1999 U.S. SUNFLOWER CROP QUALITY REPORT

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Table of Contents

Production & Economics	3
NuSun Sunflower Oil	3
1999 Growing Season	4
Seed Quality	5
Fatty Acid Profile	6
Sun Oil & Meal Exports	7
World Supply/Disappearance	8
U.S. Supply/Disappearance	9
NSA Market Development	10
Acknowledgements	11



Introduction

T he U.S. Sunflower Crop Quality Report has been produced annually by the National Sunflower Association since 1981.

This year's report provides general commentary on the size and quality of the 1999 U.S. sunflower seed crop. It also includes statistics on the marketing of that crop, as well as U.S. and world supply/disappearance tables and information on U.S. sunflower oil.

Additional copies of this report, including a Spanish translation, are available from the National Sunflower Association office in Bismarck, N.D., or from our Mexico representative. See page 10 for address, phone and fax details.

The National Sunflower Association (NSA) is a nonprofit organization dedicated to the promotion of U.S. sunflower and its products, and to the development of sunflower markets throughout the world.

Based in the capital city of the nation's largest sunflower producing state, NSA was incorporated in 1981. It is funded and governed by U.S. sunflower growers and industry representatives. Agreements with the U.S. Department of Agriculture's Foreign Agricultural Service provide funding for overseas market development programs, including this publication. Among the many NSA programs and activities are the following:

• Developing and distributing technical literature on sunflower refining and nutrition.

• Providing technical assistance to foreign companies on oil refining and finished product manufacture; also, providing technical aid to U.S. confection sunflower customers.

• Producing and distributing a variety of literature pertaining to sunflower markets, the U.S. sunflower crop and sunflower products, including *The Sunflower* magazine, published six times annually

• Researching the marketplace and surveying consumer awareness of (and attitudes toward) sunflower products.

• Conducting industrial research overseas, including confection shelf-life and other utilization studies.

• Hosting foreign marketing and technical personnel; arranging meetings with U.S. sunflower industry representatives; setting up tours of U.S. processing and research facilities; and coordinating educational seminars for the benefit of foreign visitors.

NSA welcomes inquiries from any foreign agencies, companies or individuals interested in U.S. sunflower.

U.S. Acreage / NuSun Oil

U.S. Oil-Type Sunflower Harvested Area, By State

(Thousands of Hectares)								
State	1993	1994	1995	1996	1997	1998	1999	
Colorado	21.9	28.0	25.0	17.8	19.0	43.3	69.6	
Kansas	53.9	77.0	87.0	93.1	66.8	62.7	97.1	
Minnesota	105.3	152.0	144.0	39.3	29.1	35.2	31.2	
Nebraska	14.2	18.0	17.0	8.9	9.7	15.4	19.0	
North Dakota	392.9	530.0	490.0	360.2	445.2	639.4	493.7	
South Dakota	243.4	363.0	353.0	256.2	301.5	358.2	348.8	
Texas	4.9	8.0	7.0	3.2	8.9	4.5	9.7	
Other	<u>11.3</u>	<u>16.0</u>	<u>22.0</u>	<u>12.3</u>	<u>15.0</u>	<u>13.8</u>	<u>21.5</u>	
Total U.S.	847.7	1,191.0	1,145.0	791.0	895.2	1,172.5	1,090.6	
SOURCE: U.S. Dept. of Agriculture								

The National Sunflower Association has been working closely with the U.S. sunflower industry on the development of an altered sunflower oil called NuSun.TM NuSun is defined as a mid-range oleic (C18:1) oil. Its levels of oleic acid may vary from 50 to 70 percent, with the industry looking for an average of about 65 percent. Linoleic acid (C18:2) levels range from 20 to 40 percent; total saturates will be less than 10 percent.

Hybrid NuSun planting seed has been developed using traditional breeding practices. Dozens of varieties have been tested in public trials the past four years. About 400,000 U.S. commercial acres (162,000 hectares) were planted during the 1999 U.S. sunflower growing season. The availability of a sufficient supply of NuSun planting

seed could increase that level up to four-fold in 2000.

NuSun has been developed as a response to U.S. domestic market requirements. United States food processors desire a vegetable oil that is low in saturated fatty acids and can be used in industrial or fast-food frying applications without hydrogenation.

Because of the fatty acid structure of NuSun, hydrogenation will not be required for most frying uses. NuSun is lower in saturated fatty acids than most oils. This trait, combined with zero trans-fatty acids, will give food manufacturers an excellent alternate choice.

Buyers now will have additional choices among (1) conventional sunflower oil high in polyunsaturates, (2) high-oleic sunflower oil, and (3) NuSun oil.

NuSun Sunflower Oil	65%		26% 95
Linoleic Sunflower Oil	20%		69% 119
High Oleic Sunflower Oil	82%		9% 99
	0080	T INACH THAT	CATUR ATED
) Lennuare	
NuSun Sunflower Oil	65%	Landstan	26% 9
NuSun Sunflower Oil Olive Oil	65%		26% 99 8% 149
NuSun Sunflower Oil Olive Oil Canola Oil	65% 77%	Lettotcarc	26% 99 8% 149 21% 9% 65



Growing Season Review

A fter an excellent U.S. sunflower crop in 1998, Mother Nature looked like she was in the mood for a repeat performance in 1999. And for growers in some areas, she kept smiling right through harvest. For others, she turned sour in September, allowing one of her most vexing diseases of sunflower — Sclerotinia — to take a bite out of many producers' yields.

While early May rains delayed planting of all crops in the Dakotas and Minnesota, they set the stage for good germination and emergence. But the rains continued through May in much of the sunflower production region, hampering planting and pushing it back into June for many producers.

By mid-June it was apparent numerous fields sunflower and other crops — would not be planted at all due to ongoing, excessive moisture. In North Dakota alone, it was estimated 3.2 million acres (all crops) were not planted in 1999 due to wet soils. USDA's June sunflower acreage estimate surprised many people by indicating the nation's overall sunflower acreage remained basically unchanged from 1998 at 3.6 million (1.46 million hectares). Within that total, USDA estimated oil-type 'flowers had declined by eight percent, down to 2.7 million (1.09 million hectares), as confections shot up 47 percent to a record 904,000 acres (about 366,000 hectares). Industry insiders were particularly suspect of the confection figure, given the restricted availability of confection planting seed.

The crop continued to progress behind normal during July. Moisture conditions ranged from saturated in the Dakotas to generally adequate in the High Plains. By the first of August, about three-fourths of the U.S. sunflower crop was rated as being in either good or excellent condition. The percentage was lower in Minnesota, where nearly half of the sunflower fields



were judged to be in only fair or poor condition.

August was a good month for the nation's sunflower crop. The High Plains received general rains, adding to crop prospects, and the Northern Plains crop — while still lagging behind the five-year average — made strong progress. Many areas continued having lowerthan-normal temperatures, however, and that was a concern. Concerns also began popping up in the form of Sclerotinia head rot infections due to extended wet weather during flowering in North Dakota and Minnesota. About three-fourths of the crop was still in bloom as of mid-August.

Along with maturity worries due to the spring's late planting dates, by September many Northern Plains producers were seeing ominous signs as continued record rainfall led to increased lodging risk and spreading Sclerotinia head rot. While the harvest in Texas was one-third complete by mid-September, many northern locales needed more time — and heat units — to add test weight and oil content.

USDA came out with its first estimate of 1999 sunflower yields in early October. Harvested U.S. acreage was placed at 3.6 million (1.46 million hectares), slightly higher than the prior year. Per-acre yield was estimated at 1,404 pounds, about 100 lower than in 1998. Given the acreage and yield, the '99 crop — if USDA's estimate was accurate — would be four percent below 1998's record output (oil and confections combined). Still, much of the nation's sunflower crop remained unharvested as of the USDA report date.

Thirty percent of U.S. sunflower was estimated to still be unharvested as of latter October. Kansas yields and oils were running strong, while many North Dakota yields were suffering due to serious losses from Sclerotinia head rot. Along with reduced yields, many confection loads were being rejected due to their high levels of sclerotia bodies.

By mid-November, with the 1999 sunflower harvest virtually complete, it was apparent North Dakota's average yield would be well below USDA's October projection of 1,380 pounds. Most of the High Plains, though, was enjoying good yields and quality.

USDA's January 2000 estimate of the 1999 U.S. sunflower crop reflected the weather and disease difficulties of the latter part of the growing season. Overall harvested acreage was placed at 3.44 million (1.39 million hectares), with 2.70 million being oil-types and 746,000 being nonoils. Overall average yield was estimated at 1,262 pounds per acre, with that of oil-type sunflower placed at 1,298 pounds and that of the nonoils at 1,131 pounds per acre.

Seed Quality / Kernel Specs

A pproximately 2,700 samples of oil-type sunflower seed, as well as 4,200 samples of nonoil (confection) sunflower seed, were collected from the Minnesota, North Dakota, South Dakota and High Plains growing areas during the 1999 fall harvest. (About 70 percent of the oil-type seed samples and 75 percent of the nonoil samples came from the tri-state Northern Plains production region.)

The samples, collected with the aid of the North Dakota Grain Inspection Service, Kansas Grain Inspection Service and Aberdeen (S.D.) Grain Inspection, were drawn from sunflower loads delivered to processors, or from submitted samples taken at local grain buying facilities.

The seed samples were analyzed according to USDA Grain Inspection, Packers & Stockyards Administration (GIPSA, formerly known as FGIS) directives. Oil content of oil-type seed samples was determined on a clean-seed basis using nuclear magnetic resonance (NMR) analysis.

Quality characteristics of the 1999 U.S. sunflower seed crop — both oil-type and non-oil — reflected the type of growing season experienced. (See page 4 for a growing season review.)

The average oil content of the 1999 oil-type seed samples was 42.2 percent — 1.7 points below the average of the 1998 crop samples. The range of oil contents among survey samples went from 29 percent on the low end to a high of 51 percent.

Average test weight of the 1999 oil-type samples was 28.6 pounds per bushel — more than two points below the average of the previous year's samples. At 8.0 percent, foreign material levels in the 1999 samples was about double that of the prior year's samples. Average seed moisture was about 0.4 below that of '98.

The 1999 season was the second in which the U.S. crop quality survey included nonoil (confection) sunflower. The 1999 averages were as follows (with 1998 comparative figures in parentheses):

Test weight, 24.4 pounds per bushel (25.6 pounds); Percent seeds over 20/64 in size, 66.1 percent (62.8 percent); foreign material, 8.1 percent (5.6 percent); moisture content, 10.3 percent (10.8 percent).

Oil-Type Sunflower Seed Quality

	Test		Foreign	
Year	Weight*	Moisture	Matter	Oil %**
1999	28.6	9.4	8.0	42.2
1998	30.8	9.8	3.9	43.9
1997	30.9	9.5	4.0	44.0
1996	30.3	9.6	4.7	43.0
1995	29.8	9.9	4.7	43.1
1994	30.6	9.4	4.4	44.8
1993	28.9	9.7	5.1	41.7

*Test weights are in pounds /bushel.

**Oil content determined on clean-seed basis using Nuclear Magnetic Resonance (NMR) analysis. The oil content is standardized to a 10% moisture basis.

U.S. Confection Sunflower Kernel Product Specifications

Origin	 Confection sunflower hybrid seed
Flavor	- Good, typical, mild, distinctive
Odor	- Good, clean, fresh aroma
Texture	— Firm, not brittle or soggy
Color	— Off-white, gray
Microbiological	- Aflatoxin: Negative
-	- Pathogens: Negative
Chemical Additives	- No preservatives or chemical additives used
Pesticide Residues	 Meets all state & federal regulatory requirements
Fumigants	– Only FDA-approved fumigants may be
Ũ	used as considered necessary. Residues
	may not exceed FDA-approved tolerances
Moisture	- Not more than 10%; not less than 4%
Size	— Not more than 650 / oz.
Foreign Material, Shell,	— Not more than 0.1 %
Unshelled Seeds	
Damage	 Not more than 0.5% heat damage and
	not more than 2 % misc. damage
Broken Kernels	 Not more than 10% (broken kernel is any
	portion less than $1/_2$ kernel)

Fatty Acid / Oil Traits, Rules

he table below compares the fatty acid content of 300 representative samples of sunflower seed oil — gathered from the 1999 U.S. crop — to previous years' data on oil quality.

The sunflower oil quality analysis was conducted with standard gas chromatography, basis American Oil Chemists' Society Method #Cel-62.

The linoleic acid content of 70.8 percent is well above that of the 65.3-percent average of the 1998 crop samples. As is the case each year, climatic factors and the timing of production contributed to the level of both linoleic and oleic acid in the 1999 samples. (See page 4 of this publication for a synopsis of 1999 U.S. sunflower growing season conditions.)

High-oleic sunflower is estimated to currently account for about 10 percent of U.S. oil-type sunflower acreage. The different varieties of "higholeic" hybrid seed historically have produced oleic levels ranging between 70 to 90 percent, depending upon the hybrid used and the environmental conditions during a particular growing season.

The 17.17-percent oleic level average of the 1999 sunflower oil samples is well below the 22.83-percent average of the 1998 oil samples. Again, much of this deviation can be attributed to the weather pattern experienced during this most recent season.

No NuSun oil samples were included as a part of the 1999 quality analysis.

Sunflower Oil Quality

Year	Palmitic	Stearic	Oleic	Linoleic	Linolenic
	16:0	18:0	18:1	18:2	18:3
			Percent	t ·	
1999	6.19	4.33	17.17	70.80	0.210
1998	6.15	4.27	22.83	65.29	0.197
1997	5.99	4.27	19.39	68.70	0.240
1996	6.30	4.13	19.60	68.28	0.240
1995	6.47	4.01	19.74	67.87	0.119
1994	6.10	4.44	18.27	69.47	N.A.
1993	6.05	4.56	16.12	71.76	N.A.

Refined, Bleached, Deodorized, **Dewaxed Sunflower Oil**

Item

Iodine Value Saponification Value Refractive Index at 25°

Smoke Point Phosphates Unsaponifiable

Color Lovibond Peroxide Fat Stability by AOM

Chlorophyll Moisture and Volatiles

Free Fatty Acids Soap (Sodium Oleate) Chill Test: 0°C (32°F) 4.4°C (40°F) Specification 130-144 188-194 1.4740-1.4745

252-254°C 1 PPM Max 1.5% Max

2.0 Red. 20.0 Yellow 2.0 Meq/Kg Peroxide 35 After 8 Hrs.

0.03 PPM Max 0.10% Max

0.05% Max 0.003% Max 48 Hours 120 Hours

Amount

Negative

188-194

250°F Minimum

1.3% Maximum

nonreciprocal

0.5% Maximum

Basis 2%, Maximum 3%; 1-for-1 allowance over 2, fraction-for-fraction;

Flavor and Odor

Not Rancid, Bitter or Sour

American Fats & Oils Association Rule 14

Specification Flash Point (AOCS Cc9b-55) Halphen Test Saponification Value

Unsaponifiable Free Fatty Acids (as Oleic)

Moisture and Volatiles (AOCS Ca 2d-25)

Insoluble Impurities 0.3 Maximum (AOCS Ca 3-46) Color in 5-1/4 inch cell 2.5 Red Maximum or tube, as determined under AOCS Method Cc 13b-45), bleached (AOCS Cc 8g-52), after refining (AOCS Cc 8g-52), after refining (AOCS Ca 9a-52) Linolenic Acid 1.0% Maximum



Sun Oil & Meal Exports

E xports of U.S. sunflower oil totaled 362,795 metric tons for the 1998/99 (October-September) marketing year, making it the third largest export year on record. This level of exports is down slightly from 1997/98, however, when almost 370,000 metric tons of U.S. sun oil were shipped to export customers.

U.S. Sunflower Oil Exports

(October-September / Metric Tons)

Country	1995/96	1996/97	1997/98	1998/99
Algeria	67,934	52,932	87,508	26,960
Bahrain	1,048	_	509	2,524
Canada	16,396	11,469	13,610	18,733
Columbia	674	2,700	3,913	7,410
Egypt	26,184	71,250	47,838	14,333
El Salvador	—	3,500	2,811	5,213
Guatemala	6,504	7,651	9,673	15,301
India	—	19,246	4,999	20,997
Japan	2,118	2,370	2,453	4,598
Jordan	1,315	_	1,709	6,270
Kuwait	611	5,251	2,298	2,572
Mexico	102,542	120,434	157,237	151,536
Netherlands	25,447	7,989	6,699	1,763
Singapore	_	5,198	1,000	4,501
Taiwan	3,662	6,090	4,698	17,154
Turkey	9,410	—	2,000	9,198
UAE	3,253	—	—	500
Other	17,550	5,482	20,610	53,232
Total	284,648	321,562	369,565	362,795

Source: USDA & National Sunflower Association

Mexico remains the largest market for U.S. sunflower oil. Mexican importers purchased more than 151,000 metric tons this past year, thus accounting for 41 percent of all U.S. sunflower oil exports. Other major importers during 1998/99 were Algeria, Canada, Egypt, Guatemala, India and Taiwan.

This year's export volume was a result of attractive world oil prices, ample stocks and growing consumer demand for sunflower oil.

Exports of U.S. sunflower meal during the 1998/99 marketing year were up significantly from the previous year. More than 41,000 metric tons were exported, with Ireland taking over half of the total. Increased sunflower seed crushing and smaller domestic consumption contributed to the higher meal export volume.

U.S. Sunflower Meal Exports

(October-September / Metric Tons)

Country	1995/96	1996/97	1997/98	1998/99
Canada	453	299	84	811
France	—	3,215		_
Portugal	5,342	_	6,459	_
Mexico	1,734	2,942	2,375	11,076
Ireland	12,861	4,293	1,287	23,856
United Kingdom	4,409	7,189	2,600	5,382
Other	_	129	121	96
Total	24,799	18,067	12,926	41,221

Source: USDA





World Supply/Disappearance

					Revised	Forecast
ITEM	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00
Area Harvested (1,000 HA)	19,150	21,030	19,901	19,776	21,176	22,463
Yield (MT/HA)	1.24	1.24	1.24	1.21	1.22	1.17
SUNFLOWER SEED			1,000 Metrie	c Tons		
PRODUCTION	5 (20			5 (90	(070	(000
Argentina Eastern Europo	5,620	5,560	5,450	5,680	6,970 2,591	6,000
Eastern Europe	2,404	2,840	2,921	2,179	2,001	2,911
China Peoples Bepublic	4,000	1 270	1 420	4,078	1 440	1 400
Former USSB	4 470	7 300	5 369	5 412	5 752	6 722
United States*	1,916	1.542	1.303	1.668	2.393	1.970
India	1,410	1,320	1,315	1,160	950	850
Turkey	730	800	670	672	650	700
Other	1,706	1,120	2,304	1,866	2,805	2,732
TOTAL	23,746	25,062	24,625	23,891	26,986	26,381
SEED IMPORTS						
Mexico	75	121	116	49	20	30
European Union**	1,897	2,388	2,340	2,034	2,689	2,420
Other	<u>498</u>	<u>703</u>	<u>856</u>	<u>918</u>	<u>908</u>	<u>967</u>
TOTAL	2,470	3,212	3,312	3,001	3,617	3,417
OILSEED CRUSHED	21,224	22,988	22,601	21,466	22,780	23,465
SEED EXPORTS						
Argentina	845	585	65	504	938	550
United States	241	96	10	157	138	41
Former USSR	585	1,745	2,395	1,/1/	1,722	1,420
TOTAL	$\frac{724}{2305}$	<u>787</u> 3 213	$\frac{817}{3287}$	$\frac{617}{2005}$	<u>825</u> 3 621	<u>1,405</u> 3,416
IOIAL	2,375	5,215	5,207	2,995	5,021	5,410
SUNFLOWER OIL						
OIL OPENING STOCKS	702	854	1,132	969	919	932
OIL PRODUCTION	8,493	9,251	9,146	8,588	9,208	9,491
OIL IMPORTS						
Algeria	225	238	219	209	238	240
Turkey	270	223	209	202	182	220
Egypt	175	238	316	279	238	245
Mexico	200	279	180	193	167	200
Former USSR	215	171	276	372	224	100
Venezuela	105	38	63	33	31	36
Others	<u>1,500</u> 2,600	$\frac{481}{2606}$	<u>1,940</u> 3 203	$\frac{1,786}{3.074}$	<u>2,020</u> 3,100	<u>2,035</u> 3,074
	2,070	2,000	0,200	9,074	0,100	0,492
DISAPPEARANCE	8,390	9,040	9,516	8,702	9,162	9,462
OIL EXPORIS	1 701	1 116	1 745	1 664	1 000	
Algentina European Union**	1,301 344	1,440	1,743	1,004	1,002	1,760
European Onion Eastern Europe	110	295	373	270	224 344	185
United States	444	285	322	370	363	323
Others	476	383	324	343	300	222
TOTAL	2,755	2,581	3,201	3,010	3,113	3 084
ENDING STOCKS	854	1,126	961	919	932	930
SUNFLOWER MEAL		,				750
MEAL PRODUCTION	10,259	10,977	10,860	10,244	10,867	11 166
MEAL IMPORTS	2,260	2,532	2,588	2,662	2,828	2 956
DISAPPEARANCE	10,274	10,940	10,853	10,230	10,802	11.195
MEAL EXPORTS	2,292	2,558	2,551	2,649	2,846	2.948
ENDING STOCKS	103	163	207	234	282	261

* U.S. production figures are for oil-type sunflower seed only.

** European Union import & export figures represent net trade activity with nations not members of the EU.

U.S. Supply/Disappearance

ITEM	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00
CONFECTION SUNELOWER	Oct Sent	In 1,000 N	letric Tons, Un	less Otherwise	Specified	Forecast
Area Harvested (1 000 HA)	107	710	221	735	241	TOTECASE
Area Harvested (1,000 AC)	197	530	545	200	505	502 746
Vield (MT/HA)	407	1 26	1 47	1 3 4	1 4 9	1 27
$\frac{1}{1} \frac{1}{1} \frac{1}$	1.41	1.20	1.47	1.04	1.40	1.27
Stocks Oct 1	1,258	1,125	1,515	1,192	1,522	1,151
Production	9 278	25	325	45	9 357	383
Seed Imports	210	275	525	0	10	10
TOTAL SUPPLY	307	<u>303</u>	<u>5</u> 366	368	376	409
Disappearance*	284	267	321	359	360	385
Ending Stocks	23	36	45	9	16	24
OILSEED SUNFLOWER						
Area Harvested (1,000 HA)	1,191	1,145	783	895	1,172	1,091
Area Harvested (1,000 AC)	2,943	2,829	1,934	2,212	2,897	2,695
Yield (MT/HA)	1.61	1.35	1.65	1.51	1.74	1.46
Yield (LBS/AC)	1,435	1,201	1,470	1,350	1,549	1,298
Stocks, Oct. 1	46	85	158	74	13	110
Production	1,916	1,542	1,290	1,355	2,036	1,587
Seed Imports	<u>25</u>	<u>15</u>	<u>20</u>	<u>20</u>	<u>26</u>	<u>20</u>
TOTAL SUPPLY	1,987	1,642	1,468	1,449	2,075	1,717
Oilseed Crushed	1,321	923	885	1,000	1,241	1,050
Planting Seed, Birdfood, Domestic**	340	465	499	279	586	530
Exports	241	<u>96</u>	<u>10</u>	<u>157</u>	<u>138</u>	<u>41</u>
Disappearance	1,902	1,484	1,394	1,436	1,965	1,621
Ending Stocks	85	158	74	13	110	96
SUNFLOWER OIL						
Stocks, Oct. 1	28	62	70	42	27	55
Oil Production	<u>568</u>	<u>388</u>	<u>372</u>	420	<u>521</u>	<u>441</u>
TOTAL SUPPLY	596	450	441	462	548	496
Domestic Oil Use	90	95	77	65	130	130
Oil Exports	444	<u>285</u>	<u>322</u>	<u>370</u>	<u>363</u>	<u>335</u>
Total Use	534	380	399	435	493	465
Ending Stocks	62	70	42	27	55	31
SUNFLOWER MEAL						
Stocks, Oct. 1	6	36	4	5	2	6
Production	<u>634</u>	425	<u>407</u>	<u>500</u>	<u>621</u>	<u>525</u>
TOTAL SUPPLY	640	461	411	505	623	531
Domestic Use	515	432	388	490	575	485
Exports	<u>89</u>	<u>25</u>	<u>18</u>	<u>13</u>	<u>41</u>	<u>40</u>
Iotal Use	604	457	406	503	616	525
Ending Stocks	36	4	5	2	6	6

Confection sunflower data compiled from available USDA information. Domestic Utilization is the balancing account. Confection supply information does not include quality considerations and may not equate to usable supply.

* Includes seed for in-shell, seed for hulling, birdfood, planting seed and exports.

** Includes birdfood, livestock feed, hulling seed and planting seed.



NSA Market Development

The National Sunflower Association is dedicated to the promotion of U.S. sunflower products and the development of the sunflower market throughout the world. Market development and promotion activities are estimated to directly and indirectly affect buyers and consumers in more than 40 countries.

Funding for these activities come from a variety of sources. U.S. sunflower producers and companies within the domestic industry provide the base for all activities. The NSA also has a cooperative agreement with the U.S. Department of Agriculture's Foreign Agricultural Service to conduct foreign market development and promotional activities.

NSA and the U.S. sunflower industry, which includes farmers, processors, seed companies and others, understand the need and importance of active programs to develop and promote sunflower products in foreign markets. These programs have led to the expansion of U.S. exports of sunflower products. Importers, processors and consumers have received the ultimate benefits.

During calendar 1999, NSA conducted confection sunflower activities in Germany, Spain, Turkey, Mexico and China. During 2000, NSA will continue activities designed to expand U.S. confection sunflow-



er export opportunities, consumer product awareness and product utilization. Programs will focus on markets in Germany, Spain, Turkey, Mexico and China.

The NSA's 1999 sunflower oil programs included activities in Mexico and Taiwan. In 2000, the NSA plans to continue its work with importers and refiners in Mexico and Taiwan.

In 1999, the NSA began its promotion campaign for pure sunflower oil in Taiwan. The campaign consisted of advertising in nationally distributed magazines and newspapers, sponsoring a cooking show on television, conducting a recipe contest, and featuring point-of-purchase displays in department stores. The results of the promotion were excellent. It was a successful approach to raising consumer awareness, and it simultaneously increased sales of pure sunflower oil. This promotion will be continued in 2000.

In Germany, NSA promotes the health, good taste and versatility of U.S. sunflower kernel. The result is continued growth in awareness and sales for U.S. sunflower kernel. In fact, the German market now accounts for 36 percent of the total U.S. confection sunflower exports. NSA uses trade shows, direct mail, point-of-sale promotion, advertisements and press activities to increase product awareness and use. These efforts have generated much success, and total exports continue to increase.

The NSA continues to distribute timely product and market information via *Update*. This newsletter is published every two weeks from May to October and monthly the remainder of the year. The publication is free to all foreign buyers of sunflower and can be received by contacting NSA.

NSA also has available a variety of consumer information and other publications (some free of charge and other publications for a nominal fee). A complete listing can be obtained from the NSA office.

The Sunflower magazine, published six times annually, carries articles, news and advertisements predominantly designed for the U.S. sunflower producer. Foreign subscriptions are available for U.S. \$36.00 per year by faxing the NSA office in Bismarck ND.

The National Sunflower Association's website at *www.sunflowernsa.com* provides information relating to the marketing aspects of purchasing U.S. sunflower products by providing information on the U.S. crop, products, trading rules, technical and marketing data. The website also provides a link to the USDA Foreign Agriculture Service homepage.



Acknowledgements

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