipids" and will be directed by Sixten Abrahamsson and Einar Stenhagen. Another—on "Surface Chemistry Methods"—is being prepared by Stig Friberg. Finally, Artur Seher, Münster, will arrange a course on "Application of Chromatography for the Analysis of Lipids."

There will be appropriate localities for exhibitions by Scandinavian firms as well as companies from abroad. Technical visits will be arranged in Helsingborg, Sweden, Aarhus, Denmark and Fredrikstad, Norway, and a number of social activities are being prepared. The second circular with the preliminary program will be distributed during December. For information please contact the Congress Office, ISF 1972 Congress, Fack, S-400 32 Göteborg 31, Sweden.

Lipids Symposium Held at Grena

During June 22–25, 1971, the VIth Scandinavian Symposium on Lipids was organized at Grenå, Denmark, as part of the activities of the Scandinavian LIPIDFORUM. These Scandinavian symposia, which take place every second year, alternating in the various Scandinavian countries, are met with increasing interest. At Grenå there were about 160 participants and about 30 papers were presented. The program has earlier been announced in Four Corners (JAOCS 48:145A, 1971). One afternoon was devoted to the discussion of 15 items of actual interest in small groups, an idea which was found very useful.

The meeting took place in a modern, most appropriate school, nicely situated at the seaside, and was very well organized by Ole Tolboe, Århus. The papers, in Scandinavian languages, are now in press provided with abstracts in English. The price of the publication will be between 30 and 50 Dan.crs., and can be ordered through LIPIDFORUM, % SIK, S-400 21 Göteborg 16, Sweden.

Oliefabrik Celebrates 100th Anniversiary

On September 14, Aarhus Oliefabrik A/S, one of the largest oil refineries in Scandinavia, celebrated its 100th anniversary. It was originally founded under the name of Aarhus Palmekaernefabrik. Ownership and structure changed through the years until factory was registered in 1918 as an independent, purely Danish-owned company. Today's total annual capacity is about 300,000 tons, and a world-wide sales organization has been established for the marketing of the products, which include oils and fats and their derivatives as well as foodstuffs. A 20 page brochure on the history and development of the Company has been published, in Danish, as a special issue of the journal *Oliepressen.*

Hans Schulze Retires

AOCS Member Hans J. Schulze '63–Sr. Partner, New Jersey Feed Lab., Trenton, N.J., has retired and is now living in Germany.

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have demonstrated that they can effectively use the futures market trading techniques when it is properly in tune with the cash market situation. They have also demonstrated that they will not use it extensively when it is unsound economics to do so.