Oils and Fats Situation[1]

GEORGE L. PRICHARD, Executive Secretary, National Flaxseed Processors Association; Washington Representative, National Soybean Processors Association

THE OCTOBER CROP REPORTS were not available in time for inclusion in the attached statistics, which were necessarily based upon the official September crop reports. The statistics, while not official, were compiled with the assistance of the U. S. Department of Agriculture and show details of estimated production, imports, and total supplies for the crop year ending September 1956. Comparisons are shown for the crop year ending September 1955, and for edibles the average for the five crop years 1949–53 is also shown. Data are shown separately for edible and inedible oils and fats in accordance with their usual classification in the United States.

Even if the October general crop report shows a lower soybean production as generally expected, the domestic situation is still one of continuing plenty with abundant supplies available for export. The October cotton crop report issued October 10 shows an increase in cotton production to 13,928,000 bales, compared with a September estimate of 12,873,000 and a 1954 crop of 13,696,000 bales. This increased estimate adds about 100 million lbs. to the estimated cotton oil production shown in Table I. We can all be thankful that we have this condition

TABLE I

Edible Fats and Oils Supply and Disposition, Crop Years Beginning October 1, 1949–53 Average, 1954 (Partly Estimated) and Estimated 1955 (in Million Pounds, Fat Content)[a]

Item	1949–53 Average	October 1954–September 1955	October 1955–September 1956
Beginning Stocks—Total	799.5	1,509.6	667.0
Production			
Butter (fat content)[b]	1,254.9	1,256.0	1,240.0
Lard (incl. non-inspected and farm)[b]	2,624.9	2,625.0	2,825.0
Cottonseed oil	1,737.0	1,725.0	1,650.0
Soybean oil[c]	2,614.4	3,410.0	3,960.0
Peanut oil[c]	150.6	20.0	180.0
Corn oil	243.4	260.0	260.0
Edible tallow[d]	194.4	260.0	260.0
Olive oil	3.3	3.2	3.0
Total	8,822.9	9,599.2	10,378.0
Imports			
Butter (fat content)	.2	.8	.....
Lard	1.4	.....	.....
Peanut oil	.3	30.0	.....
Edible tallow	.1	.1	.....
Olive oil	52.1	50.0	50.0
Total	54.1	80.9	50.0
Total supply	9,676.5	11,149.7	11,180.0
Total exports[c, e]	1,298.1	2,355.4	.....
Domestic disappearance	7,374.6	8,127.3	8,200.0
Per capita disappearance	43.6	45.0	45.0
Ending stocks	1,003.8	667.0[f]	.....

[a] Basic data compiled from reports from the Bureau of the Census.
[b] Source: Butter and Farm Lard, U. S. Department of Agriculture.
[c] Includes oil equivalent of oilseeds exported.
[d] Includes oleo oil, oleo stearine, and oleo stock.
[e] Includes shipments by private relief agencies.
[f] Includes 100 million lbs. of cottonseed oil sold by C.C.C. for export but not shipped by October 1, 1955.

of abundant surplus instead of one of scarcity and that the problems facing our oils and fats industries today arise from the handling and distribution of plentiful supplies.

United States production of edible oils and fats for the current crop year, including oil content of any oilseeds exported, is estimated at nearly 10.4 billion lbs., a new record by a substantial margin. This compares with a domestic production of nearly 9.6 billion lbs. for the 1954–55 crop year and an average of about 8.8 billion lbs. for 1949–53. The total supply of edibles for the current crop year is slightly in excess of last year's record unless oil crop production in terms of total oil is lower than the September estimates. A peanut surplus of close to 200 thousand tons of farmers' stock peanuts is in prospect from the 1955 crop. Peanut oil production from this surplus tonnage and from culls is estimated at about 180 million lbs. On October 7 the Department of Agriculture announced that the 1956 national peanut acreage allotment would be 1,610 thousand acres, the legal minimum permitted.

[1] Presented at the fall meeting, American Oil Chemists' Society, Philadelphia, Pa., Oct. 10–12, 1955.

Per capita consumption of edible oils and fats in the United States is extremely inelastic. We may expect it to expand only in line with the population increase. Based upon the estimated production and assuming the same per capita consumption, domestic supplies of edibles for the crop year beginning October 1, 1955, would permit total exports in terms of oil of about 2½ billion lbs. without any material change in year-end stocks. It is significant that we enter the current crop year with the Commodity Credit Corporation holding very low inventories of oils, fats, and oilseeds except for butter and some 90 million lbs. of linseed oil to be acquired from toll crush operations.

Domestic production of inedible oils and fats is estimated at a little under 4.2 billion lbs., or approximately the same level as for the crop year just ended. The only significant change in this category is for tung oil. Because of late and unprecedented freezes production from the 1955 crop is unofficially estimated at 3 million lbs. or less compared with 15 million lbs. from the 1954 crop (when less severe freezes were experienced). The potential normal production is roughly 40 to 50 million lbs. Total domestic consumption of inedibles is expected to remain at about the same levels as for the last crop year. Exports of inedibles should continue at approximately the same level in total after allowing for the liquidation of the C.C.C. linseed oil inventories for export during the crop year just ended. The major inedible export item is tallow and grease, which are expected to continue in 1955–56 at about 1.2 billion lbs.

To sum up the domestic statistical situation, prospects are for a continuing high level production with possibly some expansion in future years and for maintaining the present position of the United States as the largest export source of oils and fats.

PRICE SUPPORTS are in effect for cottonseed, flaxseed, soybeans, and tung nuts as well as for peanuts, which are supported on an edible nut basis. Domestic price levels are influenced largely by export demand on the one hand and the support price policies of the Department of Agriculture on the other. Although as mentioned, our domestic per capita consumption of edibles is inelastic, material shifts occur within the total, primarily because of changing price relationships. As oils and fats become more and more interchangeable, we can expect these shifts to occur with smaller differences in the price relationships.

Tallow and grease particularly rely to a large extent on export demand, which has been taking nearly one-half of total production. Domestic consumption of tallow and grease has been materially affected by competition from synthetics, which is expected to continue although not to expand at so rapid a rate as in the past. Some tallow and grease are now being used in the production of synthetic detergents. Research looking to expand this usage is continuing at the U.S.D.A. Eastern Regional Laboratory in Philadelphia. The large domestic supply and relatively stable price will no doubt encourage further usage in this field. Another relatively new and larger use of tallow and grease and for some other fats has been developed in animal feeds. We can look forward to some further expansion of this usage. Based upon census reports, the use of tallow and grease in animal feeds is now at an estimated level of about 150 million lbs. per annum. (The total quantity of fats reported by the census as used in animal feeds in August was 12,223,000 lbs., of which 10,828,000 lbs. were tallow and grease.) Private estimates run much higher, generally between 200 and 250 million lbs. per annum. The Department of Agriculture presently has under consideration a research project to conduct a complete survey of the kinds and types of fats used in different kinds of animal feeds. If this project is carried through early next year as planned, the results should provide additional and more complete factual information by about mid-1956.

Domestic disappearance of linseed oil has remained relatively constant during the postwar period of tremendous expansion in the economy and population. It has however shown some upward trend during the past several months. For the current crop year domestic disappearance is estimated at about 540 million lbs.—slightly over the 525 million lbs. last year. A very real need exists for basic research on linseed oil, which we hope will result in continued expansion of its domestic use. The Department of Agriculture has recently commenced work

TABLE II

Inedible Fats and Oils Supply and Disposition, Crop Year Beginning October 1954 (Partly Estimated) and Estimated 1955–56 (in Million Pounds, Fat Content)[a]

Item	October 1954–September 1955	Estimated October 1955–September 1956
Beginning Stocks—Total	844.8	763.5
Production		
Tallow and Grease[b]	2,725.0	2,725.0
Linseed oil[c]	828.0	820.0
Tung oil	15.4	3.0
Castor oil	2.7	1.0
Fish oil	150.0	150.0
Tall oil	450.0	450.0
All others[d]	6.2	10.0
Total	4,177.3	4,159.0
Imports		
Tallow and grease	4.6	5.0
Coconut oil[e]	575.0	560.0
Palm oil	62.0	60.0
Tung oil	26.0	25.0
Castor oil[e]	145.0	145.0
Oiticica oil	8.6	8.0
Fish oil	5.2	5.0
All others[e]	161.0	125.0
Total	987.4	933.0
Total Supply	6,009.5	5,855.5
Exports (Selected Items)		
Tallow and grease	1,225.0	1,200.0
Linseed oil[f]	398.0	240.0
Fish oil	106.0	120.0
Tall oil	64.0	60.0
Total	1,821.5	1,644.0
Domestic Disappearance		
Tallow and grease	1,500.0	1,500.0
Coconut oil	550.0	550.0
Palm oil	70.0	65.0
Linseed oil	525.0	540.0
Tung oil	50.0	50.0
Castor oil	135.0	135.0
Oiticica oil	9.5	8.0
Fish oil	60.0	50.0
Tall oil	385.0	385.0
All others	140.0	140.0
Total	3,424.5	3,423.0

[a] Basic data compiled from reports from the Bureau of the Census.
[b] Apparent production calculated from stocks, domestic consumption, and foreign trade data published by the Bureau of the Census.
[c] Production includes oil equivalent of flaxseed exported.
[d] Production represents total production less oil equivalent of net amount of seed imported, which is included in imports.
[e] Imports of oil plus production from imported material.
[f] Includes oil equivalent of flaxseed exported.

at its Peoria Laboratory to determine the specific glyceride composition of linseed oil. It is hoped that funds may be made available materially to expand this and other much needed basic research during the fiscal year, beginning next July 1.

World production for 1955 is now estimated at approximately 26½ million metric tons of all oils and fats. This exceeds 1954 production by perhaps 300 to 400 thousand tons. The world supply of oils and fats will likely continue average per capita consumption at near prewar levels. Per capita consumption in under-developed areas has been increased as sharply as domestic production in such areas permits. In most other areas of the world it is about or slightly below prewar.

Price supports for 1955 oilseed crops were reduced from 1954 levels. Cottonseed is being supported at $46 per ton basis grade F.O.B. gin; flaxseed at $3.19 per bushel Minneapolis basis, and soybeans at a national average of $2.04 per bushel. The method of carrying out price support for oilseeds was changed for 1955 by eliminating the so-called cottonseed package program. The Department of Agriculture announced June 2 that no action would be necessary to support the price of 1955 crop cottonseed other than producer loans and purchase agreements. This decision was apparently based upon forecast of market prices by the Department, which so far has proven correct for both cottonseed and soybeans except for a period when soybean prices were under the announced support level. Important factors in maintaining market prices include a) the delayed harvest of a smaller soybean crop than the record 420 million bushels originally estimated; b) liquidation of government-held inventories in the United States, United Kingdom, and the Netherlands; c) lack of export supplies from the Argentine, which now has a deficit and requires imports from other areas; and d) possible increase in demand from areas behind the Iron Curtain where a potential demand exists until production is established. Should prices decline below support levels, particularly for cottonseed, the Department of Agriculture might find it necessary to implement the announced programs in some manner to insure producers receiving at least price support.

For the past several years the Department of Agriculture, through the cottonseed products package program, has supported prices for cottonseed and indirectly for soybeans by taking over the edible oil surplus in the form of cotton oil. This, in turn, gave a measure of indirect support to other oils and fats, particularly lard. For 1955 some recommendations including one by the National Soybean Processors Association, have been made to the Department of Agriculture that the oilseed price support programs be implemented by an offer from the Commodity Credit Corporation to purchase vegetable oils at specified prices from processors who pay not less than the support prices to producers.

I WOULD LIKE TO REVIEW briefly the reasons an oil purchase program appears desirable. First, it should be emphasized that the proposal to buy oil was not advanced as a solution to any or all of the problems of the soybean processing industry. It is obvious however that to the extent such a program might expand the domestic production of soybeans it would be advantageous to soybean processors and others by making larger supplies available.

The recommendations that the C.C.C. purchase oil were made primarily on the basis that it is the best and most economical means of handling the surplus production, which is oil. It seems evident that the easiest and most economical way to handle an oil surplus is to handle it as oil. If market prices should decline below support levels, we certainly do not wish to see the price of both cottonseed and soybeans supported by the impounding of large quantities of soybeans under government loans.

The farm income situation which has been receiving considerable publicity and likely will, no doubt, receive more, is a matter of concern to all. It seems obvious that one of the best ways to increase farm income and at the same time reduce government losses, is to encourage production of those items which are least in surplus. Soybeans by weight are about 80% protein feed, which is eventually consumed on the farms. An expanding market at reasonable price levels exists in the United States for protein feeds. Some of the experts in the Department of Agriculture estimate that the United States could absorb an additional 7 or 8 million tons of protein feed with proper feeding ratios. Thus it appears that a further substantial increase in soybean production would be reasonable as well as desirable.

Attention is called to the fact that there have been healthy increases in soybean production in the past and that on each occasion farmers had ample opportunity to market their soybeans well above price support levels. In this connection it should be noted that in 1955 farmers over-planted their corn acreage allotments by some 6 million acres. All or a large part of this over-planted corn acreage diverted to soybean production would result in a better balance of corn supplies with increased farm income and lower losses to the government. Acreage for soybeans is also available from other crops which should and likely will be reduced. Some of the oil content of such an increased production would be needed to offset expected decreases in cotton oil production as cotton acreage is reduced as well as to meet the needs of the expanding population. The needs of the expanding population require about 100 million lbs. additional each year. The remainder would add to any current edible oil surplus above domestic needs which might be moving into export channels.

So long as world price levels are above price support levels, no loss to the C.C.C. would be involved by an agreement to purchase oil. To the extent however that world market levels are lower than domestic price support levels, a loss to the government would be involved. Assuming a loss of 2¢ per pound on the surplus oil production the cost to the government would be only about $4 per acre with respect to the acreage representing the surplus. A government payment of $10 to $12 per acre has been mentioned for diverting acreage to a soil bank. This payment would, of course, be about the only income to the farmer whereas on an acre of soybeans the farmer would receive income commensurate with the meal and oil value. It is to be noted also that the increased soybean production would benefit the whole economy with specific benefits to farm and other labor, farm machinery, processing, and transportation.

Under the proposal to buy oil the C.C.C. would take over the surplus in a concentrated form with attendant savings in storage, freight, and handling costs. This taking over of the surplus in concentrated form is similar in principle to some

other proposals which have been advanced for the government to purchase lower quality cuts of pork and lard. The alternative, whenever markets are below support, would be the impounding of large quantities of soybeans under government loan with consequent disruption to feeders of soybean meal, the mixed feed industry, and, of course, the domestic processing industry. When supplies of soybean meal are restricted by the impounding of soybeans under government loan, meal consumption is lost which is not made up at a later date.

Exports of soybeans from the United States during the crop year just ended should approximate 57 or 58 million bushels. While exports of soybeans, as such, might be expanded, there appears to be a definite practical limitation on total per annum exports in line with meal requirements abroad. Some government officials estimate that the maximum export meal requirements are equivalent to no more than 70 or 80 million bushels of soybeans. To the extent that meal is purchased from the United States for export, the potential soybean demand would be proportionately reduced.

It can well be argued that the surplus capacity of our farm plant can be utilized at much less cost to the government under price support operations by using it for the production of soybeans rather than for the continued production of surplus grains. It seems apparent, too, that this would result in higher farm income.

THE GOVERNMENT is in a much better position to develop foreign markets for edible oils than are individual processors. The oils and fats and products are needed in some areas where there are no meal requirements and in many cases no crushing or other processing facilities. No doubt, therefore, a good part of such market development could be in the form of finished products, such as shortening, margarine, and cooking or salad oils. Export interest in 1955 crop cotton oil in the free market has evidently resulted in large measure from sales of the government-held inventories of cotton oil. This apparent expansion in foreign demand for cotton oil is due at least in part to the operations under Public Law 480 whereby surplus agricultural commodities are sold for foreign currencies. An additional and important factor is the fact that as per capita fat consumption is increased in any area, it tends to hold the increased level so long as supplies are available at reasonable prices. People who develop the use of fat in their diet do not give it up easily and revert back to a lower standard of living. Thus it seems evident that, as the largest exporter of oils and fats, the United States should be interested in the development of markets abroad which will remain buyers in the world market as they are developed.

Any apparent surplus oil production could be handled by the direct purchase program as proposed, which we believe to be the best method. This program could be supplemented by purchase authorizations under Public Law 480 or by the purchase of a part of the surplus in the form of lard as a more direct means of improving hog prices, which are currently cause for considerable concern.

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Offers New D.M.S. System

A new system of documenting infrared spectra is announced jointly by Butterworths Scientific Publications, 88 Kingsway, London W.C. 2, England, and Verlag Chemie, Weinheim/Bergstrasse, Germany. It combines a survey of current literature with an expanding collection of selected spectra of purified substances and is suitable for the smaller laboratory possessing no sorting machine.

The new Documentation of Molecular Spectroscopy service will begin in 1956 with an initial 500 cards, and about 2,000 will be issued annually. The proportion will be roughly 20% literature cards and 80% spectra cards.

Publishes Plant Analysis Methods

Lange and Springer, Reichpietschufer 20, Berlin W 35, Germany, has announced publication in four volumes of "Modern Methods of Plant Analysis," edited by K. Paech and M. V. Tracey. Each volume is available separately. Lange and Springer offers a 24-page descriptive brochure on the books.

Appointments at MERCK AND COMPANY INC., Rahway, N. J., include John G. Bill, president of the Sharp and Dohme division; William H. McLean, president of the chemical division; and Antonie T. Knoppers, vice president and general manager of the Merck-Sharp and Dohme international division.