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## SUNFLOWERSEED, OIL AND MEAL: RECENT DEVELOPMENTS AND PROSPECTS

### Production

World production of sunflowerseed expanded sharply in the second half of the 1960s but, since then, has shown substantial fluctuations and little overall growth (Table 1). From an average of 6.8 million tons in the 1960s, output at the end of the decade averaged nearly 10.0 million tons. In the seventies, output has varied between lows of 9.5 million tons and peak output in 1973 of over 12 million tons. These events have mainly reflected developments in the USSR which is by far the world's leading producer. In the late 1960s, output grew substantially following both an expansion in the area sown and higher yields per acre; the USSR accounted for nearly two-thirds of total world output. Since 1970, output in the USSR has tended to fluctuate and, except for the record crop of 7.4 million tons in 1973, to be lower than the average of the late 1960s.

The share of the USSR has also fallen, as production in the rest of the world has expanded, rising to an annual average of nearly 4.5 million tons in the last four seasons, as against around only 3.4 in the late sixties and only 2.2 million tons in the early part of the decade. In recent years, while output of some other major producers such as Romania, Bulgaria, Argentina has shown little overall change from the levels of the second half of the sixties - though occasionally showing marked year-to-year fluctuations - production has expanded in some other producing countries such as Turkey, Hungary and South Africa.

Table 1

Sunflowerseed: Area, Yield and Production of Major Producing Countries and World Total, 1961-63 and 1967-69 Averages, and 1970 to 1975

		1961-63	1967-69	1970	1971	1972	1973	1974	1975
		average average		(prelim)					
1	2	3	4	5	6	7	8	9	
(..... Area: 1000 ha. /Yield: kg/ha./ Production: 1000 m.t. .... .									
France	A	19	15	27	45	46	41	41	72
	Y	1 421	1 667	1 770	1 767	1 533	2 057	1 765	1 532
	P	27	25	48	79	71	84	73	110
Spain	A	4	45	169	300	344	466	493	623
	Y	500	800	938	743	706	631	580	543
	P	2	36	159	223	243	294	286	338
Yugoslavia	A	108	176	194	183	171	224	201	201*
	Y	1 574	1 795	1 358	1 895	1 617	1 938	1 483	1 358
	P	170	316	264	347	277	434	298	273*

Table 1 (continued)

1	2	3	4	5	6	7	8	9
Bulgaria	A	253	278	267	274	252	262	265*
	Y	1 308	1 462	1 731	1 805	1 774	1 404	1 585
	P	331	407	462	494	448	368	420*
Hungary	A	124	91	118	108	103	113	130
	Y	976	1 046	1 282	1 235	1 490	1 075	1 149
	P	121	96	152	134	153	121	149*
Romania	A	444	604	548	554	512	509	520*
	Y	1 072	1 274	1 442	1 535	1 477	1 338	1 392
	P	476	770	791	850	756	681	724*
USSR	A	4 333	4 777	4 498	4 394	4 745	4 686	4 763
	Y	1 064	1 286	1 259	1 149	1 556	1 448	1 050
	P	4 611	6 144	5 663	5 048	7 385	6 784	5 000
United States	A	20	85	167	329	304	275	486
	Y	1 100	1 011	1 176	1 015	1 161	1 056	1 287
	P	22	86	196	334	353	291	625
Argentina	A	950	1 347	1 313	1 287	1 338	1 190	1 039
	Y	669	846	632	644	658	815	704
	P	636	1 140	830	828	880	970	732

Table 1 (continued)

1	2	3	4	5	6	7	8	9	
Uruguay	A	139	121	124	72	103	109	91	92
	Y	540	521	423	682	581	654	532	558
	P	75	63	52	49	60	71	48	51
Turkey	A	98	247	360	396	495	481	425	465*
	Y	827	1 040	1 042	1 174	1 131	1 164	988	1 050
	P	81	257	375	465	560	560	420	488*
South Africa	A	176	145	130	152	156	346	241	241*
	Y	580	634	738	862	968	673	1 050	917
	P	102	92	96	131	151	233	253	221*
Australia	A	3	8	26	76	295	242	151	196
	Y	667	500	508	780	500	422	560	607
	P	2	4	13	59	148	102	84	119
Other countries	A	249	209	341	351	367	328	285	342
	Y	642	909	783	829	858	887	898	643
	P	158	190	267	291	315	291	256	220
WORLD TOTAL	A	6 920	7 880	8 553	8 486	8 923	9 491	8 963	9 435
	Y	985	1 260	1 160	1 147	1 066	1 269	1 220	1 014
	P	6 814	9 927	9 917	9 738	9 513	12 044	10 933	9 570

NOTE: Figures marked with an asterisk (\*) are unofficial figures or estimates.

In addition, a number of countries, such as Spain, the United States, France and Australia have emerged as substantial new producers following sharp increases in area sown to sunflowerseed, in some cases combined with better yields per hectare arising from improved cultivation practices.

In 1975, world output was exceptionally low due mainly to the unfortunately small USSR crop which was caused by bad weather, but also reflecting poor crops in Argentina and Yugoslavia.

In terms of oil and meal, world output<sup>1</sup> in recent years has averaged about 4.2 million tons in the case of oil and about 3.8 million tons of meal (Table 2). Of these two major products obtained from processing sunflowerseed, sunflowerseed oil usually accounts for around 80% of the total value, and sunflowerseed meal for most of the remainder. Output of sunflowerseed oil has tended to grow more rapidly in the past years than that of sunflowerseed itself, due to the increasingly widespread use of seed with a higher oil content, developed

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1) Output of oil or meal in a given year is calculated by applying extraction rates to that portion of the domestic oilseed crop estimated to be available that year for crushing, regardless of whether it is in fact crushed (either in the producing country or, after export in the unprocessed form, in the importing country), or put into stocks. Output is not based on actual crushings.

Table 2  
 World Sunflowerseed Oil and Sunflowerseed Meal Production  
 by Main Countries: 1961-63 and 1967-69 Averages  
 and 1970 to 1976

	1961-63 average	1967-69 average	1970	1971	1972	1973	1974	1975 est.	1976 fore.
(..... 000 metric tons .....)									
<b>SUNFLOWERSEED</b>									
<b>OIL</b>									
USSR	1 533	2 548	2 518	2 433	2 243	1 999	2 924	2 686	1 980
Argentina	160	285	339	247	246	261	288	217	300*
Romania	151	285	303	312	320	344	306	275	284*
Bulgaria	116	183	220	165	187	200	181	149	178*
Turkey	23	65	92	111	138	166	166	125	145
Yugoslavia	41	102	147	100	131	105	164	113	103*
Spain	1	10	21	60	84	92	111	108	123
United States	4	18	20	21	49	83	87	72	154
South Africa	26	27	29	39	45	69	75	63	87
Hungary	38	38	48	39	62	54	62	49	60*
France	5	8	12	18	30	27	26	23	38
Australia	1	1	4	18	44	30	25	37	35
Canada	3	4	5	7	23	23	12	4	6

Table 2 (continued)

	1	2	3	4	5	6	7	8	9	10
Other countries		54	64	76	81	84	83	77	98	117
WORLD TOTAL	2	156	3 638	3 834	3 651	3 686	3 536	4 504	4 019	3 610
<u>SUNFLOWERSEED</u>										
<u>MEAL</u>										
USSR	1	758	2 224	2 182	2 109	1 944	1 732	2 535	2 328	1 716
Argentina		246	379	441	321	320	341	375	283	400*
Romania		193	249	262	270	278	298	265	238	245*
Turkey		36	85	120	145	180	217	217	163	188*
Yugoslavia		48	109	151	102	134	107	168	115	104
Bulgaria		133	159	191	143	162	173	157	129	154*
United States		5	24	26	28	63	107	113	93	201
Spain		1	11	21	61	86	94	114	110	125
South Africa		40	35	37	51	58	90	96	82	113
Hungary		44	33	42	34	53	47	54	43	52*
France		6	8	12	19	31	27	27	23	38
Australia		1	2	5	23	57	40	33	49	46
Canada		4	5	6	10	30	30	16	5	8
Other countries		79	86	100	104	103	97	89	116	139
WORLD TOTAL	2	594	3 409	3 596	3 420	3 499	3 400	4 259	3 777	3 529

NOTE: Figures marked with an asterisk (\*) are unofficial figures or estimates.

mainly in the USSR and Eastern Europe. While seed production has increased by some 60% since the early sixties, oil output has expanded by 80%. In contrast, the volume of meal produced has tended to expand less rapidly than that of sunflowerseed. The use of high oil-yielding varieties with an oil content of 40% and more has now been extended to most of major producing countries. Contrary to developments elsewhere, however, seeds with a relatively low oil content (32 to 34%) are still widely grown in Argentina so that while the country now accounts for about 8 per cent of the world sunflowerseed crop, it is estimated to account for a substantially smaller share of the world's sunflowerseed oil production.

#### Export supplies

Whereas only 15% of estimated world production of sunflowerseed oil was exported in the early sixties, this proportion increased rapidly to reach nearly a third by 1967-1969. Most of the growth came from the USSR and Eastern Europe (Table 3). The volume of exports more than tripled from 350,000 tons to over 1.1 million tons. USSR exports increased almost four-fold, and this expansion temporarily placed the USSR (which also usually ships minor quantities of other liquid oils) as the world's second largest exporter of vegetable oils - after the United States. The increase in world exports was mainly in the form of oil rather than of seeds, reflecting the rapid expansion of the processing industry in some major producing countries, particularly the USSR, and the growing meal requirements of their domestic livestock industries.

In the years since 1970, however, the volume of world trade in sunflowerseed oil has



Table 3  
World Net Exports of Sunflowerseed, Sunflowerseed Oil and  
Sunflowerseed Meal: 1961-63 and 1967-69  
Averages and 1970 to 1974

	1961-63 average	1967-69 average	1970	1971	1972	1973	1974
1	2	3	4	5	6	7	8
(..... 000 metric tons .....)							
<u>Sunflowerseed and</u>							
<u>Sunflowerseed oil</u>							
(in oil equivalent)							
USSR	209	814	408	412	424	371	507
Bulgaria	32	58	81	56	63	31	30
Hungary	21	17	18	20	36	32	35
Romania	49	144	135	134	144	144	121
Yugoslavia	-	-	44	5	-	1	3
United States	-	-	-	1	55	67	73
Argentina	17	56	101	36	-	61	3
Other countries	13	16	21	18	45	34	23
WORLD TOTAL	341	1 105	808	682	767	741	795

Table 3 (continued)

1	2	3	4	5	6	7	8
<u>Sunflowerseed and</u>							
<u>Sunflowerseed meal</u>							
<u>(in meal equivalent)</u>							
Argentina	240	355	404	299	267	329	261
United States	-	-	-	1	59	72	79
Turkey	-	90	93	111	113	108	93
USSR	351	489	85	48	36	34	28
Bulgaria	23	22	32	18	17	-	-
Romania	22	24	19	2	16	2	1
Other countries	33	28	81	29	61	53	32
WORLD TOTAL	669	1 008	714	508	569	598	494

settled at a considerably lower level (700-800,000 tons, including the oil equivalent of seed exports), in spite of a relatively well-sustained average world output. Several factors have contributed to this reversal.

Firstly, smaller crops have been combined with rising domestic requirements, particularly in the USSR. Sunflowerseed supplies the bulk of this country's vegetable oil needs, followed in importance by cottonseed oil. The volume of sunflowerseed and oil annually available for export depends essentially on government policy decisions; lately there appears to have been a tendency to meet consumption requirements and to build up stocks in certain years, at the expense of reduced exports, even in some recent years when international prices of vegetable oils have been unusually favourable.

Secondly, in other traditional producing countries with relatively stable output, such as Argentina, Romania, Yugoslavia and Turkey, domestic consumption has increased in recent years and this has limited the expansion of exports. Thirdly, in most new producing countries, the growing output has largely been consumed domestically. The exception to this is the United States, where much of the increased production has been exported, mainly in the form of seeds.

Export trade in sunflowerseed meal (including the meal equivalent of seed exports) shows a similar but not identical pattern to that of oils. The increase during the sixties was less marked than oil but the decline in the early seventies has been more pronounced. The recent average level has been 500-600,000 tons, somewhat lower than in the early sixties. Argentina now accounts for about half total world exports, with Turkey the next most important shipper. The USSR, which used to be the largest supplier of world markets in the 1960s, has now become only a marginal ex-

porter due to rapidly increased domestic requirements of protein feed.

### Import markets

In the early post-war years, the relatively small world net imports of sunflowerseed and oil were largely concentrated in three countries: Czechoslovakia, the German Democratic Republic and the Federal Republic of Germany. During the sixties, especially the later part, with the rapid expansion in world supplies, the pattern of world imports changed, and the number of significant importers has increased (Table 4). The European Economic Community (EEC) is now by far the world's major import market, accounting for 40 to 45% of world net imports: this has followed primarily from a very sharp expansion in purchases by the Federal Republic of Germany, now the world's leading importer; imports into France have been increasing very rapidly in the seventies, and the country now ranks as the world's second largest net importer. Purchases by Italy, the United Kingdom and the Netherlands, after reaching record levels in the late sixties, when exportable supplies were at their peak, have since been curtailed - especially at Italy and the United Kingdom. Austria and Switzerland are other significant and steady Western European importers. The German Democratic Republic, Czechoslovakia and Poland have maintained relatively high levels of purchases in the past decade but, in view of the increased importance of Western Europe as an import market, Eastern Europe as a whole accounts now for under a quarter of world total retained imports, as against over one-third in the early sixties - though the absolute volume was smaller at that time.

Outside Europe, the main importers of oil have included, in Latin America, Cuba, Chile

Table 4

World Net Imports of Sunflowerseed and Sunflowerseed Oil  
 (in oil equivalent): 1961-63 and 1967-69 averages  
 and 1970 to 1974

	1	2	3	4	5	6	7	8	9
		1961-63 average	1967-69 average	1970	1971	1972	1973	1974	average 1972-74 % share
Belgium	5	20	17	12	16	12	17	17	2
France	2	11	43	63	72	85	112	112	12
Germany, Fed. Rep.	52	142	150	149	163	184	140	140	21
Italy	27	93	74	26	20	6	20	20	2
Netherlands	8	34	20	17	24	25	11	11	3
Denmark	-	3	5	3	3	3	2	2	-
Ireland	-	5	7	4	4	4	2	2	1
United Kingdom	2	68	34	24	29	22	18	18	3
Total EEC	96	376	350	298	331	341	322	322	44
Austria	15	44	33	27	28	37	33	33	4
Finland	-	-	-	-	-	1	4	4	-
Spain	17	2	5	-	6	6	14	14	1

(..... 000 metric tons .....)

Table 4 (continued)

	1	2	3	4	5	6	7	8	9
Sweden			8	13	4	2	3	3	1
Switzerland		7	22	27	24	29	31	28	4
Portugal				2		8	25	15	2
Yugoslavia			24						
Total other									
Western Europe	39		100	80	55	73	103	97	12
Bulgaria									
Hungary									
Czechoslovakia	45		61	71	40	53	63	57	8
German Dem. Rep.	71		52	88	80	77	72	87	10
Poland	4		37	12	23	35	33	27	4
Total E. Europe	120		150	171	143	165	168	171	22
United States	3		1	1					
Canada			16	4					
Cuba	31		58	55	66	54	59	65	8
Chile			12		3		2	2	
Peru		1	31	8					
Iran	14		32	15	5	7	15	37	3
Japan	8		34	19	15	11	6	1	1

Table 4 (continued)

	1	2	3	4	5	6	7	8	9
Algeria		2	30	23	17	33	16	39	4
Marocco		16	46	15	4	19	23	8	2
Egypt		-	28	20	52	18	4	25	2
Other countries		2	38	22	13	20	23	21	2
WORLD TOTAL		332	952	783	671	731	760	788	100

and occasionally Peru; in Africa, Algeria, Morocco and Egypt; and in Asia, Iran. Japan, after emerging as a major importer of seed in the late sixties, has since considerably reduced its purchases. Most if not all of the imports by Cuba, Algeria and Morocco are believed to be of USSR origin.

### Share of sunflowerseed products in world markets

The rapid growth in world trade in sunflowerseed oil in the sixties, particularly in the later part of the decade, brought about some important although temporary changes in the pattern of world trade in fats and oils as a whole. One was that the relative importance of sunflowerseed oil increased considerably at that time, reflecting a significantly more rapid growth in its export availability compared with other main competing oils and fats. In 1967-1969, sunflowerseed oil ranked third among the main edible/soap vegetable oils traded, accounting alone for 16% of the total trade in these oils, whereas a decade earlier it occupied only the eighth place, accounting for some 6% of total trade. Another important change was that the USSR and Eastern Europe, traditionally up to that time net importers, emerged as significant net exporters of vegetable oils, mainly due to the considerably increased exports of sunflowerseed oil (Table 5).

In the seventies, however, this situation has considerably changed again and in most recent years sunflowerseed oil has dropped to the 6th place among edible/soap vegetable oils, accounting for little more than 8% of total world trade. The volume of world trade in sunflowerseed oil has now fallen markedly below its level of the late 1960s, with net exports averaging some 770,000 tons in 1972-1974 as against 1.1 million tons in 1967-1969.



World Net Exports and Relative Importance in World Trade of  
Major Edible/Soap Vegetable Oils and Oilseeds (oil equivalent):  
averages 1961-63, 1967-69 and 1972-74

	1961-63 average	1967-69 average	1972-74 average
	000 m.t. %	000 m.t. %	000 m.t. %
Sunflowerseed oil	341 6	1 105 16	768 8
Soybean oil	1 287 24	2 008 28	3 418 37
Groundnut oil	916 17	1 012 14	798 9
Cottonseed oil	292 6	220 3	375 4
Rapeseed oil	166 3	413 6	774 8
Olive oil	180 3	180 3	262 3
Coconut oil	1 310 24	1 180 17	1 211 13
Palm oil	543 10	617 9	1 238 14
Palm kernel oil	365 7	309 4	345 4
TOTAL	5 400 100	7 044 100	9 189 100

This reduction has taken place in a period when trade in some other important edible/soap vegetable oils expanded strongly. This has been particularly so for soybean oil (the leading commodity in the fats and oils group), net exports of which increased by 70%, and for palm oil, sales of which doubled on international markets. Trade in most other edible vegetable oils also expanded, though to a lesser extent. The only other important oil, apart from sunflowerseed oil, to show a decline in trade over the same period has been groundnut oil; in this case, output in 1972-1974 was sharply reduced by bad weather while domestic disappearance in the main exporting countries has continued to expand. In terms of volume, therefore, trade in sunflowerseed oil is currently approximately equal in importance to that of rapeseed and groundnut oils; it is considerably less important than coconut and palm oils, and very much less so than soybean oil.

Sunflower cake and meal plays a very modest role in total world exports of all this group of products, representing little more than 2% of total trade when expressed in protein equivalent. Its relative importance has declined not only due to an absolute fall in exports of sunflowerseed meal as compared to the late 1960s but also to the spectacular expansion in exports of soybean meal from the United States and, in the most recent years, from Brazil.

### Uses of sunflower products

Sunflowerseeds can, of course, be consumed as such; certain qualities are roasted for direct consumption, used for confectionery and in the bakery trade, while some special varieties are also used for bird food. But by far the largest quantities are crushed to give oil and meal.

The oil has excellent keeping qualities, is liquid at normal temperatures, is high in polyunsaturated fatty acids and, when refined, is characterized by a pleasant odour. It is very highly regarded as a salad and cooking oil, and as an ingredient in the manufacture of margarine and compound cooking fats. Due to its technical qualities, to the tendency to be in relatively short supply and aided by the recent concern about the effect of unsaturated fats on cholesterol levels in the blood, it normally commands a premium over prices of most other liquid edible oils on world markets.

In a number of countries, such as the USSR, Romania, Bulgaria and Argentina, sunflowerseed oil represents traditionally the major domestic source of vegetable oil consumption. Most sunflower seed oil is used for edible, food purposes but certain qualities are also used for technical purposes, for instance in the manufacture of varnishes and paints, plastics, cosmetics and, particularly in the USSR, for soap production. In the USSR, the world's largest consumer, the mechanically pressed sunflowerseed oil, which accounts for some 75% of production, is generally used for edible purposes, whereas the solvent extracted oil is used more for export and non-food products.

The meal remaining after oil extraction contains 40 to 44% protein, and can be fed to all classes of livestock. In contrast to the oil, sunflowerseed meal does not have particular properties which would justify a premium over other protein sources for animal feed use. Sunflowerseed meal has however been found potentially valuable as a high protein food supplement, the absence of any toxins in the meal providing some competitive advantage.

## Prices of sunflowerseed oil

A comparison of annual averages for international market prices of sunflowerseed oil with those of other important oils is shown in Table 6. The oils which have broadly similar physical characteristics and commercial uses are soybean oil (by far the leading vegetable oil in world trade) and groundnut oil. It can be seen that, in most years, the annual average prices of sunflowerseed oil have remained between those of the two other and in general closer to soybean oil quotations. This intermediate position appears to have reflected the general value judgement of the West European refining industry. Sunflowerseed oil, as we have seen, is high in polyunsaturated fatty acids and has good keeping qualities which no doubt partly account for the premium over soybean oil; but on the other hand groundnut oil enjoys traditionally a strong consumer preference in some West European countries, which accounts largely for what may be considered its "normal" premium over sunflowerseed oil.

In the period 1967-1969, under the pressure of sharply increasing total export supplies, prices of sunflowerseed oil fell markedly and were almost exactly equal to those of soybean oil. As a result, the competitive position of sunflowerseed oil was notably improved. Subsequently, sunflowerseed oil prices have maintained their intermediate position between the other two oils although tending, in most recent years, to accentuate their premium over soybean oil. This has reflected the relative scarcity of sunflowerseed oil on oil markets at a time when soybean oil for export has been in increasing supply. As a result, the competitive position of sunflowerseed oil vis-a-vis soybean oil and most other competing edible vegetable oils other than groundnut oil has tended to deteriorate markedly. Such a situa-

Table 6

International Market Prices of Specified Edible/Soap Vegetable  
Oils: 1961-63 and 1967-69 averages, and 1970 to 1975

	1961-63 average	1967-69 average	1970	1971	1972	1973	1974	1975
1	2	3	4	5	6	7	8	9
	(. . . . . US\$/metric ton . . . . .)							
Sunflowerseed oil	264	199	331	375	327	485	982	731 <sup>1</sup>
Soybean oil	239	197	290	304	243	439	832	563
Groundnut oil	291	295	378	446	425	543	1083	848 <sup>1</sup>
Rapeseed oil	237	189	293	300	223	395 <sup>1</sup>	785 <sup>2</sup>	551
Coconut oil	262*	351*	320 <sup>2</sup>	278	200	430 <sup>3</sup>	990 <sup>3</sup>	390
Palm oil	224	192	259	262	218	372 <sup>1</sup>	674	435 <sup>1</sup>

Premium (+) or discount (-) for sunflowerseed oil in relation to other oils

Sunflowerseed oil	-	-	-	-	-	-	-	-
Soybean oil	+25	+2	+41	+71	+84	+46	+150	+168

Table 6 (continued)

1	2	3	4	5	6	7	8	9
Groundnut oil	-27	-96	-47	-71	-98	-58	-101	-117
Rapeseed oil	+27	+10	+38	+75	+104	+90	+197	+180
Coconut oil	+2	-152	+11	+97	+127	+55	-8	+341
Palm oil	+40	+7	+72	+113	+109	+113	+308	+296

1/ 11-month average

2/ 8-month average

3/ 10-month average

tion, if protracted over time, may ultimately act as a limiting factor on import demand for sunflowerseed oil, despite its special qualities, as the consumer would be encouraged to turn increasingly to other competing oils.

### Current supply situation and medium term outlook

The situation in 1976 is characterized by relatively low levels of world production of sunflowerseed oil and meal. Preliminarily estimated at 3.6 million tons and 3.5 million tons respectively, world output of these commodities is markedly below their 1975 level and particularly that of 1974 - when production was boosted by an all-time record crop in the USSR during late 1973 - and even slightly less than that produced in the earlier years of the 1970s. These low levels of production have reflected primarily a very poor USSR crop - of 4.95 million tons, owing to extensive drought. Output in other main producing countries in contrast was generally little changed from their 1975 levels, except in the United States, where it more than doubled, although still remaining at a relatively small volume. Sunflowerseed oil export prospects this year therefore appear limited but the volume actually traded will ultimately depend largely on export policy decisions by the USSR, where stocks at the beginning of the season were estimated to be at relatively high levels.

In sharp contrast to this situation for sunflowerseed oil, supplies this season of a number of the other main vegetable oils and meals are very ample. This is particularly so in the case of soybean products (United States and Brazil) and of palm oil (mainly from Malaysia) but also of groundnut, rapeseed and coconut products. Under these circumstances, the share

of sunflowerseed oil and meal in the world total output of all edible/soap vegetable oils is likely to be further reduced from recent levels. However, because it is in relatively short supply, sunflowerseed oil should be able to maintain comparatively high price differentials relative to the other main competitive oils.

Turning to the medium-term outlook, the levels of world output and trade in sunflowerseed products will continue to be predominantly determined by developments in the USSR. The country's Tenth Five-Year Plan (1976-1980), recently published, aims at a substantial expansion in sunflowerseed output above the goals set by the preceding Plan which, however, actually remained inachieved for this commodity. The new target is for an average annual output of 7.6 million tons of sunflowerseed over the 1976-1980 period, compared with an actual average annual production during 1971-1975 of only 6.0 million tons. The achievement of this new planned level of production would represent a 27% increase over 1971-1975 actual average annual output. The larger expected output of sunflowerseed oil will very likely be used primarily to contribute to the growing domestic demand for fats and oils in the country rather than to allow a recovery in exports to the levels reached in the late 1960s. Prospects for sunflowerseed production in other producing countries appear promising. A continuation of relatively favourable international sunflowerseed oil prices might stimulate production in some of these countries. The scope for higher output by increasing the area planted by improving yields of seed per hectare and by using new varieties with a significantly higher oil content is still considerable in a number of these traditional producers.

Other countries can also be expected to embark on relatively large-scale production



of sunflowerseed. The high yields of oil per hectare relative to other annual oilseed crops make sunflower well suited to those countries with appropriate climatic and agronomic conditions which wish to increase supplies of domestically produced oils either for internal consumption or for export. In addition to the high quality, good consumer acceptance and versatile end-use pattern of the oil, the meal is also useful for both feed and foot purposes. As an example, India - so far only a minor producer - has in fact included this non-traditional crop in its new Fifth Plan, 1974-1979. It is contemplated that by the end of the Plan, the total area under sunflowerseed in the country will be increased to over 0.9 million hectares, output from which would be essentially used to help supply the country's rapidly growing requirements of fats and oils. Also, Pakistan hopes that increased output of sunflowerseed oil will help to control its fast increasing imports of vegetable oils. While the papers to be given later in this Congress on the prospects for the development of sunflower culture in various countries of the world will certainly add to available knowledge on this subject, current indications suggest the following brief summary of medium-term prospects. World production of sunflower seed oil should recover to well above recent levels. However, since much of the increased output is likely to be consumed within the producing countries, export availabilities can be expected to continue to be in relatively short supply so that world trade in this commodity is very unlikely to regain the temporary and unusual importance it acquired for a few years in the late sixties. Nevertheless it has qualities which could make it a more important oil in the consumption patterns of an increasing number of countries, thus providing prospects for a useful diversification of cropping pat-

terns in developing countries whether currently short of vegetable oils or looking for increased export earnings.