SESSION I – ECONOMIC CONSIDERATIONS

World Supply and Demand Situation for Oilseeds, Oils, and Meals

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ABSTRACT

In recent years, the demand for meal has been relatively stronger than for vegetable oils. Thus, we have to get the meal demand if we want to determine the extent of oil production and the requirements of oilseeds. This is true although the average annual increase in world meal consumption has declined from 5.5% during the five seasons ended 1970-71 to probably 3.8% in the following five seasons. The share of soybean meal is predominating and ever increasing from 49% ten years ago to as much as 61% this season.

In most seasons, including the current one, soybean oil output is determined by the more rapidly increasing meal demand. It is thus often in surplus supply, specifically at present. The marketing of soybean oil is becoming even more difficult as world supplies of low-cost palm oil and lauric oils are increasing more and more sharply.

World supplies of oilseeds are developing in cycles of ca. seven years–three years buildup stocks and four years liquidation. The present expansion period, which ends this season, has been more pronounced owing to last season's severe economic recession which also affected the consumption of meals and oils/fats.

Present prospects for the next five seasons point to a slowing-down of the increase in world production of soybeans, soybean oil, and meal owing to a continuing sharp expansion of supplies of palm oil and lauric oils. This assumes that the general economic activity will more or less stagnate or show only a small expansion during this period.

INTRODUCTION

The purpose and task of the industries you are representing at this Conference is to cover the needs of mankind in this particular field. Historically, it was oils and fats that were primarily needed–needed since ancient times, not only for food but also for lighting and later on for soap, paint, and lubricant making. You are, so to speak, the successors of those who more than 2,000 years ago produced linseed oil from the by-product of flax and olive oil from the fruit of that tree which the Bible calls "the king of trees."

But it was only after the invention of margarine and the search for raw materials for its manufacture during the past century that your industries were born. With the growth of both these industries and the wealth of mankind, the by-products of oilseed processing–the cakes and meals–have become more important. Consumption of all kinds of meat has grown together with the modern, more intensive livestock and poultry industries. In fact, in the recent past, world demand for meat has normally been relatively stronger than that for oils. During the recent severe economic recession, meat consumption in most highly developed countries has not been affected as much as that of oils and fats.

Consequently, the demand for meals (I will use this term to include all kinds of oilseed by-products) has been relatively stronger than for vegetable oils during the past 10-15 years, with only few and short interruptions. This is one of the main factors behind the enormous growth of world soybean production and processing. The soybean should actually be called a "mealseed" rather than an oilseed, as the oil normally is the by-product. I mean this in the sense that the size of the world crush is geared to the demand for meal, and the oil just has to be stored or disposed of at any price. Thus, in many seasons, as in the current season again, you have to get the meal demand if you want to estimate the extent of oil production. Fortunately, enough oils can be stored more easily and much longer than meal.

MEAL CONSUMPTION, PRODUCTION, AND STOCKS

Following a period of uninterrupted, rather steady, and substantial growth during the five seasons ended 1970-71, a period of generally slower and more erratic changes in world meal and oil consumption began in 1971-72. For the first time in ca. two decades, we even saw a season when consumption declined. But also in this recent period, in which steady growth is no longer guaranteed, the average rate of increase in world consumption has remained considerably better for meal than for oil. During the five seasons ended 1970-71, world consumption of the 10 major oilmeals showed an average annual increase of 2.6 million tons (all metric tons in the paper) or 5.5%–incidentally, a very high rate which was almost bound to produce surpluses and consequently low prices for oils. During the four seasons ended 1974-75, world meal consumption showed an average increase of only 2.9%. However, this period includes 1972-73, when consumption declined, though but slightly, for the first time in many years as supplies were short and prices sky-high. You remember that during the latter part of that season the USA even imposed an export ban on soybeans and soy products. On the other hand, I am afraid that we will never see again a five-year period when the average annual increase will match or approach the 5.5% mentioned before for the five years ended '70-71. (By the way, all these percentages are calculated from the actual weight of oilmeals; if we calculate them from the protein basis, the rates are somewhat smaller in virtually all periods, but the slowing-down in recent years remains the same.)

I dare this prediction in spite of the fact that we will probably experience an increase in world meal consumption *this season* which even exceeds the average increase of the five seasons ended '70-71. I currently estimate this season's world consumption at ca. 72 million tons. If this expectation materializes, it will represent an increase of 6.6% over last season, and on a protein basis even one of 7.5%. I think that this will once prove to have been an exceptionally good season in which virtually all factors determining the demand for oilmeals have been favorable–a rather unusual occurrence.

TABLE I[a]

Ten Major Oilmeals: World Consumption by Kind of Meal (1,000 Metric Tons)

	October-September						
Actual weight	75-76*	74-75p	73-74p	72-73	71-72	70-71	65-66[d]
Soybean meal[c]	42,445	37,751	37,264	33,029	31,353	31,844	22,275
Cottonseed meal[b]	8,790	9,596	9,504	9,469	8,845	8,030	7,400
Groundnut meal[b]	4,075	3,559	3,560	3,458	4,107	3,952	3,780
Sunflower meal[b]	3,890	4,394	4,856	3,983	4,152	3,980	3,700
Rapeseed meal[b]	4,210	3,894	3,868	4,000	3,743	3,507	2,485
Sesame meal[b]	745	750	767	771	817	810	630
Coconut meal[b]	1,630	1,439	1,221	1,465	1,581	1,342	1,270
Palmkernel meal[b]	595	560	509	491	545	512	480
Linseed meal[b]	1,300	1,155	1,293	1,502	1,711	1,831	1,635
Fish meal[c]	4,290	4,418	3,751	3,966	5,394	4,625	3,770
Total	71,970	67,516	66,593	62,134	62,248	60,433	47,425
Raw protein basis							
Soybean meal[c]	19,100	16,799	16,769	14,863	14,109	14,330	10,024
Cottonseed meal[b]	3,340	3,646	3,612	3,598	3,361	3,051	2,812
Groundnut meal[b]	1,956	1,708	1,709	1,660	1,971	2,043	1,814
Sunflower meal[b]	1,439	1,626	1,797	1,474	1,536	1,473	1,369
Rapeseed meal[b]	1,431	1,324	1,315	1,360	1,273	1,192	845
Sesame meal[b]	298	300	307	308	327	324	252
Coconut meal[b]	342	302	256	308	332	282	267
Palmkernel meal[b]	101	95	87	83	93	87	82
Linseed meal[b]	429	381	427	496	565	604	540
Fish meal[c]	2,790	2,872	2,438	2,578	3,506	3,007	2,450
Total	31,226	29,053	28,717	26,728	27,073	26,393	20,455

[a]Source of all data: *Oil World*, 21 Hamburg 90, POB 90 08 03. * = forecast, p = preliminary.
[b]Consumption = production, i.e., changes of stocks assumed to be negligible.
[c]Actual disappearance; for the way this is calculated, see the soybean meal and fish meal balances in Table III.
[d]Data refer to calendar year 1966.

Demand for oilmeals is determined mainly by the following factors: the number of livestock and poultry to be fed; the price level for oilmeals, specifically relative to grains on the one hand and livestock and livestock products prices on the other hand; the farm fodder supply situation; and the general economic situation, specifically the extent of disposable personal income.

The last factor influences virtually all of the previous factors. As everybody in this hall is aware, the severe economic recession coupled with high rates of inflation and unemployment seriously affected real personal consumption in developed as well as in developing countries. Fortunately enough, after the decline in the real Gross National Product (GNP) during more or less large parts of calendar year 1975 and in some countries already since 1974, a more or less substantial recovery of GNP is in prospect for the current calendar year.

The latest OECD estimate indicates an increase of 4% for this calendar year for the whole territory, although the development in the various member countries deviates considerably to both sides from this average. Real personal expenditure is expected to increase 3.3% in seven major countries. These estimates were made at the end of November, and I suppose that they would be even a little more optimistic today.

The improvement in purchasing power is creating an increased demand for meat which, in turn, is one of the main factors causing rising prices for livestock and livestock products in many major meat and meal consuming countries. At the same time, the prices for meals have remained relatively low so far this season. As a result, the price relationship between oilmeals on the one hand and livestock products on the other hand has been very favorable so far.

Another factor favoring meal consumption this season is the rather favorable prices for meals vis-a-vis grains in most major consuming countries, above all in the EEC. Since world supplies of soybeans are much more ample than those of corn and other feed grains, the prices for soybeans and with them for soybean meal have declined considerably relative to grains.

The development of world livestock and poultry numbers is at least not hampering an increase in meal consumption either, although some qualifications could be made here for the various kinds and countries.

Finally, also, that factor which is not determined by economic developments is favoring oilmeal consumption this season: the farm fodder supply situation. It is characterized by a more or less pronounced shortage in several major countries this season, above all in the Soviet Union, but also in a number of Western and Eastern European countries. The lack of hay, silage, and other protein fodder has to be offset by increased usage of high-protein containing commercial feeds.

In some important countries or areas—specifically in the USA and Western Europe—the reported increases in domestic disappearance or new supplies during the first three to four months of this season far exceeded the growth rate expected in this paper for the whole season '75-76. I think that part of the increase was not in actual consumption but only reflected the building of invisible stocks. Furthermore, I consider it probable that the oilmeal price level, specifically the relationship vis-a-vis grains, will be less attractive in the second half of this season. This applies above all to the EEC, where the plan to make all oilseed meals artificially more expensive by means of a so-called deposit scheme in order to finance the disposal of ca. 600,000 tons of skim-milk powder in mixed feeds. But it could apply also to the USA, given a certain combination of factors in the grain markets.

If we look at the composition of world oilmeal consumption by kind of meal (Table I), we will make a most interesting discovery: almost all of the increase registered during the past 10 years has been on account of soybean meal. Its share of the total, calculated on a raw protein basis, is expected to be as much as 61% this season, compared with 54% five years ago and only 49% ten years ago. The only other meal which can also boast of an increasing share is rapeseed meal, although its share has increased only insignificantly during the past 10 years. During the same 10-year period, the share of all other oilmeals has declined—some quite significantly. The phenomenal growth of world consumption of soybean meal can be explained largely by (a) its favorable price vis-a-vis other oilmeals and grains, (b) the ability of such an advanced agriculture like that of the U.S. to keep production costs relatively low and adjust quickly to rising demand, and (c) the vast land resources of Brazil and the keen competition for U.S. soybeans and soybean meal resulting from the "Brazilian Miracle."

If we glance at the expected breakdown of this season's

TABLE II[a]

Ten Major Oilmeals: World Consumption by Major Countries and Areas (1,000 Metric Tons)

Actual weight	October-September 75-76*	74-75p	73-74p	72-73p	71-72p
EEC[c,f]	15,300	14,345	13,596	14,274	13,856
Other W. Europe[c,f]	3,690	3,526	3,473	3,337	3,404
USSR[c,f]	6,130	5,417*	5,369*	5,080*	4,760*
USA[b]	15,350	14,087	14,545	13,550	14,688
China[c]	7,250	7,175	7,450*	6,545*	6,765*
India[c]	3,750	3,473	3,241*	2,643*	3,288*
Japan[c,f]	3,600	3,451	3,725	3,952	3,453
Other countries[d,f]	16,900	16,042*	15,194*	12,753*	12,034*
World[e,f]	71,970	67,516	66,593	62,134	62,248
Raw protein basis					
EEC[c,f]	6,535	6,138	5,832	6,039	5,983
Other[c,f]	1,646	1,571	1,554	1,488	1,573
USSR[c,f]	2,584	2,191*	2,159*	2,098*	1,921*
USA[b]	6,879	6,230	6,454	6,003	6,574
China[c]	3,115	3,060*	3,215*	2,822*	2,940*
India[c]	1,445	1,350*	1,260*	986*	1,291*
Japan[c,f]	1,717	1,644	1,773	1,883	1,639
Other countries[d,f]	7,305	6,869*	6,470*	5,409*	5,152*
World[e,f]	31,226	29,053	28,717	26,728	27,073

[a]Source of all data: *Oil World*, 21 Hamburg 90, POB 90 08 03. * = forecast, p = preliminary.

[b]Disappearance from mills less/plus increase/decrease of soybean meal stocks outside mills. Includes soy, cotton, peanut, linseed, and fish meals.

[c]New supplies.

[d]Mainly Eastern Europe, Brazil, South Africa, and Australia. Including changes of stocks other than soy meal and fish meal and in the specified countries/areas where they cannot be taken into consideration.

[e]Production less/plus increase/decrease of soy meal and fish meal stocks.

[f]Revised series.

world consumption of oilmeals by major areas or countries (Table II), we will find that the USA and EEC are expected to account for a little more than 21% each; China, the USSR, other Western European countries, India, and Japan together for another 35%. These few areas thus account for more than three-quarters of total world consumption.

For all major oilmeals except soybean meal and fish meal, world consumption can be assumed to be approximately equivalent to *production* as the changes in stocks generally are neglibible. Even in the case of soybean meal, the fluctuation of stocks normally is negligible. Only in 1973-74, one of the few seasons when world soybean crushings were not geared to meal demand but to oil demand, stocks showed a major change (Table III). In fact, at the end of the season they were more than double the level registered at the beginning. But the bulk of the surplus was depleted in the following season, and the rest certainly would be depleted this season if there were no subsidized storage in the EEC. In the case of fish meal, the fluctuations of stocks were more substantial in former years when Peruvian production was much higher. They have become less important recently. The development of world production of soybean meal and fish meal will be seen from Table IV.

What the fluctuations of stocks mean in the case of soybean meal can be seen clearly from a complete world supply and demand balance which includes stocks. Last season, the high opening stocks and their reduction in the course of the season enforced a cut in production by 5.5%, in spite of the fact that consumption increased slightly. This season, vice versa, production will have to increase by 16% although consumption is expected to rise only by 12% (actual weight basis).

OIL AND FAT PRODUCTION, CONSUMPTION, AND STOCKS

In viewing the world situation for soybean oil and for oils and fats in general, we find that the changes in the consumption, production, and stocks of soybean meal are exerting important influences on the oil situation. This is true all the more as the position of soybean oil within the whole field of oils and fats today is rather different from the position of soybean meal in the protein sector. While the soybean meal share of total oilmeal consumption is quite predominant and still increasing sizably, the soybean oil share of total world consumption of oils and fats is relatively less important and increasing but moderately. In 1971-72 it was 17%, last season 19%, and only this season an above average increase to 21% is expected. The reason is, of course, to be seen in the rapidly growing world production of palm oil and lauric oils which are available at prices more or less substantially below soybean oil.

On scanning the production of the 19 selected oils and fats (Table V), we will make the most revealing discovery that the production of 13 of them is not geared to the demand for these oils and fats. Some are invariably obtained as by-products: cotton oil, lard, fish oil, tallow, and greases. Soybean oil is sometimes the main product but mostly dependent on the demand for soybean meal and must thus be considered its by-product, as is again the case this season. Olive oil, coconut oil, palmkernel oil, palm oil, and tung oil are produced from the fruit of trees. These have a productive life-span of at least 20 years (modern oil palm varieties) or 50-100 years (coconut palms) or even much more (olive trees). Their production, therefore, can hardly be adjusted to the changes in demand from year to year and not even from decade to decade. The many millions of oil and coconut palms that have been planted in recent years in Malaysia, Indonesia, the Philippines, Ivory Coast, and other countries will still be producing in 1985 and beyond that year. Fish oil, whale oil, and sperm oil production is dependent on the catch of fish and whales, while butter output is dependent on milk production on the one hand and the manufacture of other fat-containing milk products on the other hand. To these 13 oils and fats we should partially add linseed oil and castor oil, as part of the linseed oil production comes from seed as a by-product of fiber flax while part of the castor oil output originates from

TABLE III[a]

Soybean Meal and Fish Meal: World Supply and Demand Balance (1,000 Metric Tons)
(Raw Protein Basis)

	October-September						
	76-77*	75-76p	74-75p	73-74p	72-73	71-72	70-71
Soybean meal							
Open stocks							
USA[e]	80	146	205	75	78	59	56
USA, outside mills	50	55*	230*	45*	65*	49*	45*
Brazil	120	108*	214*	90*	--	--	--
West Germany and Japan[e]	70	33	64	38	20	34	39
Other countries[b]	325	243*	307*	225*	292*	307*	283*
Total	645	585	1,020	473	455	449	423
Production		19,160	16,364	17,316	14,881	14,115	14,356
Total supply		19,745	17,384	17,789	15,336	14,564	14,779
Consumption[c]		19,100	16,799	16,769	14,863	14,109	14,330
Ending stocks		645	585	1,020	473	455	449
Fish meal							
Open stocks							
Peru	73	109	105	47	44	431	212
Norway	104	97*	101	90	97	144	114
South and Southwest Africa	49	52	87	46	43	62	29*
Other main exporters[d]	57	60*	90*	38*	25*	62*	26*
Other countries	177	212*	185*	156*	301*	224*	247*
Total	460	530	568	377	510	923	628
Production		2,710	2,834	2,629	2,445	3,093	3,302
Total supply		3,240	3,402	3,006	2,955	4,016	3,930
Consumption[c]		2,790	2,872	2,438	2,578	3,506	3,007
Ending stocks		450*	530	568	377	510	923

[a]Source of all data: *Oil World*, 21 Hamburg 90, POB 90 08 03. * = forecast, p = preliminary.

[b]Including stocks outside mills in Japan and West Germany.

[c]Residual of the balance, including report errors, if any, in the other items of the balance.

[d]Denmark, Iceland, Chile, Angola, Morocco, and Canada.

[e]At mills.

TABLE IV[a]

Ten Major Oilmeals: World Production by Kind of Meal
(1,000 Metric Tons, Actual Weight)

	October-September				
	75-76*	74-75p	73-74p	72-73	71-72
Soybean meal	42,580	36,772	38,480	33,068	31,366
Cottonseed meal	8,790	9,596	9,504	9,469	8,845
Groundnut meal	4,075	3,559	3,560	3,458	4,107
Sunflower meal	3,890	4,394	4,856	3,983	4,152
Rapeseed meal	4,210	3,894	3,868	4,000	3,743
Sesame meal	745	750	767	771	817
Coconut meal	1,630	1,439	1,221	1,465	1,581
Palmkernel meal	595	560	509	491	545
Linseed meal	1,300	1,155	1,293	1,502	1,711
Fish meal	4,170	4,360	4,044	3,761	4,759
Total	71,985	66,479	68,102	61,968	61,626

[a]Source of all data: *Oil World*, 21 Hamburg 90, POB 90 08 03. * = forecast, p = preliminary.

castor beans harvested from perennial plants. Thus, there remain only four vegetable oils which are produced as the main product and the raw material production of which therefore can be adjusted to demand from year to year—namely, groundnut oil, sunflower oil, rape oil, and sesame oil (the latter also only partly).

In view of this situation, it is small wonder that we are sometimes experiencing supply shortages such as in 1973 and sometimes—actually more often—surpluses such as last year and even more so this year. Chiefly due to the aforementioned various dependencies, world production and total supplies of oils and fats will increase considerably more sharply than demand this season. Combining the opening stocks of last October 1 with the new production of this season, I arrive at an increase in total supplies by ca. 2.2 million tons. Fortunately, enough demand also will show one of the exceptional increases this season at almost 1.5 million tons. But as can easily be seen from the comparison of these two figures, we have to expect world stocks of oils and fats to increase sharply by 0.7 million tons an all-time record level (Table V).

This season's unusually sharp increase in world consumption of oils and fats by almost 1.5 million tons, or 3.4%, is probably due mainly to three factors: (a) the much lower prices for most oils and fats, (b) the increase in real personal expenditure mentioned in the section on oilmeal consumption, and (c) the necessity or desire to replenish the invisible stocks which obviously were depleted very much last season. The unusualness of the increase becomes clear not only in comparison with the historical average annual increase of about a million tons up to and including 1971-72, but even more so in comparison with the developments since. During the three seasons ended 1974-75, world consumption of oils and fats, taken as a group, showed only

TABLE V[a]

Major Oils and Fats: World Production, Disappearance, and Stocks (1,000 Metric Tons)

	October-September				
	1975-76 Forecast	1974-75 Preliminary	1973-74 Final	1972-73 Final	1971-72 Final
PRIMARILY FOR FOOD					
Soybean oil					
Opening stocks*	830	820	545	715	640
Production	9,750	8,290	8,776	7,413	7,156
Disappearance[b]	9,320	8,280	8,501	7,583	7,081
Ending stocks*	1,260	830	820	545	715
Cottonseed oil					
Opening stocks*	255	220	190	219	185
Production	2,660	2,927	2,882	2,837	2,682
Disappearance[b]	2,695	2,892	2,852	2,866	2,648
Ending stocks*	220	255	220	190	219
Groundnut oil					
Opening stocks*	315	300	308	359	336
Production	2,940	2,563	2,543	2,501	2,958
Disappearance[b]	2,845	2,548	2,551	2,552	2,935
Ending stocks*	410	315	300	308	359
Sunflower oil					
Opening stocks*	600	530	255	359	395
Production	3,320	3,841	4,208	3,286	3,497
Disappearance[b]	3,540	3,771	3,933	3,390	3,533
Ending stocks*	380	600	530	255	359
Rapeseed oil					
Opening stocks*	255	205	215	245	195
Production	2,605	2,445	2,411	2,490	2,343
Disappearance[b]	2,585	2,425	2,421	2,520	2,293
Ending stocks*	245	225	205	215	245
Sesame oil					
Opening stocks*	44	47	45	70	65
Production	635	637	645	652	681
Disappearance[b]	634	640	643	677	676
Ending stocks*	45	44	47	45	70
Olive oil[c]					
Opening stocks*	478	325	327	334	295
Production	1,715	1,536	1,576	1,549	1,655
Disappearance[b]	1,423	1,383	1,578	1,556	1,616
Ending stocks*	770	478	325	327	334
Coconut oil					
Opening stocks*	324	240	300	381	298
Production	2,780	2,446	2,074	2,469	2,663
Disappearance[b]	2,744	2,362	2,134	2,550	2,580
Ending stocks*	360	324	240	300	381
Palmkernel oil					
Opening stocks*	70	65	58	77	61
Production	500	477	430	410	467
Disappearance[b]	490	472	423	429	451
Ending stocks*	80	70	65	58	77
Palm oil					
Opening stocks*	320	256	207	215	190
Production	2,500	2,258	1,906	1,687	1,563
Disappearance[b]	2,470	2,194	1,857	1,695	1,538
Ending stocks*	350	320	256	207	215
Butter, fat content[d]					
Opening stocks*	850	855	875	900	725
Production	5,245	5,216	5,209	5,252	5,073
Disappearance[b]	5,145	5,221	5,229	5,277	4,898
Ending stocks*	950	850	855	875	900
Lard[e]					
Opening stocks*	280	245	235	265	275
Production	3,105	3,380	3,333	3,192	3,380
Disappearance[b]	3,145	3,345	3,323	3,222	3,390
Ending stocks*	240	280	245	235	265
Fish oils					
Opening stocks*	353	295	329	396	383
Production	973	1,038	925	841	1,139
Disappearance[b]	986	980	959	908	1,126
Ending stocks*	340	353	295	329	396
Whale oil					
Opening stocks*	5	6	10	13	16
Production	29	33	39	43	60
Disappearance[b]	29	34	43	46	63
Ending stocks*	5	5	6	10	13

	October/September				
	1975-76 Forecast	1974-75 Preliminary	1973-74	1972-73 Final	1971-72 Final
Food oils and fats, total					
Opening stocks*	4,949	4,409	3,899	4,548	4,059
Production	38,757	37,087	36,957	34,622	35,317
Total supplies	43,706	41,496	40,856	39,170	39,376
Disappearance[b]	38,051	36,547	36,447	35,271	34,828
Ending stocks*	5,655	4,949	4,409	3,899	4,548
PRIMARILY FOR NONFOOD					
Linseed oil					
Opening stocks*	122	115	165	280	260
Production	670	599	678	778	898
Disappearance[b]	652	592	728	893	878
Ending stocks*	140	122	115	165	280
Castor oil					
Opening stocks*	138	103	67	57	110
Production	330	369	403	323	327
Disappearance[b]	353	334	367	313	380
Ending stocks*	115	138	103	67	57
Tung oil					
Opening stocks*	34	29	45	39	43
Production	91	103	95	117	110
Disappearance[b]	95	98	111	111	114
Ending stocks*	30	34	29	45	39
Tallow and greases[e]					
Opening stocks*	410	500	405	415	470
Production	5,090	5,088	5,261	4,999	5,256
Disappearance[b]	5,064	5,178	5,166	5,009	5,311
Ending stocks*	436	410	500	405	415
Sperm oil					
Production	85	90	100	105	98
Disappearance[f]	85	90	100	105	98
Inedible oils/fats, total					
Opening stocks*	704	747	682	791	883
Production	6,266	6,249	6,537	6,322	6,689
Total supplies	6,970	6,996	7,219	7,113	7,572
Disappearance[b]	6,249	6,292	6,472	6,431	6,781
Ending stocks*	721	704	747	682	791
GRAND TOTAL					
Opening stocks*	5,653	5,156	4,581	5,339	4,942
Production	45,023	43,336	43,494	40,944	42,006
Total supplies	50,676	48,492	48,075	46,283	46,948
Disappearance[b]	44,300	42,839	42,919	41,702	41,609
Ending stock*	6,376	5,653	5,156	4,581	5,339

[a]Source of all data: *Oil World,* 21 Hamburg 90, POB 90 08 03. * = forecast.

[b]Residual of the balance.

[c]Season's Nov.-Oct. 1971-72 to 1975-76. Including edible and inedible residue oil.

[d]Including China.

[e]Excluding China.

[f]Including change of stocks which are unavailable.

an average annual increase of 410,000 tons. Of course, the 3 years included one with a slight decline and one with only a slight increase. For the four seasons ending '75-76, the average increase in world consumption of the 19 selected oils and fats is expected to be ca. 670,000 tons, or 1.6%.

Let us have a short look at the changes in the composition of the production of oils and fats in these five seasons. The increase in the share of soybean oil was mentioned before. But it should be noted that this season the exceptionally huge increase in soybean oil output cannot be fully consumed as soybean oil and is meeting with a keen competition from lauric oils and palm oil. World production of coconut oil, palmkernel oil, and palm oil together is expected to reach 5.8 million tons, or 13% of total oils and fats production this season compared with 11% in 1971-72. Considering that production of lauric oils was exceptionally high in that year, this growth rate does not properly reflect the average long-term rate, which is higher. Most other oils and fats have shown little or no expansion in output in the past four years. The only exceptions are rapeseed oil, olive oil, and butter, and in all cases the expansion is of rather modest proportions. Also, in the case of olive oil, this year's output is exceptionally high and therefore not representative of long-term development. For some oils and fats, this season's production is below the 1971-72 level. This is true specifically for lard, tallow and greases, linseed oil, and all marine oils (Table V).

From all this it becomes clear that nowadays the fight for the markets is taking place between soybean oil on the one hand and lauric oils and palm oil on the other hand. In this fight, lauric oils and above all palm oil have a large cost advantage. The prime cost for West Malaysian palm oil, for instance, probably is no higher than U.S. $150 per ton. At least U.S. producers of soybean oil, on the other hand, have three other advantages: they have the benefit of government help in export promotion, they can at certain times shift a larger share of the production cost to soybean meal, and most of them are financially strong and have large storage capacities. The big disadvantage for soybean oil producers is the strong dependence on meal demand which can mean, such as this season, that large amounts of surplus oil are being produced. Another disadvantage is the excessive soybean crushing capacities in the USA, Western Europe, and Brazil and the strong competition between

TABLE VI[a]

Oilseeds: Major Carryover Stocks, World Production, and Disappearance (1,000 Metric Tons)

	76-77*	75-76p	74-75p	73-74p	72-73	71-72	70-71	69-70
Major carryover stocks								
Soybeans								
USA, Sept. 1	9,000	5,060	4,670	1,626	1,959	2,692	6,262	8,829
Brazil, Oct. 1[b]	4,600	4,130*	3,030*	1,345*	1,029*	830*	570*	360*
Argentina, Oct. 1[b,e]	200	256	198	65	17	18	6	10*
Japan, Oct. 1[j]	250	240*	311*	572	340*	275*	280*	170*
West Germany, Oct. 1[c]	250[k]	144	153	102	67	143	108	87*
Cottonseed								
USA, Aug. 1	200	503	435	461	213	198	73	144
Peanuts[f]								
India, Oct. 1	400	100*	315*	26*	350*	250*	--	--
USA, Aug. 1	200	324	176	136	124	144	112	113
Argentina, Oct. 1[b,e]	50	68	36	43	62	67	37	40*
Rapeseed								
Canada, Aug. 1	600	388	281	469	978	250	82	115
Sunseed								
Argentina, Oct. 1[b,e]	150	81	215	177	239	218	182	160*
Linseed								
USA, July 1	100	53	65	89	511	679	555	256
Canada, Aug. 1	200	206	201	195	407	676	152	125
Argentina, Nov. 1[e]	100	73	7	7	13	121	121	19
Total	16,300	11,626	10,093	5,313	6,309	6,561	8,540	10,428
World production[d,g]								
Soybeans		67,720	56,750	63,550	51,920	48,185	45,220	43,960
Cottonseed		21,565	24,655	24,060	23,845	23,220	20,850	20,775
Groundnuts, shelled		12,490	11,292	11,230	10,442	12,100	11,821	11,094
Sunflowerseed		9,510	10,790	12,130	9,620	10,000	9,725	10,145
Rapeseed		8,370	7,685	7,005	7,050	7,500	7,140	5,210
Sesame		1,900	1,950	1,930	1,870	1,980	2,130	1,800
Copra		4,480	4,210	3,510	4,070	4,475	3,920	3,520[l]
Palmkernels		1,085	1,040	935	890	1,015	965	900[l]
Linseed		2,615	2,395	2,535	2,425	2,845	4,300	3,865
Castor beans		865	1,125	1,015	785	870	865	885
Total	128,500	130,600	121,892	127,900	112,917	112,190	106,936	102,154
Grand total[h]	144,800	142,226	131,985	133,213	119,226	118,751	115,476	112,582
Disappearance[i]		125,926	120,359	123,120	113,913	112,442	108,915	104,042
Ending stocks		16,300	11,626	10,093	5,313	6,309	6,561	8,540

[a]Source of all data: *Oil World,* 21 Hamburg 90, POB 90 08 03. * = forecast, p = preliminary.

[b]This date, though in the middle of the South American crop year, has been chosen because it is at the beginning of the world crop year. Seed, feed, loss deducted.

[c]At mills only.

[d]The crops harvested in the northern hemisphere during the latter part of the first year are generally combined with those harvested in the southern hemisphere during the early part of the second year.

[e]At all positions, except farms.

[f]Shelled basis.

[g]For more details and notes, see pp. 152-4 with country breakdown (Footnote a).

[h]Major carryover stocks plus world production.

[i]Including crush, seed, feed, direct food consumption, and stock changes, if any, in other oilseeds and countries than those shown.

[j]Total stocks, i.e., including those outside mills.

[k]Including subsidized storage under the planned EEC measures.

[l]Jan.-Dec. 1970.

these three most important soybean crushing centers of the world. It appears to me that this season soybean oil is at the same time the winner and the loser of this fight. It is the winner in the sense that its world consumption will show a considerably sharper increase than the consumption of the three palm oils combined. It will be the loser because this is being achieved at the expense of very poor crushing margins, while at the same time world stocks of soybean oil are increasing sharply–probably by more than 50% to an all time record level of almost 1.3 million tons as of October 1, 1976. The stocks of the three palm oils, as against this, will probably increase only by a little more than 10%. In addition to soybean oil, a sharp buildup in stocks is anticipated for olive oil, but the reserves might well be needed to offset the probably sharp drop in output due next season.

PRODUCTION, STOCKS, AND CONSUMPTION OF OILSEEDS

Despite the above normal and partly excellent increases in the consumption of oils and fats as well as meals, oilseeds too will be in surplus supply this season. In fact, the surplus will not only be at an all-time record this autumn, but it will be more than 50% above the autumn of 1969, the end of the previous stock-building period. This, in turn, was due above all to the record high prices ruling in 1972-73 and the following season, which provided an extraordinary incentive for producers of oilseeds throughout the world, but specifically for soybean growers in the USA and Brazil.

At least in the recent past, world oilseed supplies have developed in cycles, with the expansion and the contraction periods lasting three to four seasons each. The first expansion period with a clear-cut increase of surplus stocks oc-

curred during the three seasons ended 1968-69. Thereafter, it took four seasons to liquidate the surpluses. And now we are again in an expansion period, namely, in its third and probably last season. At the end of this season, the stocks of the major oilseeds in the major countries will probably reach ca. 16.3 million tons. This is more than three times the level available three years before and ca. 56% above the previous peak level registered in the autumn of 1969. As would be expected, the bulk of the expansion as well as of the contraction of stocks occurred in U.S. soybeans during all aforementioned cycles. There were, however, also some accompanying increases or decreases of Canadian rapeseed stocks but also an offsetting development of Brazilian soybean stocks as of October 1 (which, of course, is the middle of the Brazilian season) during the contraction period ended '72-73. Then Brazil's stocks increased contrary to the development of U.S. stocks. (For the last contraction period and the present expansion period, see Table VI.

A correlation of the oilseed supply cycles with the general economic cycles is not always clear, but it is obvious that in the current period of increasing stocks the contraction of the general economic cycle is playing an important role. We have seen in the discussion of meal as well as oil and fat consumption that it was seriously affected by the downturn in economic activity during 1974-75. This was the main reason why world oilseed stocks increased also last season despite the sizable decline in oilseed production. This season, the general economic cycle is turning upward in major countries, but the buildup in oilseed stocks is continuing at an even faster rate as oilseed production is increasing even more sharply than consumption.

PROSPECTS FOR NEXT SEASON AND BEYOND

Early indications for next season are for a sizable decline in world oilseed production. Oilseed prices have declined sharply in all countries where they are still subject to the free play of supply and demand. The decline has occurred not only in absolute terms but also—and that is more important—relative to grain and certain technical crops. In view of this situation, U.S. farmers, for instance, intended in January to reduce soybean acreage by 6.7%, and the final reduction might even be larger. Shifts in the same direction, though not always as pronounced as in the USA, are expected also for other countries such as Canada and Australia, while the expansion in Brazil is likely to slow down. Next season's world oilseed supply, including the major carryover stocks, therefore may be up only a little more than 2.5 million tons. In view of the sizable increase in livestock numbers by the beginning of next season, world consumption of oilseeds should be up more sharply than supplies even if the price relationship of oilmeals via-a-vis grains should be less favorable for meals than it has been so far this season. This is likely to be the case at least in the EEC where large milk powder surpluses have to be disposed of in one way or another. However, apart from the EEC milk-powder disposal program, which probably will have to be continued next season, world demand for oilmeals might be affected by a renewed slowing down of general economic activity. There is growing uncertainty and concern among leading Western economists that the present recovery could be affected by a new round of higher inflation rates which could begin already late this summer or autumn. In this connection, the theories of the long-wave cycles are being discussed more frequently by Western economists these days. If true, it would mean that, following the long upswing since World War II, the peak might have been reached generally in the first half of 1974, in some countries already in 1970. The question is being asked whether we are now in the long downswing wave or whether the modern economic policy will succeed in preventing the downswing. But the best we can achieve would be a long-term stagnation. If true, then the recovery of this year would be a short wave which could slow down and finally be reversed already during the next 2 years and be followed by a plateau of a slow relative decline of economic activity. If true, this certainly would mean also a slower rate of increase in world consumption of both meals as well as oils and fats than was experienced during the 15-20 years ended 1971-72.

On the other hand, world production of certain kinds of oils and fats will continue to show relatively large rates of increase, above all palm oil and lauric oils. In West and East Malaysia, combined mature palm oil acreage in the five years ended 1980 is expected to increase by 82% and palm oil output even by 117% or 1.44 million tons. This means an annual average increase of 288,000 tons, to which we have to add the relatively large increases to be expected for Indonesia, Ivory Coast, and some other countries. In the Philippines, based on the officially reported total tree numbers as of mid-1975, the number of bearing coconut trees will rise by 26% during the five years ending 1980. Given favorable weather conditions, production could increase by ca. 40%, considering better yielding varieties and improved cultivation methods. This would mean an increase in coconut oil output from that source by ca. 110-115,000 tons annually. Adding the increased palm kernel oil output, world production of the two lauric oils and palm oil together could increase by an average 450-500,000 tons annually by 1980, given at least normal climatic conditions. Depending on the final extent of total consumption of oils and fats, this could cover 55-70% of the probable average annual increase in total world consumption of the 19 selected oils and fats analyzed in this paper. Assuming that the consumption of the other oils and fats, except soy, remains unchanged (taken as a group), that of soybean oil will show an increase of 3.5% annually. This is only half the historical rate registered during the eight years ended 1971-72. Soybean meal therefore is likely to have to seek a higher price level to slow down its consumption increase to a rate which is more in agreement with the slower increase in soybean oil consumption. We might thus see important changes in the production trends which cannot be overlooked by any medium- to long-term plans of investment in the oilseed, oil, and fat processing industries.