

Soybean Oil Consumption Patterns

D. M. BARTHOLOMEW, Commodity Analyst, Merrill Lynch, Pierce, Fenner & Smith Inc.

The question is frequently asked, "Where does all that oil go?" To answer that completely would take an exhaustive study for which there are no precise statistics. One must be satisfied with only a partial answer.

There are three major edible food categories: salad oil, shortening and cooking oils, and margarine. Beyond that, there are lesser groupings such as exports to foreign countries and the nonfood uses such as drying oils and plastics. As for miscellaneous food items, one has only to scan the grocery labels which list vegetable oil as an ingredient. More likely than not, that means soybean oil, in part or entirely.

How much of the vegetable oil ingredient is soybean oil in any of the major or minor categories is largely a function of price. How does the price of soybean oil compare with oil from cottonseed, corn, peanuts, safflower, coconut, palm, lard, tallow or other sources? And for how long will the price advantage favor one oil over another? If the price advantage appears to be only temporary, then no substitution is likely to occur because of production costs involved in switching back and forth.

Another consideration is availability at a given plant location when needed. Often times soybean oil is the only oil which can be readily available year around on a regular delivery schedule. This has become more important as soybean production has expanded south and east and with it the increase of crushing facilities in those states.

A few charts will help illustrate some of the growth that has been going on in the fats and oils complex, and in soybean oil in particular. These tell the story more succinctly than any other way. Figure 1 shows the strong growth period in salad and cooking oil from 1960 through 1964 followed by a more moderate growth in subsequent years. Soybean oil, as a component has been steadily increasing during the past decade, as shown in Figure 2.

Shortening and frying fats have been steadily growing, with a recent surge most likely associated with the development of food franchise eating establishments which have stimulated consumption of fried chicken, french fried potatoes and onion rings and other delicacies. Associated

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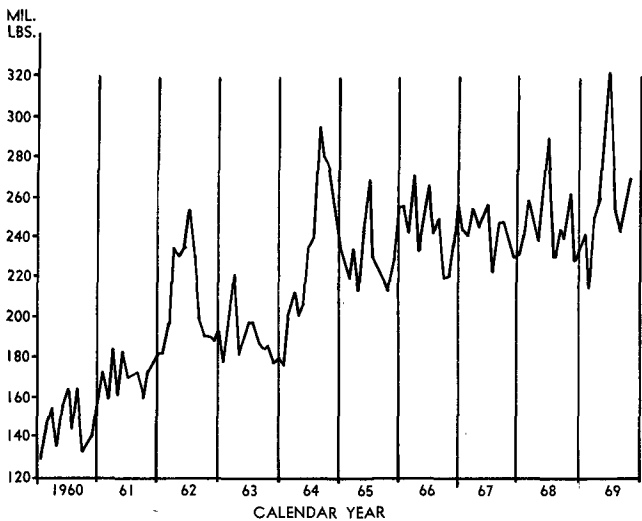


Fig. 1. Total oils used in U.S. salad and cooking oil production monthly.

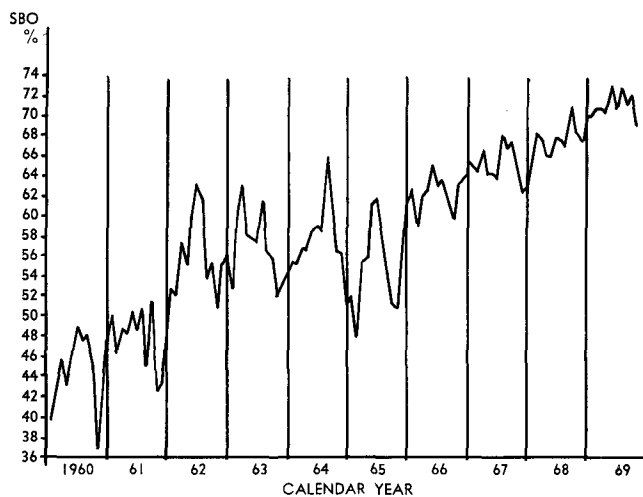


Fig. 2. Percentage of soybean oil in U.S. salad and cooking oil monthly.

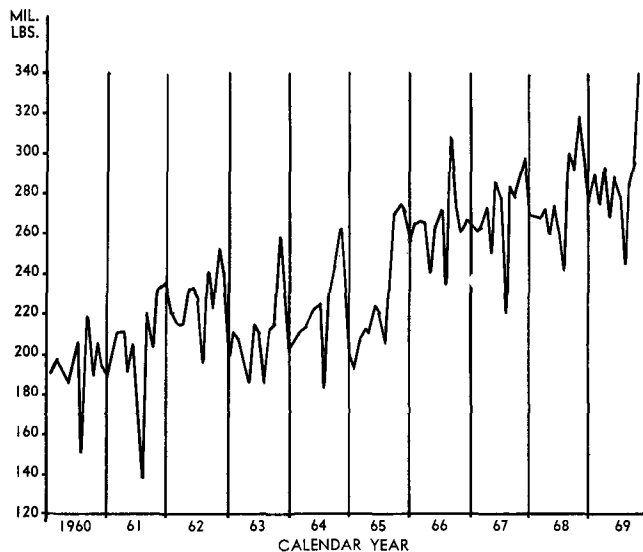


Fig. 3. Total oils used in U.S. shortening production monthly.

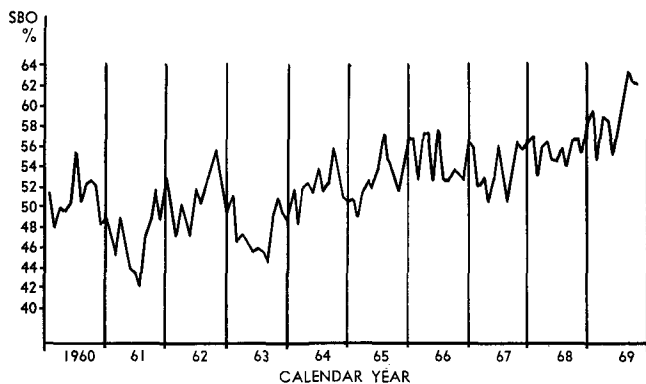


Fig. 4. Percentage of soybean oil in U.S. shortening production monthly.

• Industry Items

A new company, ANALYTICAL INSTRUMENTS DEVELOPMENT, INC., West Chester, Pa., has been formed to serve the expanding field of environmental pollution control with analytical instrumentation, standard materials and analytic methods development. According to its president, E. M. Neel, "Initial instrumentation will be designed around the analytical technique of gas chromatography." Neel said, "Our particular areas of interest are pesticide residue analysis, air pollution, water pollution and environmental health, with the aim of serving these areas with field operable portable instrumentation. The unique feature of our company is in its ability to offer not only analytical instrumentation, also to supply the methods required to perform particular analyses.

Involved in the formation of the corporation, in addition to Mr. Neel, is F. J. Debbrecht, who is V.P. and Director of Research. Both Neel & Debbrecht were gas chromatography engineering group leaders, for many years, with the F & M Scientific Div. of the Hewlett-Packard Co.

GOLLOB ANALYTICAL SERVICE, CORP., Berkely Heights, N.J., a subsidiary of Will Ross, Inc., recently announced their expansion in order to keep up with mounting industry demands. An independent laboratory, Gollob specializes in the analysis of gases and liquids, (gases in metals), mass spectrometry, gas chromatography and leak detection. Total area of the plant has been increased by 100% to a total of over 5,000 square feet. The added space has allowed the installation of new equipment which increases their capabilities as consultants in the pressing area of air pollution. They are currently concerned with measuring the amount and type of contaminants emitted by various industries into the atmosphere so that pollution abatement can be achieved.

The prominent members of a new, unique, chemical family developed by HERCULES INCORPORATED, Wilmington, Del., were featured in the company's exhibit at the Paint Industries Show in Chicago, November 5-8. Heading the new family, called Pamolyn, is the 300-Series conjugated linoleic acids, but other unsaturated fatty acids derived wholly from a vegetable source are also being offered. Pamolyn fatty acids will be commercially produced in a multimillion-dollar plant located at Franklin, Virginia. It is scheduled to be onstream the first quarter of 1970. Produced by a Hercules process which allows precision control of the conjugation step, Pamolyn 300-Series will be available in several levels of conjugation and purity. Because of the high reactivity of their conjugated double bonds, formation of many adducts with a variety of polyfunctional unsaturated monomers are possible. This reactivity is expected to lead to their wide use in a variety of industrial applications, including protective coatings, production of new chemical intermediates, printing ink vehicles, synthetic resins and specialty chemicals. Outstanding characteristics of the Pamolyn 300-Series, as related to their use in protective coatings are, pale initial color and excellent color stability; high content of conjugated linoleic acid; high total fatty acids; low unsaponifiables; high reactivity; fast-drying derivatives; good color retention on overbake; low odor of baked finishes. The Pamolyn 300-Series are designed especially for production of epoxy resin esters, conventional alkyds, modified alkyds and other resins used by the protective coatings industry.

PROCTER & GAMBLE today announced the selection of Jackson, Tenn., as the site of a food products plant. The plant in Jackson will be a unit in P&G's food products division which now produces shortening, edible vegetable oils, peanut butter and prepared baking mixes in various U.S. locations. Site preparation for the new plant will begin immediately and actual construction will start early in 1970.

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• Fats and Oils Report . . .

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with this is the increase in frozen foods which use these oils in their preparation (Fig. 3). Note that monthly production shows a dip in July, probably due to plant closings for vacations, followed by a surge in the fall to replenish supplies. Soybean oil as a percentage of total oils used has been steadily increasing, though not as sharply as in salad and cooking oil (Fig. 4).

Margarine production has grown almost parallel with population growth, with per capita consumption only slightly increased during the decade (Fig. 5). The percentage of soybean oil had been in a downtrend until 1969 when a reversal occurred due to a distinct price advantage which favored substitution of soybean oil for lard and other oils (Fig. 6).

The relative price of various fats and oils is the subject of other studies, one which involves considerably detailed analysis. It requires constant reappraisal because of the intricate complex of price-supply-demand factors which are at work. For example, one must consider the economics of soybean meal in price deliberations for soybean oil, since both are produced in the crush of beans. It is sufficient at this point to be aware that price usually responds to supply and demand, with some exceptions due to other influences. Figure 7 shows monthly average soybean oil prices during the same period as the previous consumption charts.

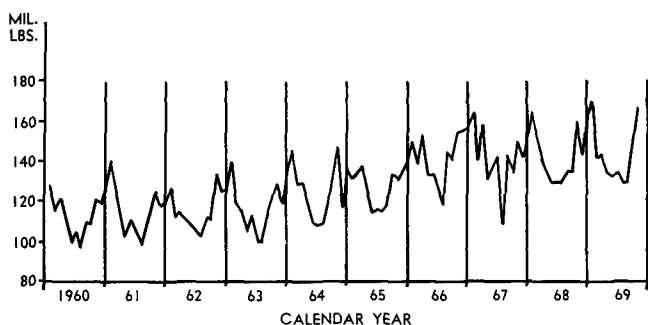


Fig. 5. Total oils used in U.S. margarine production monthly.

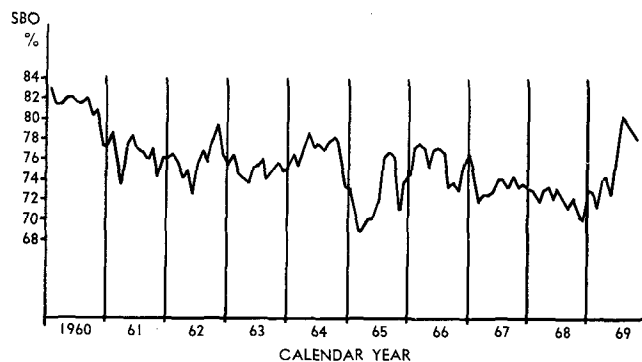


Fig. 6. Percentage of soybean oil in U.S. margarine monthly.

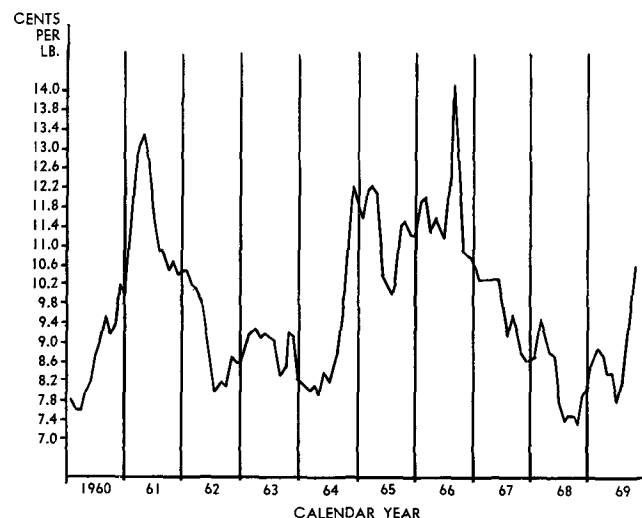


Fig. 7. Crude soybean oil price Decatur, Illinois, monthly average.

• Local Section News

Northeast Section

Manny Eijadi, Chairman of the Ninth Annual Symposium to be held at the Military Park Hotel, Newark, New Jersey, on April 14, 1970, announces the following program of the meeting:

Morning Session

- 8:30-9:15 A.M.: Registration
- 9:15 A.M.: Paper No. 1, "Chemistry of Synthetic Fatty Acids," Speaker to be announced.
- 10:05 A.M.: Paper No. 2, "Preparation and Application of Synthetic Fatty Acids," Speaker to be announced.
- 10:55-11:20 A.M.: Recess
- 11:20 A.M.: Paper No. 3, "Economics of Synthetic Fatty Acids vs. Natural Acids," Speaker to be announced.
- 12:10-2:45 P.M.: Luncheon.

Guest speaker, Juan Lefcovich, News Director, Latin American Division will speak on "Industrial and Economic Growth of Latin America."

Afternoon Session

- 2:50 P.M.: Paper No. 4, "High Pressure Hydrogenation

of Fatty Acids, Fatty Alcohols, Nitriles and Amines," Ralph H. Potts.

- 3:40 P.M.: Paper No. 5, "Fatty Alcohols—Reactions, Derivatives and Applications," John Monick, Colgate-Palmolive.

Special Note

The Speakers presenting papers will be seated for the luncheon at separate tables. Those wishing to discuss their favorite topic with them can join them by so indicating on advance registration or at the registration desk.

Space limitations will make it a first come first serve arrangement.

Register early.

Registration Including Luncheon

Northeast Section Members	\$7.00
All others	\$8.00
Students (Matriculated)	\$3.50

Checks should be made payable to: Dan Meshnick, Treasurer, Northeast Section, AOCs, and mailed to: M. Eijadi, Drew Chemical Corporation, 416 Division Street, Boonton, New Jersey 07005.