• *Fats and Oils Report*

Corn Oil Margarine Sales Gaining Rapidly

THE EXPANSION in the demand for corn oil in the manufacturing of margarine in recent years has been in excess of the increases in production of corn oil and as a result prices have risen in an attempt to ration supplies. Thus, corn oil has now become a premium oil with a normal price structure somewhat above that of its closest competitors. The increased demand has come primarily from the margarine manufacturers because corn oil is relatively higher in the polyunsaturated fatty acid, linoleic, an essential dietary substance.

Table I reveals the approximate relationships of linoleic acid content to oleic in various vegetable oils (Eckey).

TABLE I

	Corn Oil	SBO	CSO	Safflower Oil
Linoleic	55%	50%	50%	75%
Oleic	30%	25%	25%	15%

Promotional advertising regarding corn oil margarines has been strong and use of this oil in margarine has soared from only 1 million pounds in 1958 to 161 million pounds in 1965. Although at least 160 million pounds will be used again this year, the total would have been much higher had prices not advanced so sharply early in the season. Total fats and oils used in margarine during 1965 totaled 1,535 million pounds so that corn oil now represents more than 10% of the vegetable oils used in margarine manufacturing. Wholesale prices of the major food fats and oils—soybean, cottonseed and corn oils, lard, butter and edible tallow—are all closely related due to the high degree of substitution and interchangeability in manufactured food products. Until the late 1950's corn oil was used mainly as a cooking and salad oil and was therefore very closely related to the price of cottonseed oil. Thus, from January 1947 to January 1960, corn oil prices remained very close to cottonseed oil prices, although corn oil averaged slightly above cottonseed oil. The maximum premium for corn oil during this 13-year period was only 3.2 cents per pound. The corn oil premium gradually widened during 1960 and 1961 until the peak premium of 12.3 cents over cottonseed oil was reached in November 1961. The premium gradually diminished after November 1961 until a slight discount actually existed in July 1964. Prices began to rise again by late 1965 and the February 1966 premium reached another peak of 7.5 cents over cottonseed oil. By July, prices had declined so that corn oil was actually at a slight discount to cottonseed oil as apparently the high prices of late 1965–early 1966 restricted consumption by some of the marginal users. The two price peaks of 24.7 cents per pound in November 1961 and 20.7 cents in February 1966 were both caused by the accelerated demand for corn oil in margarine and the inability of the corn processing industry to increase production. About 80% to 90% of the corn oil production comes from the wet-milling of corn, the main products of which are corn starch, sugar and syrup. Table II reveals the various product yields of wet-milling corn processing and their respective percentages of the total product outturn for the past five years.

The balance of the corn oil is produced by dry-millers who make breakfast foods and distillers who make whiskey and industrial alcohols. Thus, corn oil is the by-product of other industries just as cottonseed oil is the by-product of the cotton fibre industry and lard is the by-product of the hog industry. This is unlike soybeans, which are grown specifically for usage in the end products, soybean oil and soybean meal. Therefore, it is unlikely that high corn oil prices would ever increase production of corn oil as production of corn oil cannot be achieved without production of corn starch and the increased amounts of the major product—corn starch—would depress prices of this article and finally result in poor profitability for the wet-miller. The processing margins for corn would be especially bad this coming season since the raw material is no longer in surplus and prices are 20 cents or more above the levels of the past decade. The demand for corn starch is fairly stable and tends to rise with the population growth. Our population has increased from 135 million people in 1942 to 195 million in 1965. Wet-milling of corn has increased from a World War II peak of 130 million bushels in 1942 to 205 million bushels in 1965. Thus, with only static increases in production and continued strong demand from margarine manufacturers, it would appear that relatively high corn oil prices must at least partly eliminate the weaker consumers such as corn oil users in such manufactured goods as bakery products and potato chips. Even corn cooking oil consumption is likely to suffer from the high prices. It appears that the advertising claims of the margarine manufacturers have so impressed many housewives that the manufacturers themselves have not been able to fully meet the demands of the public retail purchasing impulses.

TABLE II
(000's short tons)

	Proc.	Starch	% Yield	Sugar	% Yield	Sirup	% Yield	Oil	% Yield	Meals	% Yield
1961	4399	1038	23.6	435	9.9	1057	24.0	155	3.5	1127	25.6
1962	4799	1171	24.4	464	9.7	1178	24.6	152	3.2	1246	26.0
1963	5177	1178	22.8	526	10.2	1263	24.4	160	3.1	1298	25.1
1964	5429	1248	23.0	525	9.7	1400	25.8	183	3.4	1378	25.4
1965	5738	1318	23.0	526	9.2	1423	24.8	179	3.1	1442	25.1

And all of this is despite the fact that the theory that polyunsaturated oils are going to keep us alive longer than the saturated oils is still unproven by medical science. However, corn oil is not the only vegetable oil which is highly unsaturated and if the consumer demands this type of product the manufacturers are likely to increase their attempts to market other unsaturates such as safflower oil margarines. If this is not feasible to the manufacturer, he is likely to reduce his television promotion campaigns for those nutritious corn oil margarines in hopes of stabilizing the uptrend in corn oil margarine sales which could threaten to grow out of control.

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Committee D-12 Invites Federal, Consumer, Industrial Speakers

The Forum "Needs in Detergent Standards and Test Methods" will be a feature of the two-day Annual Meeting of Committee D-12 on Soaps and Detergents of the American Society for Testing and Materials to be held in New York City at the Barbizon-Plaza Hotel on Monday and Tuesday, Nov. 28–29, 1966.

Moderator of the Forum to be held on Monday morning in the Barbizon Room will be J. C. Harris, Monsanto Research Corporation, a former chairman of Committee D-12. Among the speakers representing the different areas of interest in D-12 work will be: Thomas Marshall. Executive Secretary of ASTM; C. C. Travis, Director, Standardization Division, General Services Administration, Federal Supply Service; Gene Kramer, Merchandise Development and Testing Laboratory, Sears Roebuck & Company; Myron Schmutzer, U.S. Testing Company; Charlotte Haas, Associate Editor, *Soap and Chemical Specialties*.

Tuesday morning a Technical Paper session will be held. Among the papers to be presented are: "Brighteners and Their Evaluation," Per Stensby, Geigy Chemical Co.; "Automation of Chemical Analysis," James Marten, Technicon Controls, Inc.; "Since the Conversion From ABS to LAS," Soap and Detergent Association.

Luncheons are scheduled each day and after the Forum. Afternoon sessions will be concerned with Subcommittee and Task Group meetings and reports.

All sessions are open to ASTM members and other interested persons. For further information contact the Committee Secretary, Jerome Schapiro, Dixo Company, Inc., Rochelle Park, N.J. 07662.