Rapeseed & Soybean Price Relationships

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Prices of the various oilseeds usually tend to move in the same direction, much the same as various oils and proteins tend to move in the same direction. This premise holds true especially for those articles which have a high rate of end use substitutability. For those with less ease of substitution, there is a lower correlation of price trend comparison. For those sources of oil and meal which are a by-product derivative of another article, there may even be contrary price movement.

Rapeseed, soybeans, sunflowerseed and peanuts are examples of oilseeds which are grown for the sole purpose of securing oil and meal. They also have reasonably good rates of substitution between the oil produced, but somewhat lesser interchangeability of the meal. Flaxseed produces linseed oil and meal, for which there is little substitution with other oils, and the meal is best used only with cattle. Cottonseed is strictly a by-product of cotton produced for fiber, but the oil is readily substitutable, while the meal is excellent for cattle, but less adaptable for other animals. Then, of course, there are the packing house by-products of lard and tallow, and the various proteins from meat scraps, bones and feathers. And from the flour milling, brewing and hominy manufacturing industries come other protein by-product feeds.

Thus, it can be seen that there are very complex price inter-relationships between the various oils and proteins. Sometimes the build-up of by-product proteins can cause a price drop in other segments of the complex to a point that seed crushers can no longer secure a profit for their meal output and must, therefore, slow down the rate of crush. This can have the effect of forcing oil prices up as oil production also drops. On the other hand, oil is more easily storable than is meal, so there can also be circumstances where too much oil is produced as crushers seek to satisfy meal demand. Then occasionally there is the situation when oil and meal demand are equally matched to the production capabilities, which is a satisfying experience for both the industry and producers.

Rapeseed vs. Soybeans

Now for some specifics on these two crops. Rapeseed is the leading oilseed crop of Canada and soybeans are the leading oilseed of the United States. Canada has now assumed the leading position in world rapeseed production, surpassing India which was the largest single producer until 1970. Western Europe, which formerly was the second largest area, has moved into third place.

Canada's production in 1969 nearly doubled the output of 1968, and the 1970 crop more than doubled the 1969 crop, according to semi-final estimates. The recently released planting intentions estimate for 1971 shows a 29% increase over last year (Table I).

TABLE I

Rapeseed Production
(1,000 Metric Tons)

Country	1966	1967	1968	1969	1970
Canada	585	560	440	758	1,617
India	1,276	1,228	1,568	1,572	1,507
Pakistan	278	397	396	353	384
China	735	800	786	688	721
Japan	95	79	68	48	30
Europe					
France	317	433	454	512	600
West Germany	99	125	170	158	185
Sweden	87	224	228	183	164
Total West Europe	600	913	976	950	1,069
East Germany	211	273	265	164	200
Poland	448	651	712	204	525
Total East Europe	757	1,030	1,077	443	819
World Total	4,443	5,022	5,404	4,920	6,259

This paper will not go into details on the specifics of comparative properties of rapeseed oil vs. soybean oil, or rapeseed meal vs. soybean meal. There are scientific studies on their related properties and uses. It suffices to say here that there are sufficiently compatible properties of the two oils to allow for ease of substitution of one for the other in most edible products and some inedible products. And as for the meal, nutritionists are finding ways to overcome the factors in rapeseed meal which formerly restricted its use in animal feed formulas.

It should be noted, however, that soybeans are primarily crushed for their protein content since soybean meal has some characteristics which are unique among protein of oilseed origin. This is especially true when used for poultry. For this reason the plant breeders have selected seed that is high in meal content and low in oil content. Conversely, rapeseed and the other vegetable oilseeds, except cottonseed, have substantially higher oil content. The commonly used percentages of oil in various seeds is:

Cottonseed	16%	Sunflower	44%
Soybeans	18%	Peanuts	44%
Flax	35%	Palm Kernels	47%
Rapeseed	39%	Copra	64%

Thus, it can be seen that a decline in world production of higher oil yielding seeds, or an increase in demand for oil, can cause an increase in price for available supplies of higher oil content seeds, greater than would occur for lower oil content seeds. The opposite would be true for meal, i.e., if the demand is more for meal then the price of higher meal content seeds would increase more rapidly.

With this perspective in mind, we can now approach the price comparisons for rapeseed and soybeans. For this study we have used futures market prices, rather than spot cash prices, because futures markets tend to reflect general price level sentiment of the broad trade representation, while spot cash prices are more indicative of local situations which may somewhat distort the true situation. Canadian rapeseed is traded at Winnipeg and U.S. soybeans are traded at Chicago. Both markets have a good representation of both domestic and foreign trade interests. No attempt has been made to allow for the differences of currency relationships between Canada and the U.S. The prices used are those at the close, as quoted in the respective currency. For simplicity we show the weekly range in the price spread, which explains the broad band of rapeseed prices (Fig. 1–4).

We have used the March futures price relationship because it begins with the anticipation of production, carries through the harvest, and terminates well into the consumption season. In those years when prices were available as early as July, it can be seen that anticipation of production was sometimes sharply adjusted when the first official production estimates became available later in the summer.

These charts show the price differentials of rapeseed above or below soybeans. In such studies there is never any attempt to show actual prices, for they are immaterial for this purpose. However, it should be kept in mind that, while soybean price is shown as a straight line and rapeseed price is shown as a variable line, it may have been that rapeseed price held steady and soybean price changed

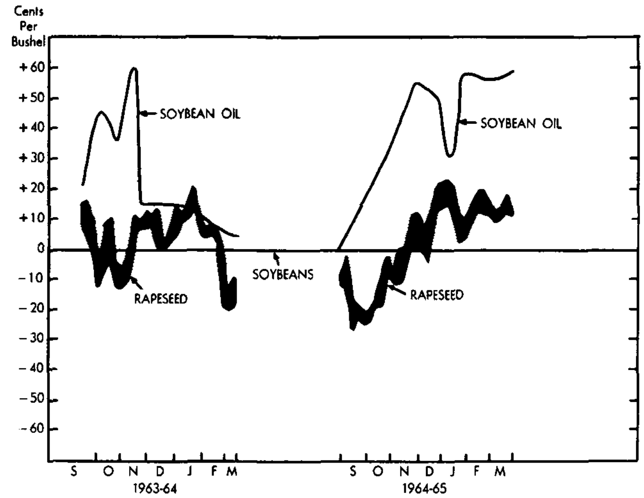

FIG. 1. Rapeseed futures vs. soybean futures March contract.

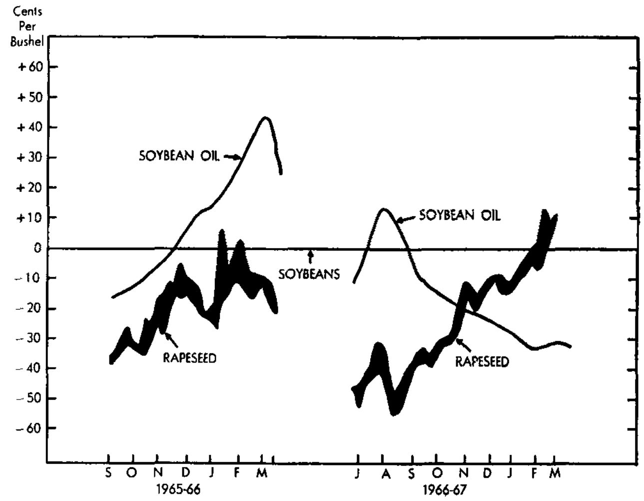

FIG. 2. Rapeseed futures vs. soybean futures March contract.

in some instances. But, of course, this is of no consequence to the trader who is long rapeseed and short soybeans, or vice versa. His only concern is that the variation between the two favors his position.

Oil and Meal Price Influences

As we explained earlier, rapeseed is primarily an oil crop and soybeans are primarily a protein crop. Therefore, it should be easy to demonstrate that the rapeseed vs. soybean relationship was responsive to oil demand, and therefore, oil price. It is, with some allowance for variations, caused by outside influences. In fact, some traders buy or sell rapeseed futures according to what is happening in soybean oil futures, or vice versa.

On the charts we have drawn a line representing March soybean oil futures prices. The actual price is not shown; only the trend advance or decline. It can be seen that there is a reasonable correlation between advances and declines of soybean oil prices and rapeseed when compared with soybeans. There were two exceptions in the years shown. One was in 1963–64 when soybean oil price was inflated unrealistically by a market manipulator, and

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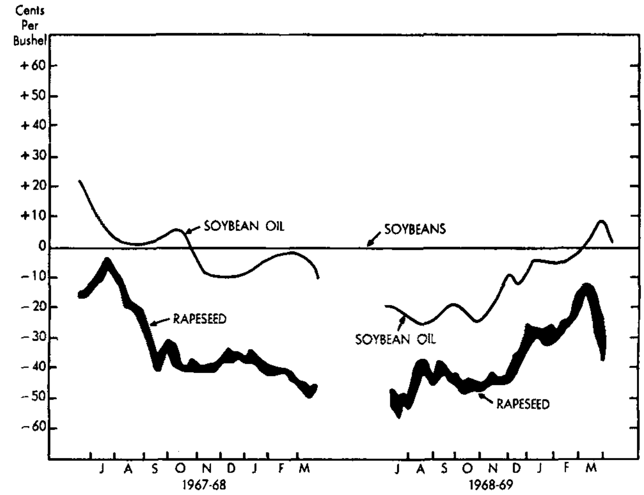

FIG. 3. Rapeseed futures vs. soybean futures March contract.

Smalley Awards 1970-1971

A list of the annual "Smalley Awards" to participating chemists for High Proficiency Ratings on analytical work performed in various Check Sample Series offered by the Smalley Committee during 1970–71 follows. In making the Awards, Series having 20 or less collaborators were given first, second and third place certificates; Series having more than 20 collaborators were awarded certificates for first place and exceptionally high ratings falling within specified percentage groups as indicated by the listings.

The Smalley Cup for highest combined proficiency on the Moisture—Oil—Nitrogen determinations on the Oilseed Meals Series and the Barrow-Agee Cup for highest proficiency on Cottonseed Analysis, together with the respective first place certificates were awarded at the Awards Luncheon, May 6, 1971, at the close of the annual meeting of the American Oil Chemists' Society.

1. *Drying Oils Series.* 11 Collaborators, 6 samples.
   First place (Final grade of 94.75): J.W. Thomas, Superintendence Company, Inc., New Orleans, La.
   Second place (Final grade of 94.50): D.E. Britton, Barrow-Agee Laboratories, Inc., Memphis, Tenn.
   Third place (Final grade of 93.75): V.F. Bloomquist, Minnesota Linseed Oil Co., Minneapolis, Minn.

2. *Edible Fat Series.* 68 Collaborators, 5 samples.
   First place (Proficiency index of 0.598): B.R. Boynton, Swift Edible Oil Co., Forth Worth, Tex.
   Exceptionally high rating: upper 10% of collaborators (Range of proficiency indices: 0.598 to 0.897):
   George Payne, Humko Products, Memphis, Tenn.
   T.C. Bond, Swift & Co., Los Angeles, Calif.
   B.G. Koiner, Safeway Stores, Inc., Denison, Tex.
   C.W. Woodger, Swift Edible Oil Refinery, Toronto, Ontario, Canada
   N.J. Simon, Armour & Company Food Research Division, Oakbrook, Ill.

3. *Gas Chromatography Series.* 35 Collaborators, 6 samples.
   First place (Final grade of 98.61): Ragnar Olson, AB Karlshamns Oljefabricker-Research Laboratory, Karlshamn, Sweden
   Exceptionally high rating: upper 15% of collaborators (Range of grades: 98.61 to 97.70):
   George Payne, Humko Products, Memphis, Tenn.
   R.P. Choi, Hunt Foods & Industries, Inc., Fullerton, Calif.
   Paul Weidinger, Lever Brothers Co., Los Angeles, Calif.
   Peter Wiertz, Vereidigter Handelschemiker, Fachlaboratorium II, Hamburg, Germany

4. *Cellulose Yield Series.* 11 Collaborators, 10 samples.
   First place (Final grade of 95.5): W.J. Johnson, Buckeye Cellulose Corp., Memphis, Tenn.
   Second place (Final grade of 93.0): R.M. Fox, Texas Testing Laboratories, Inc., Dallas, Tex.
   Third place (Final grade of 92.5): D.J. Dowling, Jr., Buckeye Cellulose Corp. (Jackson Avenue Plant), Memphis, Tenn.

5. *Tallow and Grease Series.* 67 Collaborators, 5 samples.
   First place (Final grade of 100.00): R.W. Klein, Procter & Gamble Manufacturing Co., Chicago, Ill.
   Exceptionally high rating: upper 10% of collaborators. (Range of grades: 100.00 to 99.53):
   K. Hayashibe, Nippon Yuryo Kentei Kyokai, Yohahoma, Japan
   J.G. Laird, Canada Packers, Ltd., St. Boniface, Manitoba, Canada
   W.B. Sizer, Superintendence Company (Canada), Ltd., Vancouver, B.C., Canada
   W.L. Price, Lever Brothers Company, Baltimore, Md.
   E.R. Hahn, Hahn Laboratories, Columbia, S.C.
   Frank Bullrard, Lever Brothers Co., Los Angeles, Calif.

6. *Cottonseed Series.* 34 Collaborators, 10 samples.
   First place (Proficiency index of 0.509) and winner of the Barrow-Agee Cup: E.R. Hahn, Hahn Labora-

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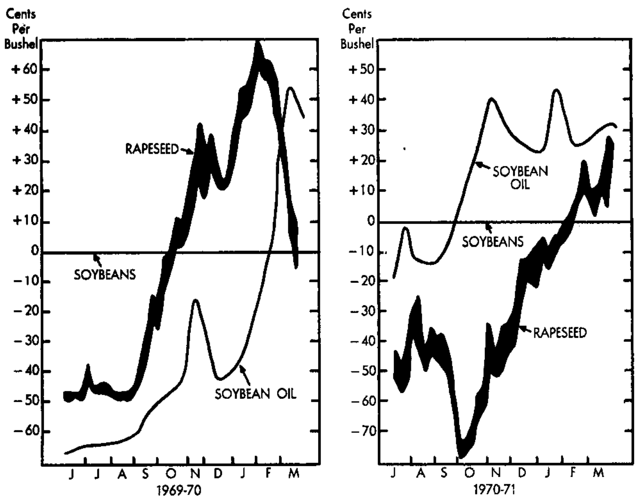

FIG. 4. Rapeseed futures vs. soybean futures March contract.

then prices broke sharply when the plot was uncovered. The other was in 1966–67 when the price of August 1966 soybeans reached $3.98, soybean meal went to $108.50, and soybean oil went to 14.58 cents in a late season tightness which was strictly a U.S. supply situation. Then as U.S. prices retreated with new crop supplies, the rapeseed market had more stability and the spread narrowed.

Additional Comment

As one views these charts it should be kept in mind that futures trading in soybeans terminates ahead of rapeseed in any given month. The last trading day in soybeans is the eighth business day prior to the end of the month, while rapeseed futures continue trading until the last business day of the month. Therefore, our spread charts obviously stop when soybean trading expires. In some years it will be seen that the charts have a trend reversal near the end, which is associated with the final trading liquidation which is sometimes strong and sometimes weak.

It also should be mentioned that total supply of either rapeseed or soybeans in some of these years was not representative of actual free market supply. In Canada there has been a delivery quota system for rapeseed, which at times did not work smoothly, and therefore created a market tightness which had no connection with total supply. In the U.S. the price support loan program has sometimes stimulated production in excess of demand which depressed prices to a level that the surplus was lodged in government hands or was held by farmers under a loan arrangement.

Currently, both of these situations are in more proper perspective to respond to real market influences. Canada is allowing more freedom of movement of rapeseed to terminal positions. The U.S. government supply has been exhausted and loan inventory is low.

Therefore, the 1971–72 season should see the two oilseeds responding to real market influences of supply and demand. As this is written, it looks like all the oilseed producing countries of the world will increase production if weather permits, because the oil markets have been strong in recent months reflecting significant shortages. This suggests that soybean prices will primarily respond to protein demand.