

# Vegetable Oils Increase in Foreign Trade Volume

*1929 Exceeds All Previous Years  
in Value and in Preponderance of Imports*

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**T**OPPING all previous years by a broad margin the foreign trade of the United States in vegetable oils exceeded in value by 25% the commerce of this country in these commodities in 1928 and established a new record high valuation of \$105,000,000. The ratio between imports and exports which has increased in recent years stood at 14 to 1 or exactly double what it was in 1924 when the value of our imports of vegetable oils was seven times greater than the exports. A substantial proportion of our augmented imports entered the country during the first six months of last year influenced undoubtedly by the threat of impending tariff legislation. As the possibility lessened of the imposition on many of the oils of higher rates, our vegetable oils imports tapered off correspondingly.

Unquestionably the low price level of oils on the world's markets was also a factor in accentuating the volume of our imports and was likewise responsible in part for the marked slump in our export trade in vegetable oils. Nevertheless the ratio of imports to exports demonstrates most clearly that this country is dependent on extraneous sources of supply and, as illustrated below in the case of cottonseed oil, is retaining at home greater quantities of native oils to meet the growing requirements of domestic consumption.

## *Declines Registered in Exports*

**A** VERY material decline occurred in our exports of crude cottonseed oil during 1929. As compared with 1928 volume was reduced nearly 55% and value by approximately the same percentage. Although most of our exported crude has been going to Canada for some years past and this trade suffered heavily, a notable decrease took place in exports to Mexico which country's purchases were but

one-tenth as large as during the preceding year. Greater available supplies of cottonseed in Mexico offer a partial explanation of the lessened trade with that country last year.

Refined cottonseed oil fell off in value and volume of exports last year about one-third as contrasted with 1928. In general our exports to all countries were in reduced tonnage. Particularly striking in this regard was the contraction of our trading with Mexico last year to 20% of the purchases of that country during 1928. Shipments to Cuba reflected a loss in volume of 28%; Canada 76%; while an outlet in Norway in 1928 for 76,000 pounds disappeared entirely last year. Denmark has not been a buyer of American cottonseed oil for the past several years and Sweden joined her last year while the relative unimportance of the Netherlands as a market was again emphasized by further shrinkage in volume during the year. On the other hand Japan took an increased quantity of refined cottonseed oil as was also the case in 1928. Gains were recorded likewise of approximately 14% over 1928 in our shipments to Panama; 37% in the case of the Philippines and 80% to Germany which offers but a restricted market. The outstanding instance of greater export volume was Peru, showing a three-fold increase last year over 1928.

## *Coconut Oil*

**F**OR the first time last year our exports of coconut oil surpassed both in volume and value our export trade in crude cottonseed oil and was but a few thousands of dollars less than the total value of crude and refined cottonseed oil exports combined. Little if any coconut oil leaving the country is crude which fact taken in conjunction with the expansion of the vegetable fat compound industries in Mexico and Cuba as well as a greater substitution of coconut oil for other fats in the soap industry of the latter country accounts for the growth of

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TABLE I.  
EXPORTS OF VEGETABLE OILS FROM THE UNITED STATES, 1928-1929

	1928		1929	
	Pounds	Value	Pounds	Value
Cottonseed, crude, total .....	41,126,482	\$3,455,567	19,292,131	\$1,551,091
Canada .....	39,084,810	3,282,539	19,009,862	1,521,486
Mexico .....	2,036,159	172,561	239,840	24,368
Other countries .....	5,513	467	42,429	5,237
Cottonseed, refined, total .....	10,575,764	\$1,201,158	6,782,890	\$836,565
Germany .....	39,958	4,064	71,580	10,128
Norway .....	76,567	8,213	—	—
Canada .....	813,414	84,020	188,909	30,512
Panama .....	781,603	89,142	893,331	95,673
Mexico .....	3,456,740	347,499	733,177	91,345
Cuba .....	1,812,124	182,981	1,305,270	132,060
Argentina .....	777,491	90,420	756,194	85,512
Chile .....	484,201	59,562	461,071	55,505
Japan .....	882,301	135,452	1,025,492	151,793
Peru .....	78,889	8,931	236,073	29,029
Philippine Islands .....	169,396	28,040	232,207	34,068
Other countries .....	1,203,080	162,829	879,586	120,939
Corn oil, total .....	336,945	\$49,616	315,255	\$42,329
Canada .....	30,055	3,392	35,443	3,708
Japan .....	61,895	10,837	89,996	11,723
Dominican Republic .....	5,735	784	51,686	5,423
Egypt .....	21,160	3,989	31,510	5,237
Costa Rica .....	40,200	5,940	4,975	474
Guatemala .....	69,111	9,892	18,170	2,158
British Malaya .....	14,730	2,451	22,116	3,704
Other countries .....	93,169	12,331	61,359	9,902
Coconut oil, total .....	24,652,602	\$2,088,065	29,532,396	\$2,329,340
Canada .....	8,879,808	772,035	6,961,053	582,275
Nicaragua .....	219,884	30,374	353,589	29,504
Mexico .....	13,694,509	1,094,274	15,403,072	1,088,844
Cuba .....	817,654	83,276	5,535,752	500,270
Japan .....	164,342	25,212	170,605	22,312
New Zealand .....	150,259	18,589	157,632	18,597
Other countries .....	726,146	74,305	950,693	87,538
Linseed oil, total .....	1,965,147	\$227,886	2,208,305	\$287,512
Canada .....	267,677	33,726	289,665	40,339
Panama .....	262,731	31,140	458,802	63,157
Mexico .....	164,096	20,691	167,664	23,659
Cuba .....	460,119	46,933	524,000	60,594
Colombia .....	147,556	19,408	81,741	10,414
Venezuela .....	29,022	3,608	76,913	9,274
Honduras .....	45,262	5,513	85,313	12,233
Other countries .....	588,684	66,867	524,207	67,842
Soya bean oil, total .....	7,142,097	\$756,094	7,967,396	\$767,504
Canada .....	130,972	12,333	1,472,924	107,588
Cuba .....	2,731,640	266,271	2,017,765	200,809
British South Africa .....	567,425	65,320	728,878	71,932
Dominican Republic .....	1,638,045	166,263	1,790,510	171,819
Argentina .....	434,100	46,632	433,550	41,966
Other countries .....	1,639,915	199,275	1,523,669	173,390
Vegetable soap stock, total .....	7,528,590	\$491,987	7,633,394	\$544,094
United Kingdom .....	3,390,138	154,919	3,109,148	160,644
Canada .....	2,250,137	190,210	2,126,736	176,510
Mexico .....	515,308	42,844	918,212	86,884
Cuba .....	687,890	56,057	995,974	82,512
Other countries .....	685,117	47,957	483,324	37,544
Other vegetable oils, N. E. S. ....	8,190,180	\$709,385	8,126,866	\$641,272
United Kingdom .....	18,775	3,304	293,284	19,345
Canada .....	6,043,175	518,443	5,908,605	446,882
Mexico .....	1,673,968	138,025	824,485	68,708
Cuba .....	163,682	14,649	614,474	52,171
Argentina .....	89,849	7,540	173,044	15,088
Other countries .....	200,731	27,524	312,974	39,078

our export trade in this item. Exports to Cuba were roughly six times greater than 1928, reflecting the strides made in the domestic manufacture and sale of vegetable cooking fats in the island republic. Nicaragua was a buyer of 60% more coconut oil from the United States in 1929 than the preceding year. Mexican purchases last year surpassed by 12½% that country's consumption of coconut oil from the United States in 1928. There were slight increases in exports to Japan and New Zealand markets which may hold promise of continued development. Exports to Canada fell off about 22% last year when compared with 1928.

#### *Corn Oil*

THE aggregate of our exports last year was about 6% below the total of 1928. Good gains will be observed in the instances of several countries, notably the Dominican Republic, exports in 1929 being nearly ten times greater than 1928. These gains were more than counter balanced by the much diminished export movement to Costa Rica and Guatemala which dropped to 12% and 28% respectively of the volume of the previous year.

#### *Linseed Oil*

DESPITE the fact that we were more dependent on foreign seed and oil last year than in a number of years because of the inadequacy of domestic production, our exports of this oil were 12½% larger last year than in 1928. The greater part of our export trade is with Canada and the Central American republics including Mexico. It is apparent from the fact of the increase noted that the shortage of stocks in other quarters whence these several countries are accustomed to draw their supplies may account for heavier exports from the United States. Each country that was a major customer of the United States was credited with a gain, the sole exception being Colombia, with which we did a business 45% less in volume than in 1928.

#### *Soya Bean Oil*

A GAIN of 11½% in volume marked our export trade in this oil last year. Offsetting somewhat the rather remarkable rise in Canadian purchases which were nearly nine times in excess of 1928, exports to Cuba dropped 26%. British South African trade showed healthy improvement with a gain of 30%. A smaller increase ruled in the case of the Dominican Republic, while the figure for Argentina reveals practically no change.

#### *Vegetable Soap Stock, etc.*

THE United Kingdom maintained first position which it has held consistently for a number of years as the chief consumer of soap

stock although the total of purchases of the United Kingdom fell a little short of 1928. Canada, regularly in second place was also a smaller buyer but Mexico came to the United States for 80% more soapstock in volume and Cuba to the extent of 46% more last year as compared with 1928. In the miscellaneous group of oils the total volume and value of which last year was slightly below those of 1928, Mexico gives evidence of a substantial reduction in purchases and there was a lesser loss of business for Canadian account. Cuba, Argentina and the United Kingdom in particular each made decided gains.

(To Be Continued)

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In an investigation of the chemical structure of iso-oleic acid produced during the hydrogenation of oleic acid, the mixed fatty acids prepared from tsubaki oil were hydrogenated in the presence of 0.5% of nickel at 180°C. for 75 minutes. The product, (iodine value 42.0), was separated into solid and liquid acids by the lead soap and ether process, and the solid acids were fractionally crystallized. The iso-oleic acid thus obtained had an iodine value of 41.3. Examination of the ozonide showed that the acid was a mixture of a considerable amount of 9:10 oleic acid and a small amount of other solid oleic acids (10:11 and 11:12 acids). *J. Soc. Chem. Ind. Japan, Suppl. Bind. 33, 62B, (1930).*

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It is said that a first class edible oil can be obtained by pressing at a low temperature, and that in the solvent extraction process the loss of solvents during extraction does not exceed 1%. Modern oil production calls for the installation of both processes in the efficient oil mill. *Chem. Ztg. 54, 522 (1930).*

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It is said that in the hydrogenation of oils, with a daily production of fifty tons there are 2,800,000 calories of liberated heat of reaction available for preheating the oil by a counter-current system before it enters the hydrogenation vessels. *Maslob. Zhinov. Delo 1929, No. 1, 17-8.*

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J. Davidsohn, in *Chemische Umschau Fette, Oele Wachse Harze*, 37, 193-6 (1930) reports the conclusion that the Kreis test is an unreliable criterion for rancidity of fats. Davidsohn bases this conclusion upon experiments he has performed on mixtures of rancid fats with fresh fats.