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**EUROPEAN ECONOMIC COMMUNITY  
IMPORT DEMAND FOR OILSEEDS  
AND OILSEED PRODUCTS**

**A Summary**

**U.S. DEPARTMENT OF AGRICULTURE  
Economic Research Service  
Foreign Agricultural Service**

## PREFACE

This report is a summary of the major findings of a study carried out by Dieter Elz in the European Economic Community in 1963-65. The work was financed under a contract between Dieter Elz and the U.S. Department of Agriculture. The contract was made possible by Foreign Agricultural Service under its market development programs financed by 104a funds of P.L. 480.

The International Monetary and Trade Research Branch of the Foreign Development and Trade Division, Economic Research Service, and the Fats and Oils Division of the Foreign Agricultural Service cooperated in monitoring the research. The report is an independent study, and the views expressed herein are those of the author and do not necessarily reflect those of the U.S. Department of Agriculture.

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November 1966

## SUMMARY

By 1970, oilmeal consumption in the European Economic Community (EEC) is projected to be 55 to 70 percent greater than in 1962-63. About 55 percent of the projected level of oilmeal consumption of 8.2 to 8.8 million metric tons is expected to be soybean meal. In 1962-63, this percentage was 40 percent.

The largest share of total projected consumption increases will be used as feed for cattle, poultry, and hogs, in that order. Of particular importance to the United States--the major supplier of soybeans to the EEC--is the expectation that soybean meal will supply between 75 and 80 percent of the increase in oilmeal requirements. Approximately half of the EEC soybean meal needs will be imported in the form of soybeans.

These projections assume that 1970 EEC vegetable-oil imports will be approximately equal to the 1962-63 level--850,000 metric tons. Thus, the estimates of the study imply that EEC processed soybean oil will not increase enough to replace significant quantities of oil imports from countries outside the Community.

Between 1954 and 1963, the total EEC consumption of oil-meals increased from 1.9 to 5.3 million tons, a 180-percent rise. The largest increase was in consumption of soybean meal, which rose 115 percent between 1958 and 1963; all other meals increased only 25 percent during the same period.

Higher EEC consumption of oilseed meals was caused mainly by increased livestock production (a 15-percent increase in 1954-63) and a higher feeding rate per animal (a 140-percent increase--from 43 to 103 kilograms).

The EEC depends increasingly on imports of oilcake and oilmeal; 95 percent of its requirements came from outside the Community in 1963, compared with 84 percent in 1955. France supplied about 55 percent of EEC's production in 1963, chiefly rapeseed.

The largest supplier of EEC oilmeal requirements is the United States, whose share of the market increased from 23 percent in 1958-59 to 35 percent in 1962-63. The United States supplied more than 95 percent of the soybeans and soybean meal.

# EUROPEAN ECONOMIC COMMUNITY IMPORT DEMAND FOR OILSEEDS AND OILSEED PRODUCTS--A SUMMARY

By Dieter Elz<sup>1</sup>

## PURPOSE OF STUDY

The objective of this study was to analyze the potential 1970 requirements and import demands of the European Economic Community (EEC) for high-protein meals and vegetable oils, and the implication of these demands on export markets for U.S. oilseeds and oilseed products in the EEC.<sup>2</sup>

## IMPORT PROJECTIONS

### Oilseed Meal

The consumption of oilseed meal in the EEC is projected to be between 8.2 and 8.8 million metric tons by 1970, an amount 55 to 70 percent over the 1962-63 average (table 1).

By 1970, soybean meal is expected to supply a larger proportion of EEC oilseed meal import requirements, with an increase of over 100 percent from 1962-63 to 1970. While soybean meal supplied 40 percent of EEC oilseed meal imports in 1962-63, it is expected to supply approximately 55 percent in 1970.

Of the projected consumption increases, the largest share will be used as feed for cattle, followed by feed for poultry and hogs (table 1).

From 1954 to 1963, the total consumption of oilseed meal in the EEC increased by 180 percent (table 2). The largest increase in the consumption of individual high-protein meals was recorded for soybean meal. From 1958-59 to 1962-63, for instance, the net supply of soybean meal (including meal equivalent of beans) increased by 115 percent. The net

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<sup>1</sup> Since completing this study, Dr. Elz has joined the Economics Department of the International Bank for Reconstruction and Development as an Economist.

<sup>2</sup> High-protein meals include oilseed cakes and meal, and fish and meat meals. This study concentrated on the consumption of oilseed cakes and meal, since fish and meat meals are not exported from the United States to the EEC in any appreciable amounts. The designation of 1970 refers to the average of the years 1969 and 1970.

Table 1.--EEC: Increase in oilseed meal consumption, 1962-63 to 1970

Item	Low <sup>1</sup>	High <sup>2</sup>
- - - - - <u>1,000 metric tons</u> - - - - -		
Consumption in 1962-63.....	5,245	5,245
Increase by 1970 in quantity used for production of:		
Pork.....	258	325
Eggs.....	263	263
Poultry meat.....	397	397
Milk.....	1,758	2,035
Beef and veal.....	272	573
Total increase by 1970.....	2,948	3,593
Consumption in 1970.....	8,193	8,838

<sup>1</sup> Assuming no exports of pork in 1970; no increase in number of cows over the 1962-63 level; small increase in oilseed meal consumption by beef animals in Germany.

<sup>2</sup> Assuming exports of pork remain at the 1961-63 level; increase in number of milk cows in France; large increase in oilseed meal consumption by beef animals in Germany.

<sup>3</sup> See Table 14 for projected increases in import demands for oilseed meals.

Table 2.--EEC: Oilseed cake and meal consumption, 1954-63

Year	Germany	France	Nether- lands	Belgium- Luxembourg	Italy	EEC
- - - - - <u>1,000 metric tons</u> - - - - -						
1954..	567	455	506	233	111	1,872
1955..	697	427	515	224	106	1,969
1956..	782	643	560	226	159	2,370
1957..	975	583	628	227	158	2,571
1958..	1,283	723	654	287	181	3,128
1959..	1,620	734	744	303	223	3,624
1960..	1,669	738	802	343	326	3,878
1961..	1,640	831	824	300	342	3,937
1962..	2,210	1,259	892	393	389	5,143
1963..	2,205	1,350	936	357	499	5,347

Source: Information obtained from German Ministry of Agriculture, Bonn; Institut National de la Statistique et des Etudes, Annuaire Statistique de la France, Paris Lanbouw Economisch Instituut, Landbouw Cijfers, The Hague; Instituto Centrale di Statista, Annuario Italiano and Bollettino mensile di Statistica, Rome; Unilever Ltd., London, Economic and Statistic Department.

supply of all other meals increased during the same period by only 25 percent (table 3).

The main reasons for the increasing consumption of oilseed meal in the EEC are an increase in livestock numbers, and a higher feeding rate per animal or bird. While animal units increased by 15 percent from 1954 to 1963, the feeding rate per unit rose by 140 percent--from 43 to 103 kilograms (tables 4, 5, and 6).

Germany accounts for approximately 40 percent of oilseed meal and soybean meal consumed by EEC countries; France is the second largest consumer, and accounts for approximately 25 percent of consumption.

For its supply of oilseed cake and meal, the EEC depends heavily on imports. Ninety-five percent of its domestic requirements come from sources outside the Community. The dependency on imports has been steadily increasing (table 7). In 1955, for example, domestic production was sufficient to cover 11 percent of the requirements. By 1963, only 5 percent of the consumption was supplied by domestic production. Even if the production of oilseeds in the EEC expands at a high rate, the meal supply from this production will not cover more than 5 percent of the consumption.<sup>3</sup> With the low oilseed-production projection, this share will be approximately 3 percent.<sup>4</sup> The reasons for this increasing dependency

Table 3.--EEC: Oilmeal and soybean meal (including meal equivalent of seeds), supply and distribution, 1958-63

Year	Total oilmeal				Soybean meal		
	Imports	Production	Exports	Net supply	Imports	Exports	Net supply <sup>1</sup>
	----- 1,000 metric tons -----						
1958..	3,561	251	544	3,268	933	179	754
1959..	4,223	207	622	3,808	1,451	271	1,180
1960..	4,498	211	649	4,066	1,862	310	1,552
1961..	4,538	242	763	4,017	1,577	333	1,244
1962..	5,760	315	741	5,334	2,342	293	2,049
1963..	5,788	287	677	5,398	2,384	294	2,090

<sup>1</sup> Domestic production less than 1,000 metric tons.

Source: Commerce Extérieur: Tableaux Analytiques, 1958-63, Statistical Office of the European Communities, Brussels. Western Europe--A Growing Market for U.S. Soybean Meal, U.S. Dept. Agr., FAS-M-63, October 1963.

<sup>3</sup> Production projections are described in the following section of this report.

<sup>4</sup> At the low consumption estimate; see table 1.

Table 4.--EEC: Animal units and consumption of oilmeal per production unit, 1954 and 1963

Country	Animal units		Consumption per animal unit	
	1954	1963	1954	1963
	<u>1,000</u>	<u>1,000</u>	<u>Kilograms</u>	<u>Kilograms</u>
Netherlands.....	2,944	3,719	171	253
Germany.....	12,414	14,032	46	157
Belgium-Luxembourg.....	2,327	2,813	100	126
France.....	15,732	18,343	29	74
Italy.....	8,008	8,984	13	36
EEC.....	41,425	47,891	43	103

Source: Agrarstatistik, Statistical Office of the European Communities, Brussels, 1965.

Table 5.--EEC: Production of milk cows and specified livestock products, average 1962-63 and projected 1970

Production item	Unit	1962-63	1970		Increase 1962-63 to 1970	
			Low <sup>1</sup>	High <sup>2</sup>	Low <sup>1</sup>	High <sup>2</sup>
Milk cows....	1,000	22,126	22,126	22,889	0	763
Milk.....	1,000 metric tons	65,563	74,275	76,488	8,712	8,925
Pork <sup>3</sup> .....	1,000 metric tons	3,620	4,118	4,240	494	620
Poultry meat <sup>3</sup>	1,000 metric tons	955	1,713	1,713	758	758
Veal <sup>3</sup> .....	1,000 metric tons	627	782	782	155	155
Eggs.....	Million.....	34,312	45,269	45,269	10,957	10,957

<sup>1</sup> No pork exports in 1970. No increase in number of milk cows over the 1962-63 level.

<sup>2</sup> Exports of pork remain at the 1961-63 level. The number of milk cows in France increases according to the 1955-63 trend.

<sup>3</sup> Slaughter weight.

on imports are the rapidly expanding consumption, slowly increasing domestic oilseed production, and increasing exports of oilseed meal. These exports, for example, increased from 584,000 to 709,000 metric tons from 1958-59 to 1962-63.



Table 6.--EEC: Livestock products consumption and production, average, 1961/62-1962/63<sup>1</sup> and 1970 projected

Item and-country	Pork		Beef		Veal		Poultry meat		Eggs	
	1961/62-1962/63	1970	1961/62-1962-63	1970	1961/62-1962/63	1970	1961/62-1962/63	1970	1961/62-1962/63	1970
Per capita consumption:	- - - - - Kilograms - - - - -								Number	
Germany.....	31.7	34.8	18.9	23.4	2.0	2.1	5.3	7.4	223	254
France.....	21.6	24.9	22.1	24.7	8.4	9.1	8.8	11.8	196	255
Belgium-Luxembourg.....	21.8	22.1	21.5	23.1	2.3	2.7	8.4	9.8	233	263
Netherlands.....	18.6	19.0	18.8	20.2	2.0	2.2	2.5	4.4	211	230
Italy.....	6.8	6.9	13.6	19.6	2.0	2.9	4.7	10.2	163	215
EEC.....	20.4	22.2	18.4	22.2	3.7	4.2	6.1	9.2	198	243
Total consumption:	- - - - - 1,000 metric tons - - - - -								Million	
Germany.....	1,804	2,060	1,078	1,385	115	124	304	438	12,721	15,037
France.....	1,017	1,235	1,040	1,225	393	451	419	585	9,218	13,144
Belgium-Luxembourg.....	208	220	206	231	22	27	80	98	2,228	2,630
Netherlands.....	220	239	222	254	23	28	29	55	2,497	2,898
Italy.....	341	363	683	1,031	102	152	235	537	8,205	11,309
EEC.....	3,588	4,118	3,229	4,126	655	782	1,067	1,713	34,869	45,018
Total production:										
Germany.....	1,718	--	938	--	96	--	116	--	9,446	--
France.....	1,025	--	1,175	--	394	--	433	--	9,293	--
Belgium-Luxembourg.....	226	--	193	--	22	--	86	--	7,213	--
Netherlands.....	344	--	206	--	50	--	91	--	5,350	--
Italy.....	307	--	526	--	65	--	229	--	3,010	--
EEC.....	3,620	4,118	3,038	<sup>3</sup> n.e.	627	782	955	1,713	34,312	<sup>2</sup> 47,269
EEC production as percentage of consumption.....	- - - - - Percent - - - - -									
	100.8	100.0	94.0	<sup>3</sup> n.e.	95.7	100.0	89.5	100.0	98.4	105.0

<sup>1</sup> Data in this table are averages of fiscal years 1961/62-1962/63. <sup>2</sup> 105 percent of consumption to account for losses and replacement of chickens. <sup>3</sup> n.e. = not estimated

Source: Data for 1961/62-1962/63 obtained from Agrarstatistik, 1965, No. 5, Statistical Office of the European Communities, Brussels.

Table 7.--EEC: Oilseed cake and meal, consumption, production, and import requirements, 1955 and projected 1970

Year	Consumption	Production <sup>1</sup>	Import requirements <sup>2</sup>
- - - - - <u>1,000 metric tons</u> - - - - -			
1955.....	1,969	208	1,761
1957.....	2,571	254	2,317
1959.....	3,624	207	3,417
1961.....	3,937	242	3,695
1962.....	5,143	315	4,828
1963.....	5,347	287	5,060
1970			
Low <sup>3</sup> .....	8,193	290	7,903
High <sup>4</sup> .....	8,838	395	8,443

<sup>1</sup> Assuming that the total production is processed into meal.

<sup>2</sup> Import requirements indicate only the gap between consumption and production that has to be filled by imports. They do not indicate actual import demand which would have to consider exports and changes in stocks.

<sup>3</sup> Low consumption and domestic seed production estimate. Consumption: number of cows does not increase beyond the 1962-63 level, exports of pork to third countries have ceased by 1970; production: no increase in oilseed area, but increases in yield.

<sup>4</sup> High consumption and production estimate. Consumption: Increase in number of milk cows, exports of pork remain at 1961-63 level; production: expansion in sunflowerseed and rapeseed area and small increases in other oilseed area, increases in oilseed yields.

### Indigenous Production

France, the major oilseed producer in the EEC, had 57 percent of total production in 1962-63 (table 8).

Seed production has been rather erratic, due largely to weather, since the main oilseed crop--rapeseed--consists of about 80 percent winter rapeseed, which is susceptible to frost damage. Rapeseed accounted for approximately 50 to 60 percent of total oilseed production in 1962 and 1963. Since 1959, an upward trend in total production is noticeable. This trend is not expected to continue at the 1959-63 rate. Other factors, particularly the common grain price, to be established in the EEC as of July 1, 1967, will influence production. The effect of the future grain prices on oilseed production in the two main producing countries, Germany and France, depends on the future relationship between the producer price for wheat and that for rapeseed, particularly in Germany. If rapeseed prices are adjusted with the common grain price to maintain the past relationship, no great expansion in the oilseed area is expected. In Germany, for example, the introduction of the common grain price would imply a lowering of national grain prices. Rapeseed prices would also have to be lowered to maintain the past price relationship. If this is

Table 8.--EEC: Total oilseed production, 1958-65

Year	Germany	France	Italy	Netherlands	Belgium-Luxembourg	EEC
	- - - - - 1,000 metric tons - - - - -					
1958..	58	249	45	21	22	395
1959..	59	181	46	28	15	329
1960..	70	163	43	31	26	333
1961..	74	203	41	26	23	367
1962..	116	273	37	28	27	481
1963..	96	255	37	25	29	442
1964..	109	295	n.a.	34	34	--
1965..	107	<sup>1</sup> 381	n.a.	28	23	--

<sup>1</sup> Preliminary.

not done, the higher rapeseed prices (in relation to wheat) would probably result in an expansion in the oilseed area. In France, adjusting grain prices to EEC levels will result in a rise in French grain prices. If oilseed prices are not adjusted accordingly, no further expansion and possibly a decline in the rapeseed area may be expected. As of July 1, 1966, there was no official announcement of the future price relationship between wheat and rapeseed.

### Sources of Imports

About 95 percent of the EEC oilseed meal requirements have been supplied from sources outside the Community. The largest supplier of the market is the United States, whose share of total EEC oilseed and oilseed meal imports increased from 23 percent in 1958-59 to 35 percent in 1962-63 (table 9). Most of these imports were soybeans or soybean meal. Of the total EEC imports of soybeans and soybean meal, the United States supplied over 95 percent in 1962 and 1963. The United States supplied 50 and 46 percent of oilseed imports in 1962 and 1963, and 22 and 25 percent of oilmeal imports. The U.S. share of oilmeal imports was about the same as that of Argentina, which accounted for 24 and 22 percent of total imports in 1962 and 1963.

Up to 1962, the meal equivalent of oilseed imports was always larger than the actual meal imports. In that year the opposite was true. This development is likely to continue. Figure 1 and table 10 illustrate this situation. The soybean situation is somewhat different; thus far the meal equivalent of soybeans has been larger than the meal imports, but the margin between the two is narrowing.

It is difficult to project to 1970 the share oilseeds (in meal equivalent) will have in total oilseed and meal imports. If opportunities for vegetable-oil exports should arise, the Common Market would probably import more seed and less

Table 9.--EEC: Imports of oilseed meal (including meal equivalent of seeds), total and from the United States, 1958-63

	Germany		Netherlands		France		Belgium-Luxembourg		Italy		EEC	
	Total	U.S.	Total	U.S.	Total	U.S.	Total	U.S.	Total	U.S.	Total	U.S.
	----- 1,000 metric tons -----											
1958....	1,469	424	781	171	749	68	332	50	230	62	3,561	775
∞ 1959....	1,807	568	918	200	875	71	363	128	260	89	4,223	1,056
1960....	1,895	969	875	268	969	148	377	181	382	126	4,498	1,408
1961....	1,909	970	914	180	970	169	369	112	376	157	4,538	1,340
1962....	2,395	1,363	1,035	288	1,363	347	483	184	464	249	5,740	1,872
1963....	2,383	1,366	999	255	1,366	390	408	143	632	353	5,788	2,165

Source: Commerce Extérieur: Tableaux Analytiques, 1958-63, Statistical Office of the European Communities, Brussels, Western Europe--A Growing Market for U.S. Soybean Meal, U.S. Dept. Agr., FAS-M-63, October 1963.

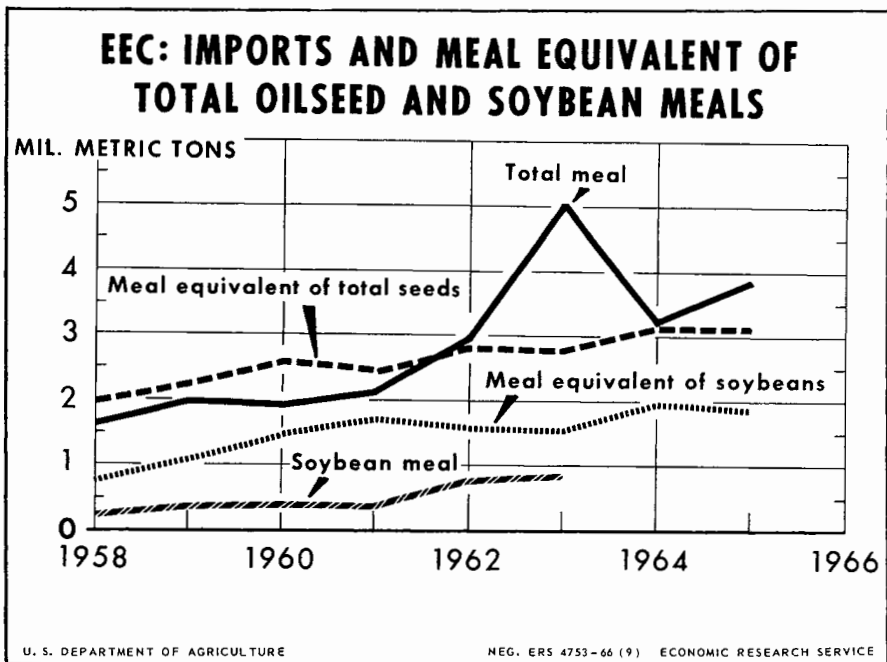


Figure 1

meal. Because of past developments on the world vegetable-oil market, and the possible construction of processing facilities in developing countries, this seems an unlikely assumption. It would also imply a reversal of the past import trend. To assume a further increase in the share of meal imports seems more realistic. If the proportion of meal imports continues to increase according to the past trend, by 1970 approximately 60 percent of total oilseed and soybean meal imports will consist of meal. Assuming that exports for total meals and soybean meals will not increase beyond the highest level achieved in 1961, the EEC import situation in 1970 will look like that shown in table 11.

#### Fats and oils

In contrast to the rapidly increasing demand for high-protein meals, the demand for vegetable oils is rising slowly. The rate of increase in the human per capita consumption of fats and oils is slowing down, and a decrease in industrial uses of vegetable oils are decreasing. The latter declined from 21 percent of total consumption in 1957-58 to 16 percent in 1962-63. It is estimated that the utilization of

Table 10.--EEC: Imports of total oilseeds and soybeans in meal equivalent, and imports of cake and meal, 1958-63

Year	West Germany		France		Netherlands		Belgium-Luxembourg		Italy		EEC	
	Seed <sup>1</sup>	Meal	Seed <sup>1</sup>	Meal	Seed <sup>1</sup>	Meal	Seed <sup>1</sup>	Meal	Seed <sup>1</sup>	Meal	Seed <sup>1</sup>	Meal
----- 1,000 metric tons -----												
Total oilseed cake and meal:												
1958...	794	675	508	241	402	379	102	230	133	97	1,939	1,622
1959...	946	861	494	381	469	449	144	219	174	86	2,227	1,996
1960...	1,032	863	623	346	473	402	174	203	290	92	2,592	1,906
1961...	980	929	550	420	433	481	144	225	325	51	2,432	2,106
1962...	1,130	1,265	570	793	495	560	187	296	422	42	2,804	2,956
1963...	1,093	1,290	612	754	442	557	149	259	478	154	2,774	5,014
1964...	--	--	--	--	--	--	--	--	--	--	3,158	3,237
1965...	--	--	--	--	--	--	--	--	--	--	3,112	3,836
Soybean meal:												
1958...	481	35	44	553	165	29	30	42	4	50	724	209
1959...	705	37	63	112	223	69	60	76	46	60	1,097	354
1960...	779	70	153	100	264	104	106	77	167	42	1,469	393
1961...	707	79	64	156	205	71	70	52	160	13	1,206	371
1962...	833	227	111	306	286	129	93	93	263	1	1,586	556
1963...	847	232	112	326	243	105	76	74	261	108	1,539	845
1964...	--	--	--	--	--	--	--	--	--	--	1,961	--
1965...	--	--	--	--	--	--	--	--	--	--	1,866	--

<sup>1</sup> Meal equivalent.

Source: Commerce Extérieur: Tableaux Analytiques, 1958-63, Statistical Office of the European Communities, Brussels. Western Europe--A Growing Market for U.S. Soybean Meal, U.S. Dept. Agr., FAS-M-63, October 1963. National statistics.

Table 11.--EEC: Oilseeds in meal equivalent, supply and distribution, 1962-63 average and 1970 projected

Item	1962/63	1970	
		Low <sup>1</sup>	High <sup>1</sup>
- - - - 1,000 metric tons - - -			
Production.....	301	290	395
Imports.....	5,764	8,791	9,333
Seed.....	2,779	3,619	4,098
Meal.....	2,985	5,172	5,235
Exports.....	695	760	765
Stocks, waste, etc.....	125	125	125
Apparent consumption.....	5,245	8,193	8,838

<sup>1</sup> See footnotes to table 1.

Source: 1962/63 data, Commerce Extérieur, Statistical Office of the European Communities, Brussels; production obtained from national statistics.

industrial fats and oils will remain at approximately 16 to 17 percent of total fats and oils consumption in 1970.

The demand for the different kinds of fat is determined by availability, taste and preference, relative price, and income. Until 1956, the increase in income was positively correlated with the increase in total fat consumption for all EEC countries. After 1956, the income elasticity of demand for the per capita consumption of all fats and oils became zero or even negative in some countries. The relationship between income and consumption is shown in figures 2 and 3.

From 1958 to 1963, the increase in the total human consumption of fats and oils in the EEC was 663,000 metric tons. Of this amount, 430,000 metric tons (65 percent) were accounted for by an increase in population. By 1970, consumption is expected to reach approximately 5.1 million metric tons, 11 percent above the 1961-63 level (table 12).

Table 13 details base data and projections of supply and distribution of EEC vegetable oils. Total 1970 consumption is projected at 2.6 million metric tons, slightly over 10 percent above the average 1961-63 levels. Given the production projections, the 1970 import demand for vegetable oils will also be between 10 and 11 percent above the 1961-63 average.

Pairing the projections for the import demand for oilseed meals with the projection for vegetable oils, the projected import demand for seeds, meals, and vegetable oils would look as shown in table 14.

The above estimates reflect consideration of many factors, such as the different per capita consumption levels in the different countries (table 15). The main fats consumed in the Netherlands, Belgium-Luxembourg, and Germany are butter, margarine, and lard or shortening. These countries have the highest per capita fat consumption in the Community. France

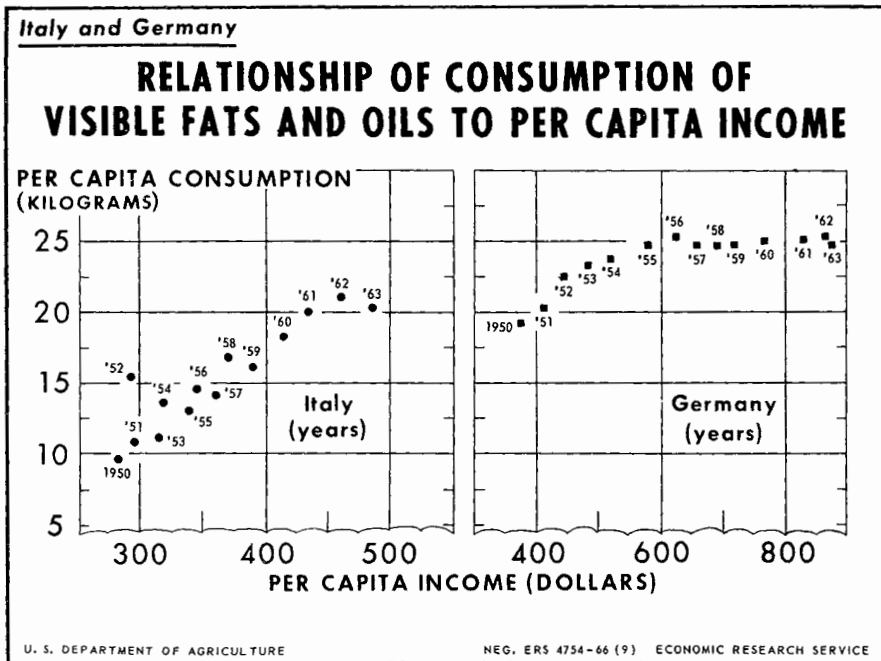


Figure 2

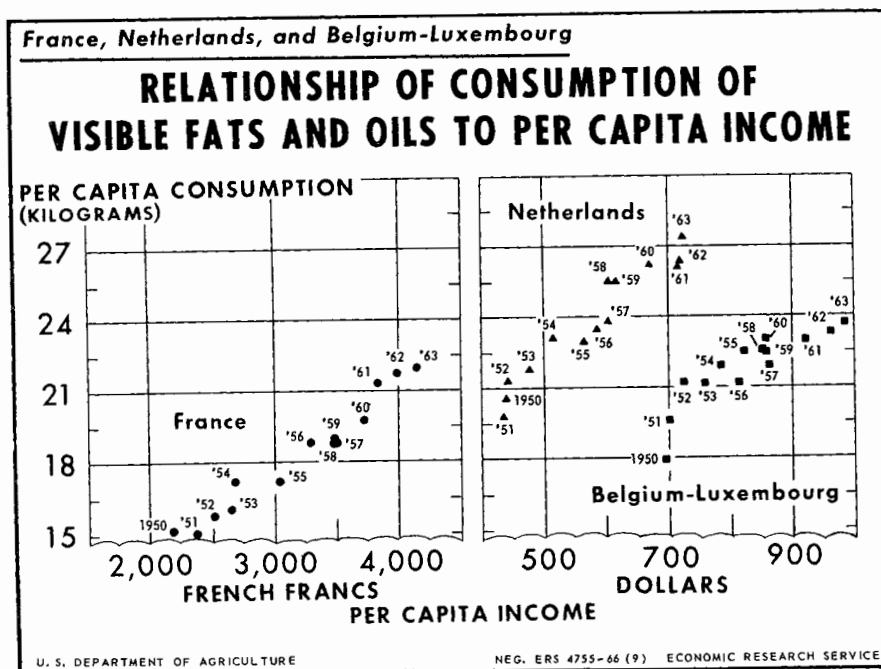


Figure 3



Table 12.--EEC: Fats and oils (fat content basis), per capita and total consumption, average 1961-63, projected 1970<sup>1</sup>

Commodity	Per capita consumption			Total consumption		
	1961-63	1970	Percent- age change from 1961-63	1961-63	1970	Percent- age change from 1961-63
	<u>Kilograms</u>	<u>Kilograms</u>	<u>Percent</u>	<u>1,000 metric tons</u>	<u>1,000 metric tons</u>	<u>Percent</u>
Butter.....	5.5	5.8	10.5	974	1,085	11.1
Margarine.....	4.9	5.0	10.2	862	930	10.8
Table oil <sup>2</sup> .....	5.0	5.6	12.0	879	1,040	11.7
Olive oil <sup>3</sup> .....	2.8	2.8	--	494	520	10.5
Shortening.....	1.0	1.3	--	192	225	17.1
Edible animal fats <sup>4</sup> .....	3.6	3.4	-9.4	641	635	-1.1
Total.....	22.8	23.6	10.4	4,042	4,435	11.0
Vegetable oil products.....	13.7	14.7	10.7	2,429	2,720	11.2
Total human and indus- trial use....	26.4	27.3	10.3	4,651	5,065	11.0

<sup>1</sup> Based on 1961-63 population of 176,240,000 and 1970 population of 185,400,000 persons.

<sup>2</sup> Includes seed oil for Italy.

<sup>3</sup> Largely consumed in Italy, which had a per capita consumption in 1961-63 of 9.7 kilograms.

<sup>4</sup> Excluding speck (type of bacon) for Belgium-Luxembourg and the Netherlands.

Table 13.--EEC: Vegetable oils, consumption, production, and import demand, average 1961-63 and projected 1970

Item	1961-63	1970	Percentage change from 1961-63 to 1970
	- - <u>1,000 metric tons</u> - - -		<u>Percent</u> -
Human consumption of vegetable oil products <sup>1</sup> .....	1,944	2,195	13
Industrial utilization of vegetable and marine oils.....	682	727	6
Total consumption.....	2,626	2,921	11
Utilization of marine oils.....	276	320	16
Total consumption, excluding marine oils.....	2,350	2,601	11
Production of vegetable oils in the EEC.....	148	<sup>3</sup> 172-255	12 to 72
Exports <sup>2</sup> .....	254	254	0
Import demand for vegetable oils	2,456	2,683-2,600	9 to 6

<sup>1</sup> Margarine, table oil, shortening. <sup>2</sup> No increase projected. <sup>3</sup> Low and high production assumptions.

Table 14.--EEC: Import demand for oilseed meals and vegetable oils in 1962-63 and projection for 1970

Import demand	Oilseed meal equivalent			Vegetable oil equivalent		
	1962-63	Projection 1970		1962-63	Projection 1970	
		Low <sup>1</sup>	High <sup>2</sup>		Low <sup>3</sup>	High <sup>4</sup>
	- - - <u>1,000 metric tons</u> - - -			- - - <u>1,000 metric tons</u> - - -		
Total.....	5,764	8,791	9,333	<sup>5</sup> 2,243	<sup>5</sup> 2,600	<sup>5</sup> 2,683
Seed: <sup>6</sup>						
Soybeans.....	1,562	2,188	2,667	363	508	619
Other <sup>7</sup> .....	1,217	1,431	1,431	1,030	1,218	1,218
Total.....	2,779	3,619	4,098	1,393	1,726	1,837
Meal: <sup>6</sup>						
Soybeans.....	801	2,499	2,562	--	--	--
Other.....	1,184	2,673	2,673	--	--	--
Total.....	2,985	5,172	5,235	--	--	--
Vegetable oils.	--	--	--	850	874	846

<sup>1</sup> Low domestic seed and livestock production estimates.

<sup>2</sup> High seed and livestock production estimate.

<sup>3</sup> Assumes high increase of 255,000 metric tons in domestic vegetable oil production.

<sup>4</sup> Assumes low increase of 172,000 metric tons in domestic vegetable oil production.

<sup>5</sup> Including demand for 254,000 metric tons of oil for export. This demand is assumed to remain stable in 1962-63 and 1970.

<sup>6</sup> The projection estimates of the share of seed and meal in total import demand were made in evaluating past trends of feed and vegetable oil requirements.

<sup>7</sup> Average meal content 54 percent; average oil content 46 percent.

Table 15.--EEC: Fats and oils (fat content basis), per capita and percentage consumption, 1963

Country	Butter	Margarine	Table oil <sup>1</sup>	Shortening	Edible animal fats	Total
- - - - - Kilograms - - - - -						
Germany.....	7.4	7.6	2.6	1.8	5.4	24.8
France.....	7.5	2.3	7.9	1.0	3.4	22.1
Italy.....	1.5	0.5	15.0	(2)	3.2	20.2
Netherlands.....	4.8	16.3	2.1	3.5	3 0.3	27.0
Belgium-Luxembourg....	8.2	10.1	4.2	0.7	3 0.5	23.7
EEC.....	5.6	4.9	7.6	1.1	3.6	22.8
- - - - - Percent - - - - -						
Germany.....	30	31	10	7	22	100
France.....	34	10	36	5	15	100
Italy.....	7	3	74	--	16	100
Netherlands.....	18	60	8	13	1	100
Belgium-Luxembourg....	35	42	18	3	2	100
EEC.....	25	21	33	5	16	100

<sup>1</sup> Includes olive and seed oil for Italy.

<sup>2</sup> Less than 0.1 kilogram.

<sup>3</sup> Excluding speck (type of bacon).

Source: Statistisches Jahrbuch für Landwirtschaft und Forsten, Berlin, 1963-64; Productschap voor Margarine, Vetten, e, olien, S<sup>t</sup> Gravenhage, Annual Statistisch Overzicht, The Hague; OECD, Food Consumption in OECD Countries, Paris, 1962-63; Centre Etude Technique et Economique des Matieres Grasses Alimentaires, Paris, 1964; Central Institut for Statistics, monthly bulletins and yearbooks, Rome, 1961-63.

has a per capita butter consumption similar to that of Germany and Belgium-Luxembourg, while its consumption of table oils is highest in the Community after Italy. Italy, however, has the lowest per capita consumption of total fats and oils in the EEC.

Since the midfifties, per capita butter consumption in the EEC has been increasing, while per capita margarine consumption has decreased. The opposite has taken place in the United States.

Since the ingredients of margarine are cheaper than the raw materials for butter, margarine is sold at considerably lower prices than butter. The price difference is aggravated by the seasonality of butter production, which necessitates expensive cold storage, and also by the maintenance of support prices for butter or milk. The ratio between butter and margarine prices appears to be directly related to the ratio of butter to margarine consumption (table 16).

Table 16.--EEC: Butter-to-margarine retail price and consumption ratios, 1956 and 1963

Country	Butter-to-margarine price ratio			Butter-to-margarine consumption ratio		
	1956	1963	1963 as a percent- age of 1956	1956	1963	1963 as a percent- age of 1956
			<u>Percent</u>			<u>Percent</u>
Germany.....	3.08	2.88	94	0.57	0.97	170
Netherlands	3.20	3.03	94	0.15	0.29	193
France.....	2.43	3.03	125	3.65	3.26	92
Belgium-Luxembourg.	3.67	4.22	112	1.20	0.81	68
Italy.....	<sup>1</sup> 1.84	1.67	91	<sup>1</sup> 4.67	3.00	64

<sup>1</sup> 1957.

As shown in table 16, butter has been priced about three times as high as margarine. Since, in Italy, olive and seed oils play a much greater role than butter or margarine in the consumption of fats and oils, the Italian situation in this example is of minor importance. The price of butter determines the share butter has in the total consumption of butter and margarine. A direct relationship exists between butter sales and consumer incomes. The income elasticity is lower, however, with higher incomes, reaching zero and negative elasticities for some countries.

The effect of tastes and preferences expresses itself mainly in the competition between butter and margarine as spreads for bread and in cooking and baking. Since margarine is used more extensively than butter in home cooking and baking, a decline in these activities affects margarine consumption more than butter consumption.

## METHODOLOGY

### Availability of Statistics

The statistical problems of an EEC-wide study are aggravated by the scarcity of data in the member countries, and the different levels at which data are gathered, e.g., producer, wholesaler, etc. These statistics have improved greatly since the inauguration of the EEC in 1958. The EEC Commission publishes general statistics concerning production, consumption, and trade aspects. But for an analysis of a specific topic, such as the demand for high-protein meals, they are often not sufficiently detailed, if they are available at all. German and Dutch statistics are in this respect better than data collected in the other member countries.

If official data are not available, trade statistics are generally the last resort. Trade statistics often provide the basic material for compilation of national statistics. Other difficulties which complicate EEC-wide analyses include different national currencies, different quality specifications such as different grades of livestock products, and different timing of data collection.

The procedure adopted in this study was to rely first on EEC statistics. If these were not available or were deficient, official national statistics were used. Only if these failed to provide the necessary information were unofficial trade statistics utilized.

The analysis of the demand for high-protein meals made it imperative to refer to feed conversion ratios and factors connected with the development in feed efficiency.<sup>5</sup> Published data for feed conversion ratios reflecting the general farm situation in any of the EEC countries are nonexistent. Therefore, experiment station data, publications of farm account records, and answers to a questionnaire that was sent to the national statistical offices and to farm organizations were used.

It was also necessary to obtain statistics on feed mixtures to establish the share of oilseed meal and cake and other high-protein meals in livestock rations. This information was obtained from commercial feed companies and from agricultural experiment stations.

The available statistics dictated using a somewhat different methodology in the analyses of individual countries. In many respects, it would have been desirable to use a parallel structure for the analysis of each of the individual countries. This would have required basing the research methods on the smallest amount of available data--French or Italian statistics--leaving untouched a considerable amount of data in the other countries with more and better statistics.

### Oilseed Meal Requirements

To determine the EEC oilseed meal requirements in 1970, the production of cattle, hogs, and poultry was projected for each EEC country. In turn, the oilseed meal requirements for the expected increase in livestock production was estimated for each EEC country on the basis of feed conversion ratios and feed mixtures. These oilseed meal requirements were then added to the 1962-63 oilseed meal consumption levels for each EEC country to determine 1970 estimates. The individual country estimates were aggregated to give an EEC-wide estimate.<sup>6</sup>

In utilizing the livestock production statistics, cattle, hog, and poultry numbers were converted into animal units.<sup>7</sup> Since

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<sup>5</sup> Feed efficiency in this study is defined as kilograms of feed fed per kilogram of output.

<sup>6</sup> In a few cases, EEC-wide estimates of production increases rather than individual country estimates were employed.

<sup>7</sup> One animal equals the following animal units: Cattle = 0.8; pigs = 1.2; poultry = 0.004.

other classes of livestock such as horses and sheep consume negligible amounts of oilseed meals, they were not considered in this study. For each of the EEC countries past production developments, real producer prices, real feed prices, exports, imports, demand, and prospective 1970 degree of self-sufficiency were all considered in developing estimates.<sup>8</sup> The demand for livestock and livestock products was obtained from other studies.

### Vegetable-Oil Requirements

In estimating vegetable-oil requirements, the following increases in real per capita income of the EEC countries were assumed:

Germany . . . . .	4.7
Netherlands . . . . .	4.5
France . . . . .	4.6
Belgium-Luxembourg . . .	2.3
Italy . . . . .	6.0

Real prices were generally considered to remain constant. In some cases, where it was obvious that changes would take place, assumptions were made in projecting the future price level.

Demand estimates were developed with trend and multiple regression analyses. The consumption of butter, margarine, table oil, shortening, and lard was analyzed and projected on the basis of historic data, generally from 1950 to 1963, but in some cases from 1956 to 1963. The selection of two different periods as a base for the projections was necessary, because in 1956 the trend in per capita consumption of some fats and oils changed in certain EEC countries.

Multiple regression analysis was used to develop per capita consumption estimates. The relevant independent variables were real prices of the commodity, real prices of competing products, and real per capita disposable income.<sup>9</sup> Total consumption estimates were then developed with the use of 1970 population estimates.

After establishing the requirements for vegetable oils and oilmeal in 1970, the trends in imports of vegetable oils, oilseeds, and oilseed meals from 1954 to 1963 were examined. Conclusions were drawn as to whether vegetable-oil imports in the future would increase, decrease, or remain stable in order to meet the demand, or whether the demand for vegetable oils would be supplied to a greater or lesser extent by seed imports. Similarly, on the basis of past import developments and the future demand for oilseed meals, conclusions were drawn as to whether these requirements

<sup>8</sup> Real prices are actual (nominal) prices divided by the index of prices paid by farmers for production items. Degree of self-sufficiency = (production ÷ consumption) X 100.

<sup>9</sup> Actual (nominal) prices and income divided by the cost-of-living index.

would be met through increased, decreased, or stable oilseed imports or changes in meal imports.

### Oilseed Production

For the projections of EEC oilseed production, a high and a low projection assumption were made. The low assumption projection is considered to be that most likely to prevail in 1970.

For the low projection it was assumed that:

- (1) In Germany, the rapeseed price is adjusted downward to prevent an expansion in area beyond the 1963 level;
- (2) In France, the area devoted to sunflowerseed production remains at the 1963 level and the area devoted to other oilseeds remains at the 1961-63 level;
- (3) In the other EEC countries, the oilseed area remains at the 1961-63 level;
- (4) Yields increase in line with past trends.

For the high projection it was assumed that:

- (1) In Germany, the rapeseed producer price is not adjusted downward in line with the EEC common grain-price level, thus increasing the purchasing power of rapeseed relative to grain, and thus resulting in an expansion of the oilseed area;
- (2) In France, an increase in the sunflowerseed area and yield takes place while the area devoted to other oilseeds remains at the 1961-63 level;
- (3) In Italy, the linseed and rapeseed area expands to the 1950-52 level;
- (4) In the other EEC countries, the area of oilseeds does not increase beyond the 1961-63 level;
- (5) Yields increase in line with past trends.

In all EEC countries, the area devoted to oilseeds was greatest immediately after World War II and declined thereafter. In recent years, some increases in area were noticeable. The expansion and contraction of oilseed acreage is influenced by the wheat to oilseed price relationship as well as other factors. If the purchasing power of oilseeds with respect to wheat increases, an increase in area takes place, and vice versa. With the implementation of the common grain price, some changes in this relationship may be expected. It was assumed that an improvement in the purchasing power of oilseeds would call for an expansion in area, although in no instance to the size reached after World War II.

## COMMON AGRICULTURAL POLICIES FOR FATS AND OILS

### Development

By July 1, 1966, three important events had occurred in the development of the EEC common agricultural policies for fats and oils:

July 19, 1961: the EEC Commission proposed to the EEC Council of Ministers that a common policy on fats and oils be adopted.

December, 1963: The Council of Ministers advised the Commission to develop a proposal for the implementation of a common policy on fats and oils.

December 2, 1964: The Commission submitted to the Council of Ministers three recommendations for tariff and market regulations: (1) a common market organization for fats and oils, (2) special regulations for imports of oils and oilbearing products from the associated countries, and (3) a levy system for an internal duty on fats and oils.

A number of considerations influenced the designing of the policies for fats and oils:

EEC production of vegetable and fish oils supplies only about 20 percent of total consumption. Thus, supporting domestic prices by raising import prices through tariffs or a levy system would result in a general increase of consumer prices.

The protection of olive-oil prices would assist the economically less developed parts of Italy. Price decreases could be expected with the replacement of the present Italian support system by the common external tariffs, and protective measures could be taken at the border without an increase in consumer prices.

The associated countries export a large proportion of their oilseed and vegetable oils to the EEC--approximately 82 percent in 1959. At the same time, discriminatory measures of associated countries against EEC importing countries, such as export tariffs on oilseeds, have been in effect.

### Common Market Organization for Fats and Oils

The proposal for the Common Market Organization for Fats and Oils contained the following major points:

The EEC market for fats and oils would be organized through tariff regulations covering oilbearing seeds and fruits, vegetable and marine oils, margarine and other processed fats, and oilcake and meal.

Oils from third countries would be subject to duties of 3 to 8 percent for oils intended for technical and industrial uses, and 10 to 15 percent if intended for edible purposes. Imports of oilseeds, and oilcake and meal would be duty free.



Deviation from the common external tariff would be made if EEC import prices for oil, oilcake, and meal were below the prices for oilseed, plus processing costs in the exporting countries. This clause was introduced because some exporting countries promote their processing industry by imposing export tariffs on the raw material and selling the processed byproduct at more attractive prices. Measures to be taken to prevent imports of such low-priced commodities were not specified.

Tariffs among member countries would be removed.

Special measures to support olive-oil production through import levies and export subsidies were identified. They included: target prices to guarantee producers a fair income, reference prices to maintain the necessary consumption, intervention prices to guarantee producers the sale of their product, and threshold prices to determine the import levy.

Target and intervention prices for rapeseed and sunflowerseed, and, if necessary, other oilseeds, would be established in consideration of:

- (a) Technical and economic developments that affect production,
- (b) The necessity to maintain a certain production of oilseeds in the EEC, and
- (c) The need for the establishment of a Common Market price as soon as the common marketing of these seeds takes effect.

The Commission's desire to ensure that Community producers find a ready market for their oilseeds at reasonable prices and that the prices buyers in the Community have to pay for Community-produced seeds will be no more than the world price. This would be achieved by:

- (a) Fixing a target price at a level which would assure reasonable returns to producers through an intervention price (which would be below the target price) at which the market authorities would stand ready to buy Community produced oilseeds, and
- (b) Paying a rebate to buyers within the EEC equal to the difference between the target price and the world price. In June 1963, West Germany, the Netherlands, and France submitted a proposal to the Commission to establish in 1966 a producer price for rapeseed of \$165 per metric ton in the former two countries and of \$161 in France. As of July 1, 1966, no decision on this proposal had been taken.

An administrative council for fat products staffed by officials of the member countries would be established.

### Special Regulations for Products of the Associated African Countries

Special regulations were proposed for imports of oils and oilbearing products of associated countries. The following

five points of the proposed special regulations are of major importance.

Imports of oilseed, vegetable oil, and oilcake from the associated countries and Malagasy Republic would be duty free.

In the case of serious disturbances in the trade of oilseeds and oilseed products between the EEC and the above-mentioned countries, special measures could be taken to remove these disturbances.

On June 1 of each year, a reference price for peanuts, palm kernels, copra, peanut oil, coconut oil, palm kernel oil, and palm oil would be established to determine support payments to the associated countries and Malagasy Republic if the world market price should fall below the reference price.

To determine world market and reference prices, special regulations were to be set forth.

Oilseeds and oilseed products from the associated countries would be traded at world market prices.

### Implications

Originally, it was planned to implement the common policy on fats and oils in November 1964, but administrative and political delays prevented the inauguration. As of July 1, 1966, it was not known when the policy would take effect.

In evaluating the EEC policy on future oilseed and oilseed meal imports, two developments are important. One is the strongly rising demand for oilseed meals. Production from domestically produced seed will supply only 3 to 5 percent of this rising demand. Thus, the EEC remains heavily dependent on seed and meal imports. EEC importers will continue to buy their requirements on the world market. Only where actual dumping by suppliers can be proved is the Commission expected to apply article 3 to the Common Market Organization for Fats and Oils. As far as seed and meal are concerned, this seems unlikely to happen.

The other important development is the rising trend in meal imports compared with seed imports. This situation does not affect the fats and oils policy as such, but it does affect the seed crushers of the Community. It could retard or even contract the amount of processing by crushers, who might then try to influence the Commission to protect them against meal imports by imposing a tariff. If the Commission consented to such a tariff, it would act against its principle of supporting the establishment of manufacturing and processing industries in the developing countries. Although it is difficult to forecast policy developments, it appears unlikely that tariffs will be imposed on meal imports.



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