

THE UNITED STATES SUNFLOWER SEED SITUATION

F. G. THOMASON
(U.S.A.)

Sunflower Seed Production: The 1974-crop of sunflower seed is estimated at 289,300 metric tons, almost one-fifth less than the 353,160 tons of last year. Yet, the output this year is the third largest of record, even though certain feed grain and wheat program set-aside acres, which were available for sunflower plantings from 1971 through 1973, were not available under the 1974 programs.

The decline of production in 1974 occurred on acreages planted to oilseed varieties, which fell almost 20 percent from the 233,900 hectares planted in 1973. Decreased yields, resulting from the lateness of plantings this year, contributed to the drop in oilseed output from 278,940 to 192,000 metric tons. This decline was partially offset by increased plantings of seed for confectionery, birdseed and other non-oil uses.

The bulk of sunflower seed production is found in North Dakota and Minnesota, although South Dakota has begun to enter the field strongly since 1970. This year, the Plains Cooperative Oil Mill in Texas, the largest cottonseed crushing complex in the world, contracted with its constituent farmers for 3200 hectares of sunflower; the total might have been higher but for difficult planting conditions because of adverse weather at planting time. California plants each year a range of 450 to 1800 hectares, reportedly for confectionery or birdseed usage.

Crop conditions in 1974 have not been the best. Whenever sunflower plantings are late, yields tend to be low; this year plantings were late in almost all areas except South Dakota. As indicated in Table 1, plantings were reportedly late also in 1972 and 1970. On the other hand, adverse crop conditions this year may have been at least partially offset by increased planting of new-type hybrid seeds in the Red River Valley areas of Minnesota and the Dakotas.

Plantings on set-asides (or diverted) acres to sunflower seed under the wheat, feed grain and cotton support programs. Under such support programs, a participating farmer set aside a specified number of acres

from the production of a basic crop (feed grains, wheat or cotton) to an approved conservation use, receiving under the program a payment per acre for each acre set aside. However, the participating farmer had the option of devoting set-aside acreages to approved alternate crops, such as sunflower, castor, safflower, sesame and others. In the years 1971—73 if he elected to plant an alternate crop on set-asides, a reduction was made in the set-aside payments computed for the farm.

Set-asides in 1972 were at peak levels, providing a peak number of acres for alternate crops. Oilseed prices had begun to strengthen and a strong boost was provided sunflower seed for oil by the demand from Japan and Europe. The farmers responded to such demand in almost every state which had grown sunflower in the past. Opinions from the major producing areas are that the expansion of sunflower production in the United States could not have been accomplished but for the limitations on wheat and grain acres in 1971 and 1972.

The number of 1973 set-aside acreages cut strongly as support programs encouraged increased plantings of the basic crops. Only the 3 major producing sunflower seed states continued to plant alternate crops on set-aside acres under the 1973 support programs; the incentive for planting on set-asides has been replaced in 1974 by that of increased prices for sunflower seed. Now established on its own, sunflower plantings may expand to the west in the Dakotas. The limiting factor in the westward expansion will be the specialized equipment needed.

The outlook for sunflower seed in 1975 and thereafter appears to be unusually bright. Domestic demand is expanding rapidly, with production the limiting factor at this time. The consensus of trade opinion is that next year's plantings could exceed 362,900 hectares, without too great an increase in Texas. At the same time, the optimism out of Texas suggests that a much greater increase could occur, bringing the total to at least 376,500 hectares. Words of caution, however, have received from others who have tried sunflower in Texas, only to see a beautiful-appearing crop yield only 729—840 kilos per hectare at harvest time. Nevertheless, with record prices for seed, and demand in the United States for sun oil greatly in excess of current production, the planted acres could expand rapidly next year and thereafter.

The Texas situation is worthy of some detail in view of its sudden potential. While research has been performed with sunflower at College Station in Texas, and at some Central Texas mills, for more than a decade, implementation of such research in a practical way by the Plain's Cooperative Oil Mill did not take place until the advent of two factors: (1) A strong food processor interest had been expressed in the high oleic content of sun oil, particularly for the oil of the Plains and Central areas of Texas, which have an oleic content above the average, and (2) the demise of castor production in the United States (324 hectares only in 1974) left a fine oil mill in Plainview with little or no seed for crushing. While this plant may not crush all the sunflower seed expected to be produced in future years, the immediate economics of

an unused mill has played a part in the decision of the Cooperative to contract with the farmers for sunflower acreages.

Seasonal yields for sunflower appear to be affected by two major factors : the time of planting and the timing of rainfall before blooming. The Plains farmer who plants irrigated acres has an advantage over the Red River Valley farmers relative to the second factor. Only one irrigation is needed and this watering of the crop can be made at the optimum time of growth. Actual yields for early 1974 harvestings in Texas have ranged up to 3360 kilos per hectare. This year crop conditions, including primarily the lateness of plantings, will pull the average yields down to 1,680 kilos per hectare. (Late reports now raise average per ha in the Plains area of Texas to 2,020 to 2,240 kilos.) If these yields (above average for the United States) are realized, and the farmer receives 15 cents per pound for his seed, the resulting revenues per acre may match or exceed any other competing crop in the area, and at less cost (with only one watering). The cooperative estimates that in 1975 it will produce a minimum of 300 tank cars of oil to meet commitments. This is at least 8,200 metric tons requiring between 9 and 10,000 hectares. This increase over 1974 will be small relative to a potential demand reported at 7 times the expected output. However, hybrid seed for the 1975 planting season will be available for only 12,000 hectares.

The Red River Valley situation is nebulous to date. Until recently, with only 3 major companies contracting for sunflower oil seeds in the area, and with almost all production contracted for, total U.S. output was easy to compute. Now, more than 15 companies are contracting with the Red River Valley farmers. In addition, many farmers are not contracting at a specific price level, and are depending on market conditions at harvest time to realize their optimum revenues. As a consequence, the number of acres planted in 1974 are not known, official estimates may be low for the acres planted to oilseed varieties, and future revisions may be expected. Drought and other adverse crop conditions hit the southern part of the area (South Dakota) harder than it did the north (North Dakota and Minnesota). For the most part, sunflower has proved hardier than the basic crops under such conditions ; the farmer will be aware of this as he plans for the future. At 15—16 cents per pound for sunflower seed, acreages planted to sunflower are expected to increase next year, possibly to the peak levels of 1972 for the oilseed varieties. While the non-oil sunflower seed acreages are trending upward, no substantial increase is expected in 1975 over 1974.

Sunflower Seed Distribution : The decline of total sunflower seed production from an estimated 353,150 metric tons in 1973 to 289,260 tons in 1974, coincides with a recuperation of output in Eastern Europe and the U.S.S.R., and alters distribution patterns as a result. Domestic consumers are now out-bidding exporters for sun oil ; domestic crush will expand further in the year beginning November 1974. Exports will therefore decline as West European users look to the East for additional supplies this coming year.

Table 1

Sunflower seed & oil : production & distribution, 1969—1974

Supply—Disposition	Crop of					
	1969	1970	1971	1972	1973	1974
I. Production factors						
<i>A. Production for oil:</i>						
Planted ha	22,683	31,567	72,846	261,112	233,917	184,138
Harvested ha	21,373	29,867	69,568	250,266	229,384	180,334
Yield (kg/ha)	1,107	1,059	1,241	1,053	1,216	1,065
Production (m.t)	23,655	31,631	86,307	263,431	279,940	191,869
<i>B. Non-Oil Uses</i>						
Planted ha	58,884	58,277	99,961	87,415	76,084	97,128
Harvested ha	56,100	54,958	96,359	83,166	74,748	94,943
Yield (kg/ha)	973	985	1,133	964	993	1,021
Production (m.t)	54,583	54,154	109,143	80,186	74,216	96,932
<i>C. Total Production</i>						
Planted ha	81,567	89,843	172,807	348,528	311,000	281,266
Harvested ha	77,474	84,825	165,927	333,432	304,132	275,277
Yield (kg/ha)	1,039	1,012	1,178	1,031	1,161	1,051
Production (m.t)	80,505	85,806	195,450	343,617	353,156	289,263
II. Supply/disposition (m.t.)						
<i>A. Seed Production</i>						
Minnesota	33,670	33,661	76,321	120,133	130,661	91,670
No. Dakota	44,089	51,011	110,413	167,243	185,677	164,708
So. Dakota	36	129	5,987	18,144	34,042	25,832
Other States	2,710	1,005	2,728	38,097	2,776	7,053
Total Prod.	80,505	85,806	195,449	343,617	353,156	289,263
<i>B. Seed Distribution</i>						
Non-oil seed 1/	54,458	53,930	107,959	80,013	73,999	96,751
Exports	966	3,154	26,186	163,456	204,115	90,908
Crush 2/	24,677	27,946	59,742	98,756	73,781	99,790
Seed, feed, etc. 3/	404	776	1,563	1,392	1,261	1,814
Total Prod. 4/	80,505	85,806	195,450	343,617	353,156	289,263
<i>C. S/F Oil</i>						
Exports	4,039	5,622	13,113	26,254	5,443	4,536
Domestic	5,831	5,554	10,782	13,249	24,040	35,380
Total Prod. 6/	9,870	11,176	23,895	39,503	29,483	39,916

1/ Production from IB less calculated seed for planting. 2/ Residual after non-oil seed distribution, exports and seed, feed, etc. 3/ Seed calculated at approximately 4.5 kg/ha (4 lbs. per acre). 4/ IC total. 5/ Residual after exports. 6/ Crushed at 40 percent oil per weight of seed crushed. 7/ ASCS estimates. Note: Seed year for crush and exports: October 1-September 30, beginning in the year shown. Oil year: November 1-October 31, beginning in the year shown.

Non-oil seed usage (shown in Table 1) presents an erratic pattern since 1970. Production far exceeded requirements in the beginning October 1971, production was adjusted downward in 1972 and 1973 in order to dissipate carryovers, and the 1974 estimate of usage this year reflects the probable consumption level which has been increasing sharply since 1970.

About 50 percent of a normal supply of non-oil sunflower seed is used for confectionery purposes, and the balance for birdseed and other non-oil usages. A process of screening separates out the „jumbos“, which are packaged in-shell for human consumption. A second screening segregates the larger sizes for dehulling, the meats being used for confectionery and other edible purposes. The remaining small seeds are used for birdseed and miscellaneous non-oil uses, either in-shell or dehulled. Consumption of non-oil varieties has almost doubled over the past 4 years. There is no reason to expect a decline of demand in 1975; production should continue to increase for an expanding usage.

Sunflower Oil Distribution: Sun-oil usage in the United States appeared to be stair-stepping upward until the year beginning November 1973. The 1969 and 1970 usage remained at the level of about 5,690 metric tons, then moved upward to an average 12,050 tons in 1971 and 1972. But indications are that this year domestic usage reached 24,040 tons (see Table I). Indications for the year ahead are that domestic use will jump again at the expense of exports, and will be limited only by the level of production. Reports from widely-scattered sources state that one large food corporation alone would consume a minimum of 50,000 tons annually if the sun-oil was available.

The answer to the expanding demand for sun-oil lies in its high oleic content. Reportedly the required level for certain foods, including potato chip and fritos-type products, is 40 percent oleic acid. Texas reports up to 55 percent in its sun-oil, which may account for some of the expected expansion of production there. Another reason for the suddenly-increased demand for sun-oil, other than the very obvious shortage and high prices for all edible oils, is the stagnation and decline in the production of safflower in the United States. Safflower acreages are declining seriously in California, the major producing state. While high prices this year may place safflower in a competitive position for acreages with other crops, no decisive increases are anticipated in the near future.

Finally, a future expansion of oilseeds in the United States may necessarily be west and south of the corn-soybean belt. The response of the past decade to increased demand for soybeans cannot be matched in future years by farmers of that area of the country. Competition for land is strong between the field crops, as well as between field crops and livestock. Thus, soybean processors cannot expect U.S. soybeans to capture any large blocks of land from other crops (or cropland pasture

from livestock) unless soybean prices are high relative to feed grains prices after 1974. Sizeable extra plantings of oilseeds may be necessary in those regions west of Iowa, from Texas to North Dakota, where feed grains, soybeans and cotton do not dominate the available acres. Sunflower seed has the potential to provide the oilseed production increases needed.