~ 2011 ~

U.S. Sunflower Crop Quality Report

National Sunflower Association

2011 U.S. Sunflower Crop Quality Report

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Regarding the 2011 Sunflower Crop Quality Report . . .

The 2011 U.S. Sunflower Crop Quality Report, compiled by the National Sunflower Association in cooperation with the Foreign Agricultural Service, U.S. Department of Agriculture, provides an overview on the size and quality of the 2011 U.S. sunflower seed crop. It includes statistics on the marketing of the crop, as well as U.S. and world supply/disappearance tables and information on U.S. sunflower oil.

Produced annually by the National Sunflower Association since 1981, this newest U.S. Sunflower Crop Quality Report can be found on the NSA's website. That site's address is www.sunflowernsa.com. Printed copies of this report can be made available by the NSA. (See NSA's contact details on page 9).

National Sunflower Association

2011 U.S. Sunflower Acreage & Production

United States sunflower production totaled 2.04 billion pounds in 2011, down 25% from 2010 and down by nearly one-third from the 2009 crop size.

The U.S. average yield per acre — at 1,398 pounds — decreased by 62 pounds from 2010. Planted area, at 1.54 million acres, was about 21% below that of 2010. Area harvested during 2011 decreased by 12% from the prior year, to 1.46 million acres.

For the first time since USDA began publishing sunflower data in 1977, South Dakota produced more sunflower seed than North Dakota. South Dakota's 2011 production totaled 777 million pounds, while North Dakota came in at slightly above 766 million.

U.S. production of oil-type sunflower varieties in 2010, at 1.72 billion pounds, decreased 17% from 2010. Harvested acreage of oil types was down more than 13% from the prior year and by more than 25% from 2009.

At 1,397 pounds per acre, the average yield of oil sunflower in 2011 was about 4% less than the 2010 average of 1,458 pounds per acre.

The 2011 U.S. production of nonoil sunflower varieties, at nearly 316 million pounds, dropped sharply (by more than 52%) from the 2010 nonoil — which in turn had been 46% higher than that of 2009. At 224,400 acres, nonoil harvested acreage was about half the 2010 level.

U.S. Sunflower Production

(1,000s of Pounds)

	2008	2009	2010	2011
Oil	2,993,510	2,584,010	2,074,500	1,722,675
Nonoil	429,330	452,450	661,070	315,600
Total	**3,422,840**	**3,036,460**	**2,735,570**	**2,038,275**

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

(1,000s of Hectares)

State	2004	2005	2006	2007	2008	2009	2010	2011
Colorado	32.4	58.7	30.4	40.5	57.9	27.5	37.2	39.3
Kansas	56.7	99.2	52.6	58.7	83.0	56.7	42.5	42.5
Minnesota	11.3	29.1	21.4	35.6	29.5	17.8	20.6	10.9
Nebraska	14.2	23.5	12.5	13.4	17.4	10.5	9.7	14.2
North Dakota	267.1	358.2	299.5	362.2	376.4	307.6	277.2	202.3
South Dakota	159.4	194.7	165.9	157.4	220.6	206.4	161.9	163.1
Texas	6.5	19.4	5.3	5.9	21.9	23.9	11.3	9.3
Other	28.7	39.5	25.1	22.1	27.9	18.6	15.1	17.6
Total	**576.3**	**822.3**	**612.7**	**695.8**	**834.6**	**669.0**	**575.5**	**499.2**

2011 Seed Quality/Confection Kernel Specifications

Seed quality and kernel specifications of the 2011 crop were estimated from samples of oil and nonoil (confection) sunflower collected with the aid of the North Dakota Grain Inspection Service, Kansas Grain Inspection Service, Aberdeen (S.D.) Grain Inspection and several confection sunflower processing plants. The samples were drawn from sunflower loads delivered to processors, or from submitted samples taken at local grain buying facilities. The seed samples were then 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.

Analysis of the oil-type sunflower seed samples indicated an average oil of 41.4%, down 2.1% from the 2010 average of 43.5%. Test weight was 28.8 pounds per bushel, 2.3 pounds below the 2010 test weight average of 31.1 pounds. Foreign material, at 4.4%, was 0.7% lower than the 2010 average. Moisture, at 9.6%, was almost identical to the 2010 average of 9.5.

The percentage of confection (nonoil) seeds over 20/64 in size was an impressive 85.2% in 2011. That's 4.0% higher than 2010's 81.2%.

Foreign material in the nonoils averaged 9.1%, 0.2% lower than 2010.

At 21.0 pounds per bushel, average 2011 nonoil test weight was 1.3 pounds lower than 2010's 22.3 pounds per bushel, while average moisture, at 11.4%, was 0.8% higher than the 2010 nonoil crop average.

Oil-Type Sunflower Seed Quality

Year	Test Weight (Lbs/Bu)	Moisture (%)	Foreign Material (%)	Oil (%)
2011	28.8	9.6	4.4	41.4
2010	31.1	9.5	5.1	43.5
2009	29.8	9.8	4.3	42.6
2008	31.4	101	4.3	43.6
2007	30.9	9.1	5.5	43.1

Nonoil Sunflower Seed Quality

Year	Test Weight (Lbs/Bu)	Moisture (%)	Foreign Material (%)	Seeds Over 20/64 Size (%)
2011	21.0	11.4	9.1	85.2
2010	22.3	10.6	9.3	81.1
2009	22.7	10.4	9.0	80.7
2008	23.3	10.5	8.2	76.8
2007	25.1	10.0	7.5	68.1

Product Specifications U.S. Sunflower Kernel

Origin - 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 may be used
Pesticide Residues - Meets all state & federal regulatory requirements
Fumigants - Only FDA-approved fumigants may be used as considered necessary. Residues may not exceed FDA approved tolerances

Quality and type of kernel is determined with the following factors to meet specific customer needs:

Size - Defined as kernel count per oz
Foreign Material - Includes shells and unshelled seed; defined as percentage or count per unit of weight
Moisture - Defined as a percentage at or below 8%
Damage - Distinctly discolored kernel or insect damage. Each defined as a percentage
Broken or Chip - Any portion less than 1/2 kernel; defined as a percentage
Sticktites - Kernel with a piece of shell adhering; defined as count per unit of weight.

2011 Oil Quality Analysis/Oil Traits & Rules

The tables below compare the oil quality and fatty acid content of representative samples of high-oleic and mid-oleic sunflower seed oil, gathered from the 2011 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 62.97% oleic average of the 2011 NuSun® (mid-oleic) samples was slightly higher than 2010's 62.82% (which in turn was above 2009's 62.34%).

The 2011 high-oleic seed samples averaged an oleic acid content of 85.35%. That is just slightly above the 85.27% average of the 2010 high-oleic sunflower seed samples.

As is the case each year, climatic factors and timing of production contributed to the fatty acid levels of both the NuSun and high-oleic samples collected at harvest.

See general trading rules for mid-oleic and high-oleic oil, as well as product specification tables, at www.sunflowernsa.com. Click on the link "Sunflower oil," then "product specifications." For more details or questions regarding trading rules, go to the American Fats & Oils Assn., Inc., website, afoaonline.org.

Sunflower Oil Quality / High Oleic

Percent

Year	Palmitic 16:0	Stearic 18:0	Oleic 18:1	Linoleic 18:2	Linolenic 18:3
2011	3.24	2.96	85.35	6.43	0.33
2010	3.24	3.03	85.27	6.62	0.21
2009	3.05	3.10	85.71	6.27	0.18
2008	3.03	3.03	84.75	7.19	0.16
2007	3.04	3.35	85.89	5.44	0.13

Sunflower Oil Quality / NuSun®

Percent

Year	Palmitic 16:0	Stearic 18:0	Oleic 18:1	Linoleic 18:2	Linolenic 18:3
2011	4.11	3.39	62.97	27.41	0.36
2010	4.30	3.40	62.82	27.47	0.23
2009	4.28	3.62	62.34	27.92	0.22
2008	4.14	3.47	61.88	28.62	0.29
2007	4.12	3.98	61.73	28.32	0.43

Mid-Oleic Sunflower Oil (NuSun®): Crude

Trading Rules: Specifications from American Fats and Oils Association: Rule 14B

ITEM	VALUE
Flash Point (AOCS Cc 9b-56)	250°F Minimum
Halphen Test	Negative
Saponification Value	188-194
Unsaponifiable	1.3% Maximum
Free Fatty Acid (as Oleic)	Basis 2.0% Maximum 3.0%
Moisture & Volatile (AOCS Ca 2d-25)	0.5% Maximum
Insoluble Impurities (AOCS Ca 3-46)	0.3% Maximum
Color (in 5 1/4 inch cell or tube), as determined under AOCS Method Cc 13b-45, Bleached (AOCS Cc 8g-52), after refining (AOCS Ca 9a-52)	2.5 Red Maximum
Linolenic acid	1.0% Maximum
Oleic (as % of TFA)	55% Minimum 75% Maximum

Rule 14B -- Crude mid-oleic sunflower oil (NuSun®) shall be pure and produced only from sunflower seed of fair average quality by hydraulic, expeller, or solvent extraction process. Buyer shall receive an allowance of 0.1% of the invoice value for each 0.1% of free fatty acid in excess of 2%; fractions in proportion. (Effective 1/1/2003)

Mid-Oleic Sunflower Oil (NuSun®): Fully Refined, Bleached & Deodorized

Trading Rules: Specifications from American Fats and Oils Association: Rule 15B

ITEM	VALUE
Free Fatty Acid (as Oleic)	0.05% Maximum
Moisture & Impurities (AOCS Ca 2d-25)	0.10% Maximum
Peroxide Value	2.0 Maximum
Color (Lovibond Scale)	2.5 Red Maximum
Iodine Value	88-115.0
Oleic	55% Minimum 75% Maximum
Flavor	Pleasing
Appearances (Waxes Not Separated)	Will be cloudy at room temperature
Other Possible Specs:	
Saponification Value	186-194
Unsaponifiable	1.5% Maximum
Specific Gravity by 20° Centigrade	0.917-0.924

Rule 15B -- Fully refined, bleached and deodorized mid-oleic sunflower oil (NuSun®) shall be pure mid-oleic sunflower seed oil. It shall be produced from fair average quality crude mid-oleic sunflower seed oil from which essentially all of the free fatty acids and non-oil substances have been removed by chemical treatments and by mechanical or physical separation. (Effective 1/1/2003)

2011 Sun Oil & Sun Meal Exports

Oil Exports - Sunflower oil is the preferred oil in most of Europe, Russia and Mexico, as well as in countries along the Mediterranean and several South American nations.

U.S. sunflower oil exporters can deliver three types of sunflower oil: NuSun®, Linoleic and High Oleic.

- **NuSun®** is a mid-range oleic, 55%-75% (monounsaturated) sunflower oil. It needs no hydrogenation and has a 9% saturated fat level. NuSun® is extremely functional for frying applications and has a good balance of linoleic acid — an essential fatty acid that enhances products' taste.
- **Linoleic** sunflower oil has about 69% polyunsaturated fat, 20% monounsaturated fat and 11% saturated fat. Linoleic sunflower is an excellent cooking oil with a neutral taste. This enhances the taste of food rather than overpowering it.
- **High Oleic** sunflower oil has 80% or more oleic (monounsaturated) acid. This unique oil has many specialty applications.

Sun Meal Exports - Most of U.S. sunflower meal produced is utilized within the United States as an ingredient for the domestic livestock feeding industry, although some U.S. sunflower meal is exported. Four types of sun meal, identified by their respective protein contents (28, 30, 32 and 35%), are produced in the United States.

U.S. Sunflower Oil Exports

(October-September, in Metric Tons)

Country	2007/08	2008/09	2009/10	2010/11
Belgium	2,304	6	2	347
Canada	60,099	77,071	27,992	15,101
Chile	1,176	79	0	16
Costa Rica	0	4	521	1,120
Egypt	0	0	15,500	0
India	0	0	11,768	0
Japan	4,584	8,118	4,144	3,983
Mexico	3,587	2,458	10,398	5,056
Morocco	0	0	9,209	0
Singapore	4,205	1,990	0	0
South Korea	30	4	52	112
Taiwan	157	195	12,819	103
Tunisia	0	0	1,800	0
Saudi Arabia	0	0	2,500	0
South Africa	0	0	39	10,000
Other	543	915	969	2,193
Total MT	**76,685**	**90,840**	**97,674**	**38,031**

U.S. Sunflower Meal Exports

(October-September, in Metric Tons)

Country	2007/08	2008/09	2009/10	2010/11
Canada	2,348	2,400	2,411	2,049
Mexico	10,011	4,662	3,141	825
Ireland	4,108	0	0	0
Other	171	73	519	0
Total MT	**16,638**	**7,135**	**6,071**	**2,874**

U.S. Sunflower Supply & Disappearance *(in 1,000 Metric Tons, Unless Specified)*

Item	2006/07 Oct.-Sept.	2007/08	2008/09	2009/10	2010/11 Revised	2011/12 Forecast
NONOIL SUNFLOWER						
Area Harvested (1,000 HA)	104	118	135	122	183	91
Area Harvested (1,000 AC)	256	293	334	301	451	224
Yield (MT/HA)	1.56	1.47	1.44	1.69	1.64	1.58
Yield (LB/AC)	1,389	1,315	1,285	1,506	1,465	1,406
Stocks, Oct. 1	120	43	18	22	18	50
Production	161	175	195	205	300	143
Seed Import	86	68	54	36	28	15
TOTAL SUPPLY	**368**	**286**	**267**	**263**	**346**	**208**
Disappearance	325	268	245	245	296	195
Ending Stocks	43	18	22	18	50	13
OIL SUNFLOWER						
Area Harvested (1,000 HA)	613	696	834	669	576	499
Area Harvested (1,000 AC)	1,514	1,719	2,062	1,653	1,423	1,233
Yield (MT/HA)	1.32	1.62	1.63	1.75	1.63	1.57
Yield (LB/AC)	1,181	1,445	1,452	1,563	1,458	1,397
Stocks, Oct. 1	349	20	28	203	126	38
Production	811	1,127	1,358	1,172	941	782
Seed Import	27	19	16	12	15	25
TOTAL SUPPLY	**1,188**	**1,166**	**1,403**	**1,387**	**1,082**	**845**
Oilseed Crushed	648	682	697	780	526	375
Planting Seed, Birdfood, Domestic Use	519	428	475	448	490	432
Exports	0	28	28	33	28	18
Disappearance	1,167	1,138	1,200	1,261	1,044	825
Ending Stocks	21	28	203	126	38	20
SUNFLOWER OIL						
Stocks, Oct. 1	26	27	12	50	36	25
Oil Imports	71	47	30	22	47	80
Oil Production	259	273	289	320	216	154
TOTAL SUPPLY	**356**	**347**	**331**	**392**	**299**	**258**
Domestic Oil Use	252	258	190	258	236	216
Oil Exports	77	77	91	98	38	25
Total Use	329	335	281	356	274	241
Ending Stocks	27	12	50	36	25	17
SUNFLOWER MEAL						
Stocks, Oct. 1	3	4	3	4	6	4
Production	311	327	355	398	268	191
TOTAL SUPPLY	**314**	**331**	**359**	**402**	**274**	**195**
Domestic Use	297	311	348	390	267	189
Exports	13	17	7	6	3	3
Total Use	310	328	355	396	270	192
Ending Stocks	4	3	4	6	4	3

World Sunflower Supply & Disappearance

Sources: Oil World & USDA

Item	2006/07	2007/08	2008/09	2009/10	2010/11 Revised	2011/12 Forecast
Area Harvested (1,000 HA)	**24,094**	**23,397**	**24,725**	**24,250**	**24,471**	**25,433**
Yield (MT/HA)	**1.25**	**1.25**	**1.41**	**1.36**	**1.37**	**1.49**
SUNFLOWER SEED —						
Production						
Argentina	3,120	4,600	3,200	2,650	3,665	3,400
Other Europe	385	295	454	378	380	390
European Union	6,407	4,944	6,909	7,001	6,976	8,032
China, Peoples Republic of	1,850	1,800	1,750	1,650	1,710	1,700
Russia	6,350	5,500	7,270	6,600	5,720	9,100
Ukraine	5,550	4,880	7,100	7,300	8,000	8,900
United States	997	1,309	1,553	1,377	1,241	925
India	1,450	1,460	1,150	1,000	650	580
Turkey	820	670	850	790	1,020	940
Other	3,163	3,801	4,517	3,425	4,086	4,040
TOTAL	30,092	29,259	34,753	32,171	33,448	38,007
Seed Import						
Turkey	495	529	477	704	719	830
European Union	653	353	623	283	393	582
Other	806	452	1,065	693	629	1,098
TOTAL	1,954	1,334	2,165	1,680	1,741	2,510
Seed Exports						
Argentina	63	41	64	67	70	70
United States	181	168	159	160	144	117
Russia	167	35	155	18	13	600
Ukraine	338	72	774	350	446	580
Other	1,166	1,016	1,125	1,018	1,057	1,152
TOTAL	1,915	1,332	2,277	1,613	1,730	2,519
Oilseed Crushed	**27,517**	**25,331**	**31,096**	**30,454**	**29,967**	**34,137**
SUNFLOWER OIL —						
Oil Opening Stocks	**1,124**	**994**	**944**	**1,598**	**1,287**	**1,195**
Oil Production	**11,320**	**10,200**	**12,871**	**12,543**	**12,396**	**14,228**
Oil Imports						
Algeria	139	55	114	175	45	90
Turkey	132	334	427	194	403	535
Egypt	303	195	425	503	314	450
European Union	877	973	1,076	972	885	943
Russia	124	131	46	52	143	68
India	663	859	593	622	776	940
Others	2,174	1,161	2,496	2,361	2,241	2,834
TOTAL	**4,412**	**3,708**	**5,177**	**4,879**	**4,807**	**5,860**
Oil Exports						
Argentina	1,080	1,188	1,082	727	893	865
European Union	153	106	133	144	158	200
Russia	693	340	834	503	195	1,000
Ukraine	1,833	1,339	2,196	2,552	2,654	2,880
United States	77	77	91	98	38	25
Other	556	679	926	741	897	950
TOTAL	4,392	3,729	5,262	4,765	4,835	5,920
Disappearance	**11,450**	**10,250**	**12,217**	**12,854**	**12,488**	**13,810**
Ending Stocks	**994**	**944**	**1,598**	**1,287**	**1,195**	**1,613**
SUNFLOWER MEAL —						
Meal Production	12,794	11,607	14,295	14,018	13,987	15,780
Meal Imports	3,782	3,259	4,713	4,150	4,571	5,240
Disappearance	12,821	11,536	14,293	4,190	4,689	5,276
Meal Exports	3,735	3,289	4,775	13,866	13,963	15,670
Ending Stocks	**275**	**317**	**257**	**370**	**275**	**349**

About the National Sunflower Association

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 abroad, 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.

The National Sunflower Association welcomes inquiries from any foreign agencies, companies or individuals interested in U.S. sunflower.

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U.S. Sunflower Information Online

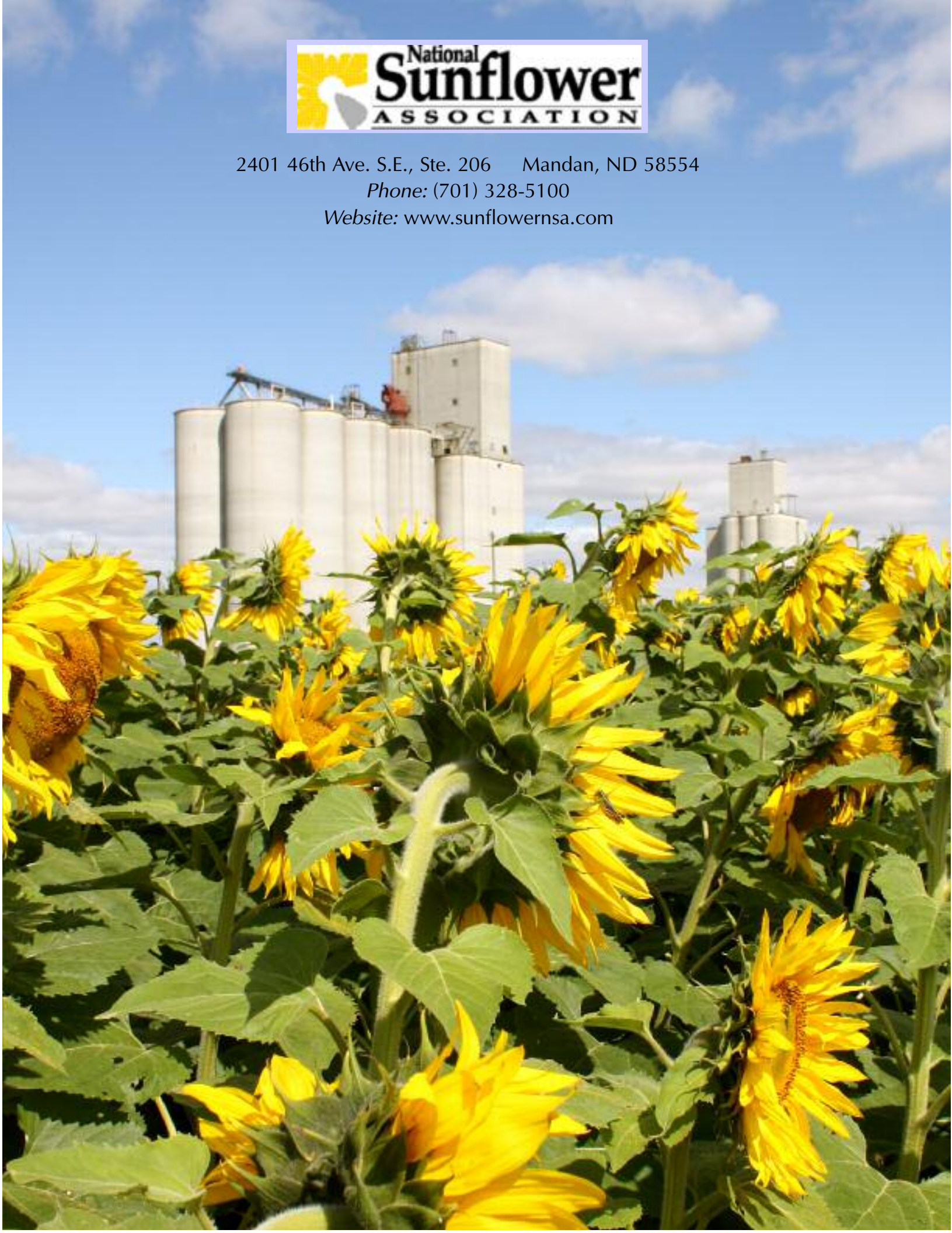
The National Sunflower Association has a wealth of U.S. sunflower information online at www.sunflowernsa.com.

This web site provides international marketing information, product specifications, and a list of sunflower product suppliers.

Click on the "Buyers and Sellers" link for a list of sunflower product suppliers and buyers.

The "Sunflower oil" link provides more detailed information on sunflower oil.

Use the "Sunflower seed/kernel" link if you require information about confection sunflower seeds and kernel.



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