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SUNFLOWER MARKETING *in the* HIGH PLAINS

Sunflower Marketing in the High Plains

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Sunflower is a viable alternative crop for growers in Kansas and other areas of the High Plains. It is well adapted agronomically to both irrigated production and nonirrigated crop rotations, and it is a viable "double crop" option where growing season length permits. The profitability of sunflowers is comparable to other summer crops in western Kansas nonirrigated cropping systems. Irrigated sunflowers also have a competitive economic niche where water is too limited to support fully irrigated corn production. The existence of four major sunflower-processing plants in Kansas provides area sunflower producers with local market outlets for the crop and helps ensure the long-run viability of the sunflower enterprise in the region.

The market for sunflowers in Kansas differs from other crops. Markets exist in the state for three differentiated sunflower products: oil, confectionary, and birdseed. Contracting of sunflower production between producers and processors is prevalent, which points to the need for an understanding of sunflower contract grade and quality specifications on the part of Kansas sunflower producers.

This publication addresses basic issues related to sunflower marketing in the Kansas High Plains region. Following a description of sunflower markets and historic price patterns, information is presented about deliverable sunflower grade and quality specifications and the types of sunflower marketing alternatives available to Kansas producers. This publication concludes by discussing sunflower market information sources and the development of sunflower marketing plans.

Sunflower Market Supply, Demand, and Prices

Sunflower acreage. Sunflower acreage in both the United States and Kansas is relatively small in comparison to other major crops (Table 1). Sunflower is primarily grown in the plains states of North Dakota, South Dakota, Minnesota, Kansas, Colorado, Nebraska, and Texas. In 1994, Kansas produced 331 million pounds of sunflowers, followed by 283 million pounds in 1995 and 354 million pounds in 1996. Northwest Kansas is the state's dominant sunflower-producing region with 56 percent, 49 percent, and 38 percent of Kansas sunflower production in 1994, 1995, and 1996, respectively. The four major sunflower-processing plants in the state are located in the northwest. Other areas in Kansas with significant sunflower production are the north central (12 to 20 percent of 1994 to 1996 production), southwest (8 to 10 percent), west central (8 to 15 percent), and central (6 to 8 percent) regions.

Sunflower seed supply, disappearance, and prices. Since the early 1980s, U.S. sunflower seed, sunflower oil, and sunflower meal markets have exhibited large year-to-year supply-demand and price variability. The sunflower seed market has been characterized by periods of declining-then-increasing supplies since the early 1980s (Appendix A, Table A).

Sunflower seed disappearance has been affected by increasing non-oil and seed use and year-to-year variation in sunflower seed exports. Sunflower seed ending stocks have varied inversely with changes in prices 71 percent of the time during this period. However, supply-demand conditions in the broader U.S. and world vegetable oil markets have been, and will likely continue to be, dominant factors in the determination of U.S. sunflower seed prices. Variability in annual U.S. sunflower prices (oil and confectionary) is illustrated in Figure 1.

Sunflower oil and meal supply, disappearance, and prices. Supplies of sunflower oil and meal closely follow the availability of sunflower seed supplies. While domestic use of sunflower oil is relatively stable, exports and prices vary considerably from year to year (Appendix A, Table B).

Since the early 1980s, average sunflower oil prices have ranged from a low of $16.02 per hundredweight during the 1986-87 marketing year to a high of $33.62 per hundredweight during 1983-84. Since 1990, oil prices have ranged from $21.60 per hundredweight in 1991-92 to $30.99 per hundredweight in 1993-94. Sunflower meal prices also have been variable over time, but they have had several 2- to 4-year periods of relative price stability (Appendix A, Table C). The annual average price for sunflower meal reported by the USDA in the appendices is for meal with 28 percent protein. However, most U.S. sunflower meal is now sold on a 30-percent protein basis.

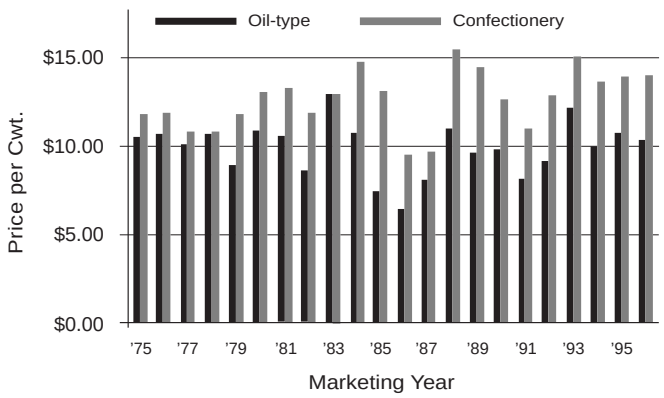
Sunflower seasonal price patterns. Definite seasonal patterns exist in U.S. monthly average cash prices for sunflower seed (Figure 2). Since the 1986-87 marketing

Table 1. *Planted Acreage of Selected Crops in 1996 (in thousands of acres)*

	Kansas	United States
Wheat	11,800	75,639
Grain sorghum	4,800	13,188
Corn	2,500	79,487
Soybeans	2,050	64,205
Sunflower	285	2,556

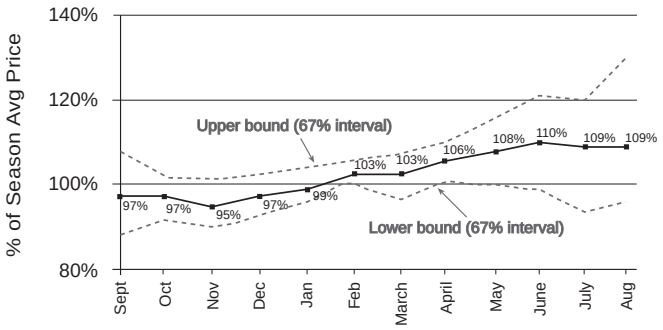
Source: USDA Economic Research Service.

Figure 1. *Marketing Year Average Prices for Oil and Confectionary Sunflower*



Source: USDA.

Figure 2. *Seasonal Average U.S. Cash Sunflower Seed Price Patterns, 1986-87 through 1996-97 Marketing Years*



Sources: USDA Economic Research Service and K-State Department of Agricultural Economics.

year, sunflower seed prices tend to be lowest in September through January, with prices ranging from 94 percent to 98 percent of the marketing year average. Prices tend to rise steadily after January into the May-June spring planting period when monthly prices have averaged 109 percent to 111 percent of the overall marketing year average price. During July and August, cash sunflower seed prices have typically remained high (109 percent to 110 percent of marketing year average). The amount of variability in this season average price pattern is indicated by the upper and lower bounds of the 67-percent interval of season average price patterns over the 1986-87 through 1995-96 marketing years. The widest variability around this seasonal price pattern has typically occurred in June through September (that is, the U.S. growing season for sunflowers and other major oilseed crops).

Markets for Sunflowers

Two primary kinds of sunflower are grown in Kansas: oil and confectionary (non-oil or edible). Oil sunflower is more common in Kansas, representing 82 percent of Kansas sunflower acreage in 1996. Oil sunflower varieties have a shiny black coat and are primarily crushed to produce a high-quality vegetable oil used in cooking. Sunflower meal also is a product of the crushing process for oil sunflowers, and it is used as high-protein livestock feed. Discarded sunflower parts from the crush process also are used in livestock feed with sunflower meal.

Confectionary sunflowers have larger seeds that are black with white stripes. Confectioneries are grown to produce food products for baking or direct nut consumption. Sunflower also is produced in Kansas for birdseed consumption. Birdseed sunflower sales represent a small but quickly growing portion of the state's sunflower production, with some sunflower varieties grown specifically to meet birdseed contract specifications. Some small sunflower nut meats from hulled sunflowers also go into the birdseed sunflower market. Confectionary sunflowers that are too small to meet market specifications for human consumption are often sold as birdseed by processors.

The oil sunflower market. The demand for oil sunflower is derived largely from the market demand for sunflower oil and meal, the by-products of the sunflower crush process. Sunflower seed oil is one of many vegetable oil products that make up the "oilseed complex." Other oilseed crops include soybeans, cottonseed, canola, industrial rapeseed, safflower, crambe, sesame seed, coconut, and palm oil. These alternative oilseed product sources are competitive, but they are not perfect substitutes. Therefore, changes in supply-demand conditions and prices for any one of these oilseeds will tend to have crossover effects upon other oilseed product prices and the overall oilseed oil market. Soybean oil dominates the oilseeds complex as shown by its 76 percent market share of U.S. oilseed oil consumption in 1996. Cash and futures prices for soybean oil act as benchmarks for the entire U.S. vegetable oil complex. Sunflower oil is preferred over other vegetable oil sources for cooking because of its relatively low levels of both saturated fat and linolenic acid.[1] As a result, sunflower seed oil typically commands a price premium over soybean oil. During the 1994-95 and 1995-96 marketing years, annual average sunflower oil prices were higher than soybean oil prices by 39 cents to 69 cents per hundredweight, respectively. Sunflower oil exports have averaged 74 percent of total sunflower oil use during the 1991-92 through 1996-97 marketing years with the remainder being used domestically (National Sunflower Association, 1997).

High-oleic sunflowers are special oil hybrids that have an oleic acid content of 80 percent or greater. Oleic acid is a fatty acid that contains the highest level of monounsaturates among commercially available alternatives. Market niches have developed for high-oleic sunflower oil within the food industry and in other industrial applications. As a result, production from high-oleic sunflower hybrids commands a price premium over regular oil sunflower. Industry sources indicate most of the high-oleic sunflower acreage in the United States is in North Dakota and South Dakota and high-oleic acreage in Kansas is currently very small. Significant acreages of high-oleic sunflowers exist in locations such as Europe, Argentina, and Australia. Future acreage of high-oleic sunflower varieties in the United States will likely be affected by the resolution of genetic patent ownership issues among seed companies.

In contrast to high-oleic sunflowers, mid-oleic sunflower varieties have oleic acid contents of 60 percent to 75 percent, a linoleic acid level of 30 percent, and a saturated fatty acid content of 8 percent or less. Mid-oleic sunflower oil has performed as well as cotton oil (the industry standard) in consumer frying tests, with the added benefit of low saturated fat levels. There is optimism in the sunflower industry that mid-oleic sunflower oil can fulfill U.S.

[1] *Saturated fat is associated with high-serum cholesterol levels and heart disease in some people. Oils with linolenic acid levels greater than 2 percent (sunflower is zero) tend to develop off-flavors because the linolenic acid oxidizes quickly and must be hydrogenated to enhance shelf life.*

consumer demand for a nonhydrogenated and reasonably priced frying oil in coming years, both in the U.S. snack food and the fast food industries. If accepted by consumers, the transition toward mid-oleic sunflower oil production would coincide with a shift in U.S. sunflower demand toward stable and lucrative domestic markets. Northwest Kansas processors are promoting the production of mid-oleic sunflower varieties, with the goal of increasing acreage significantly by the year 2000 (National Sunflower Association and industry sources, 1996 and 1997).

Sunflower seed meal is the second product resulting from crushing. It is used in livestock feed rations as a protein supplement. During the 1991-92 through 1996-97 marketing years, an average of 90 percent of U.S. sunflower meal was used domestically, with exports making up the other 10 percent (National Sunflower Association, 1997). Sunflower seed meal can be sold at 28-, 32-, or 38-percent protein content, depending on the amount of hulling done prior to crushing. The only crush plant in Kansas currently produces 30- to 32-percent protein meal. Compared to soybean meal, sunflower seed meal has lower protein (28 to 38 percent vs. 44 percent), a higher fiber content (13 to 21 percent vs. 7 percent), and a limited level of lysine (an important nutritional component in swine and poultry diets). Sunflower meal is usually priced at a discount to soybean meal.

The confectionary sunflower market. Confectionary sunflower is primarily a specialty food product. The public perceives sunflower seed as a healthy snack, differentiating it from other snack food substitutes such as peanuts, almonds, walnuts, potato chips, and dried fruit. It can be sold either in the shell as a snack food or hulled (with the outer shell removed) for use in baking. The largest seeds are sold in the shell, and the smallest are sold on the birdseed market. Medium-sized seed are usually hulled and sold as nut meats. In general, processors purchase seed, which they clean, size, and dehull, from producers. The processed seed and seed product are then sold to various distributors (either wholesalers, retailers, or sellers into export markets) in accord with each distributor's specifications.

Confectionary sunflower usually makes up approximately 25 percent of the overall sunflower production and disappearance. While data pertaining to confectionary sunflower disappearance is limited, generally 50 percent of U.S. confectionary sunflower production is exported (National Sunflower Association, 1997). Kansas confectionary sunflower seed is unique due to its reputation for larger size and its sharp black-with-white-stripe color pattern. The dark seed coat of the Kansas sunflower seed is less likely to be rubbed off in the harvesting and handling process than sunflowers produced in northern states because Kansas sunflowers are harvested at lower moisture levels. The distinct color pattern of the Kansas sunflower seed is aesthetically desirable to consumers and advantageous for the in-shell sunflower market. Because of these advantages, industry sources estimate that a majority (50 to 70 percent) of Kansas-grown confectionary sunflower is sold through export markets.

Historically, confectionary sunflower seed has commanded a price premium over oil-type sunflower seed. The price premium for confectionary sunflowers over oil-types in the United States has ranged from no premium to as high as 77 percent greater for the 1975 to 1996 period. The 22-year average premium was 29.3 percent or $2.76 per hundredweight (Figure 1). Since 1990 in Kansas, the confectionary price premium over oil sunflower prices has ranged from 7 percent to 43 percent, averaging 19.8 percent or $1.98 per hundredweight. However, if confectionary sunflower is crushed, it is typically sold at a 20- to 30-percent discount to oil sunflower due to its lower oil content.

The birdseed market. Information regarding sunflower seed use as birdseed is limited. A 1985 survey by the U.S. Fish and Wildlife Service found that 82 million Americans feed wild birds — a 32-percent increase from 1982. Results from that same survey indicated total birdseed expenditures at slightly more than $1 billion in 1985, a 116-percent increase from 1982. Today, some birdseed sunflower industry sources estimate birdseed market sales to be at least $10 billion annually, including sales of millet and other small grains. While the quantity of sunflower sales as birdseed is difficult to document, industry sources indicate approximately 430,000 metric tons of sunflower were used as birdseed in the 1996-97 marketing year (National Sunflower Association, 1997). Some oil and confectionary sunflower seed production finds its way into the birdseed market. However, oil sunflower seed is preferred because of its higher oil content (a better energy source for wildlife) and thinner hulls (easier for wildlife to crack open).

The Kansas sunflower market. Presently, Kansas has four major sunflower plants: one oilseed crush plant near Goodland and three confectionary processors, two in Colby and one in Goodland. In addition to the major plants in northwest Kansas, there also are a number of smaller plants in central and eastern Kansas that package birdseed. Because of its geographic location, Kansas holds a transportation cost advantage relative to the sunflower production areas in the northern United States for many domestic markets and for the export market to Mexico. Mexico was the world's third-largest importer of sunflower oil during the 1994 to 1996 period with an annual average of 216,000 metric tons. This trailed Iran and Turkey and was slightly ahead of Egypt and Russia with 3-year import averages of 453,000 metric tons, 252,000 metric tons, 203,000 metric tons, and 199,000 metric tons, respectively.

In addition to the four sunflower processors who contract and buy from Kansas producers, many elevators also handle sunflower. Most of these elevators are located in the western third of the state, and they typically deal in oil sunflower. Elevators typically compare sunflower seed bids from crushers, exporters, and birdseed packagers, then make sales to the sunflower seed user that offers them the highest price net of transportation and handling costs. If sunflower acreage increases in other areas of Kansas, the number of elevators in the state handling sunflowers would be expected to increase.

Delivering Sunflower

Because of sunflower's distinct markets and the fact sunflower producers deal directly with processors more than producers of other Kansas crops, it is critical for producers to know the quality of sunflower they produce and deliver. Many factors can affect sunflower quality and therefore its value, including oil content, seed size, foreign material, dockage, insect damage, moisture content, test weight, kernel color, and smell. Some factors are more relevant to oil sunflower, and others pertain more to confectionary sunflower. Price premiums may result from larger seed and high oil content, while low oil content, small seeds, and low test weight can lead to price discounts. Quality factors such as high levels of foreign material, insect damage and infestation, small seeds, the presence of sclertina mold, and high moisture content can lead to reductions in pounds of sunflower sold or to the rejection of entire sunflower seed truckloads or lots. This section examines some sunflower seed quality factors and illustrates the potential effects they have on sunflower enterprise profits. The official Federal Grade Standards for sunflower are included in Table 2.

Table 2. *Sunflower Grades and Grade Requirements*

Grade	Minimum test weight per bushel (lbs.)	Maximum limits of damaged sunflower seed (%) Heat damaged	Total	Dehulled seed
U.S. No. 1	25	0.5	5.0	5.0
U.S. No. 2	25	1.0	10.0	5.0

U.S. Sample Grade

This is sunflower seed that

(a) does not meet the requirements for the grades U.S. No. 1 or No. 2;

(b) contains eight or more stones that have an aggregate weight exceeding 0.2 percent of the sample weight, two or more pieces of glass, three or more crotalaria seeds (*Crotalaria spp.*), two or more castor beans (*Ricinum communis L.*), four or more particles of unknown foreign substances, 10 or more rodent pellets, bird droppings, or equivalent quantity of other animal filth per 600 grams of sunflower seed;

(c) has a musty, sour, or commercially objectionable foreign odor; or

(d) is heating or otherwise distinctly low quality.

Note: The USDA standard for dockage of confectionary sunflower includes any whole sunflower seed that sizes through a 10/64 round-hole sieve. The common standard in the High Plains sunflower industry is any whole sunflower seed that sizes through a 14/64 round-hole sieve. That standard may vary from company to company depending on market demand and other factors.

Oil content. Generally, 80 percent of oil sunflower's value is from oil. As a result, it is most often priced based on oil content of the sunflower seed. The standard is 40 percent oil, with premiums paid for higher oil levels and price discounts for lower oil content. A sample oil sunflower price premium scale is presented (all percentages are prorated):

- A premium of 2 percent of the price for each 1 percent greater than 40 percent.
- A discount of 2 percent of the price for each 1 percent under 40 percent to 38 percent.
- A discount of 3 percent for each 1 percent under 38 percent to 32 percent.
- A discount of 3.5 percent for each 1 percent under 32 percent.

The effect of this oil-content-based pricing scale on per-acre profits is shown in Table 3. Table 3 illustrates the importance of production factors that affect sunflower oil content, such as the date of planting and variety selection. Oil content in Northwest Area Research and Extension Center trials in 1996 ranged from 37.8 percent to 45.7 percent for nonirrigated sunflower and 35 percent to 43.8 percent under irrigation.

Seed size. Confectionary sunflower prices are typically quoted on a dual scale: one price for large seeds (sizing over 20/64 round-hole sieve) and a lower price for small seeds (sizing through a 20/64 and over a 14/64 round-hole sieve). Therefore, the higher the percentage of large seeds, the greater the profit potential. Table 4 helps illustrate this point on a per-acre basis. In Northwest Area Research and Extension Center trials in 1996, 44 percent of nonirrigated confectionary sunflower seeds sized greater than a 20/64 sieve. Under irrigation, 37 percent met this size criteria. Producers need to consider the production factors that affect seed size, such as planting date, variety, soil moisture, and plant population.

Foreign material and dockage. In general, sunflower foreign material and dockage will average between 5 percent and 10 percent. This amount of dockage is higher than for most other alternative crops but is still low enough to have little effect on sunflower profitability. However, some

Table 3. *Effect of Sunflower Oil Content on Prices and Net Income ($10 per hundredweight base)*

Oil content	Premium or discount	Net price	Gross income [1]	Net income [2]	Difference
46%	+ 12.0%	$11.20	$168.00	$82.88	$18.00
44%	+ 8.0%	10.80	162.00	76.88	12.00
42%	+ 4.0%	10.40	156.00	70.88	6.00
40%	0.0%	10.00	150.00	64.88	[base]
38%	– 4.0%	9.60	144.00	58.88	– 6.00
36%	– 10.0%	9.00	135.00	49.88	– 15.00
34%	– 16.0%	8.40	126.00	40.88	– 24.00

[1] Based on 1,500-pound seed yield per acre.

[2] Based on $85.12 total cash cost per acre, excluding land rent or interest charges and machinery depreciation and interest.

Source: *1996 Oil-type Sunflowers Cost-return Budget (W-SF-F Rotation) in Western Kansas*, MF-887.

instances of 20 percent foreign material and dockage have been reported. An understanding of how foreign material and dockage can affect farmers' net incomes is important.

Foreign material and dockage refer to the amount of material in a load of sunflower that is not considered deliverable. Discounts are typically assessed by paying only for deliverable sunflower and not for the foreign material or dockage. For example, if a producer delivers a 4,000-pound load that contains 5 percent foreign material and dockage, the processor will only pay for 3,800 pounds of sunflower [4,000 - (5% × 4,000)].

By definition, foreign material is "any and all material other than sunflower seed." Empty hulls and parts of seed are generally considered sunflower seed. Dockage is "all matter other than whole sunflower seeds containing kernels" (the meat of the sunflower). Dockage is a stricter definition that will often include hulls, broken and insect-damaged seeds, unsatisfactorily developed kernels, and extremely small seeds (for example, sizing through a 14/64 round-hole sieve).

Foreign material is typically used when assigning discounts to oil sunflower since the empty hulls, parts of seed, and small seeds have oil and can be crushed. Dockage is not used for confectionary sunflower since processors cannot use the empty hulls and damaged seeds in confectionary products. From a strictly economic standpoint, foreign material and dockage have little effect on overall profit.

Profit will be affected only if the levels of foreign material and dockage are high, incurring significant transportation costs for material that cannot be sold. In this case, the processor assesses a greater than one-for-one discount resulting in a "discounted" pay weight — a pay weight less than the actual pounds of sunflower delivered. Table 5 illustrates the effects of varying levels of foreign material and dockage on pay weight given two different discount scales. First, the one-for-one discount scale is shown where the processor pays only for the delivered sunflower. Second, a greater than one-for-one discount scale is shown in which the processor increases the discount for extremely high levels of foreign material and dockage. Foreign material and dockage does not affect the actual pounds of sunflower delivered. Also, foreign material and dockage have little effect on the pounds paid for unless the levels are extremely high and there is a greater than one-for-one discount for high levels, resulting in a discounted pay weight.

Table 6 shows how foreign material and dockage affect sunflower enterprise profits when a one-for-one discount is used. In this situation, producers are paid for the actual quantity of delivered sunflower. Income is only reduced slightly by the added transportation costs.

Table 7 portrays how foreign material and dockage affect profits when a greater than one-for-one discount is used. Potentially large reductions in per-acre income occur when foreign material and dockage is high and a greater than one-for-one discount is in place.

The key management decision is to balance the level of harvest losses (seeds left in the field) and foreign material and dockage in the harvested sunflower. Producers should strive to have 5 percent or less harvest losses and 10 percent or less foreign material and dockage. Two current sunflower production and marketing issues in the High Plains are (a) contamination from volunteer corn or soybean seed and (b) the occurrence of dark-roasted kernels. Seed contamination has become a problem as more intensive nonirrigated crop rotations are being used in the region. These intensive crop rotations often include sunflowers with corn and soybeans, increasing the potential for volunteer corn or soybean seed to be included with the harvested sunflower seed. While corn and soybean seed are difficult to sieve and separate from sunflower seed, small-grain crops do not present this

Table 5. *Effect of Foreign Material and Dockage on Sunflower Pay Weight per Acre* [1]

Total delivered pounds	FM and dockage	FM and dockage (pounds)	1-for-1 pay wt. [2] (pounds)	> 1-for-1 pay wt. [3] (pounds)
1,500	0%	0	1,500	1,500.0
1,579	5%	79	1,500	1,500.0
1,667	10%	167	1,500	1,500.0
1,765	15%	265	1,500	1,447.3
1,875	20%	375	1,500	1,350.0
2,000	25%	500	1,500	1,240.0
2,143	30%	643	1,500	1,114.4

[1] Based on an oil sunflower seed yield of 1,500 pounds per acre.
[2] Pay weight calculated assuming a 1-percent dockage for each percentage point of foreign material and dockage.
[3] Pay weight calculated assuming a greater than one-for-one dockage: 1-percent dockage for each percentage point of foreign material and dockage up to 12 percent and a 2-percent dockage for each percentage point of foreign material and dockage greater than 12 percent.

Table 4. *Effect of Confectionary Sunflower Seed Size on Price and Net Income ($14/10 per hundredweight — dual scale)*

Sizing over 20/64 sieve	Net price	Gross income [1]	Net income [2]	Difference
		---------- Dollars per acre ----------		
75%	$13.00	175.50	66.21	5.40
65%	12.60	170.10	60.81	[base]
55%	12.20	164.70	55.41	– 5.40
45%	11.80	159.30	50.01	– 10.80

[1] Based on 1,350-pound seed yield per acre.
[2] Based on $109.29 total cash cost per acre, excluding land rent or interest charges and machinery depreciation and interest.
Source: *Confectionary Sunflowers Cost-return Budget (W-SF-F Rotation) in Western Kansas*, MF-937.

Table 6. *Effect of a One-for-one Discount for Foreign Material and Dockage on Sunflower Enterprise Income* [1]

Total delivered pounds	FM and dockage	Pay weight (pounds)	Extra transportation cost [2]	Gross income [3]	Net income [3]	Difference
1,500	0%	1,500	$0.00	$150.00	$64.88	$0.84
1,579	5%	1,500	0.40	150.00	64.48	0.44
1,667	10%	1,500	0.84	150.00	64.04	[base]
1,765	15%	1,500	1.33	150.00	63.55	– 0.49
1,875	20%	1,500	1.88	150.00	62.92	– 1.12
2,000	25%	1,500	2.50	150.00	62.38	– 1.66
2,143	30%	1,500	3.22	150.00	61.66	– 2.38

[1] Based on an oil sunflower seed yield of 1,500 pounds per acre.
[2] Calculated as 50 cents per hundredweight transportation cost for foreign material and dockage hauled.
[3] Gross income calculated using a price for oil sunflowers of $10 per hundredweight and net income calculated using $85.12 total cash cost per acre, excluding land rent or interest charges and machinery depreciation and interest. Source: *Oil-type Sunflowers Cost-return Budget (W-SF-F Rotation) in Western Kansas*, MF-887.

Table 7. *Effect of a Greater Than One-for-one Discount for Foreign Material and Dockage on Sunflower Enterprise Income* [1]

Total delivered pounds	FM and dockage	Pay weight (pounds)	Extra transportation cost [2]	Gross income [3]	Net income [3]	Difference
1,500	0%	1,500.0	$0.00	$150.00	$64.88	$0.67
1,579	5%	1,500.0	0.32	150.00	64.56	0.35
1,667	10%	1,500.0	0.67	150.00	64.21	[base]
1,765	15%	1,447.3	1.06	144.73	58.55	– 5.66
1,875	20%	1,350.0	1.50	135.00	48.38	– 15.83
2,000	25%	1,240.0	2.00	124.00	36.88	– 27.33
2,143	30%	1,114.4	2.57	111.44	23.75	– 40.46

[1] Based on an oil sunflower seed yield of 1,500 pounds per acre.
[2] Calculated as 40 cents per hundredweight transportation cost for foreign material and dockage hauled.
[3] Gross income calculated using a price for oil sunflowers of $10 per hundredweight and net income calculated using $85.12 total cash cost per acre, excluding land rent or interest charges and machinery depreciation and interest. Source: *Oil-type Sunflowers Cost-return Budget (W-SF-F Rotation) in Western Kansas*, MF-887.

problem. Dark-roasted sunflower seed kernels can occur when sunflowers are harvested at a higher-than-normal moisture content. Higher moisture levels in storage can cause quality deterioration in sunflower seed nut meat. When these sunflower seeds are roasted and salted, there is a deterioration in seed appearance but not necessarily in taste. If sunflower seed is harvested at low moisture levels and stored at cool temperatures, no quality deterioration is expected. A good source of additional information concerning sunflower production, harvesting, and storage is K-State Research and Extension publication C-727, *Sunflower Production Handbook*.

Test weight. A standard bushel of sunflower weighs 28 pounds. To qualify for the U.S. No. 1 or No. 2 grades, sunflower must weigh a minimum of 25 pounds. Confectionary sunflowers usually have lower test weights than oil-types because of their larger seeds. In 1996 Northwest Area Research and Extension Center trials at Colby, oil sunflower had average test weights of 28 pounds and 29 pounds per bushel under nonirrigated and irrigated conditions, respectively. Confectionary sunflower had average test weights of 19.1 and 19.2 pounds in the same set of 1996 nonirrigated and irrigated yield trials. Low sunflower seed test weights sometimes result in price discounts. For example, there may be a 1-percent discount for each 0.5 pound under a predetermined minimum test weight (such as 25 pounds for oils and 19 pounds for confectionary). Producers should consider test weight as a factor when selecting sunflower varieties to plant and the planting date. Generally, test weight is not as important in sunflower seed variety selection as sunflower seed oil content or seed size.

Moisture content. The majority of Kansas sunflower is harvested at moisture levels near 9 percent. This is regarded as a safe moisture level for post-harvest storage. Discounts for excessive moisture are only assessed at moisture levels greater than 10 percent. In most years, excessive moisture content is not a problem for Kansas High Plains sunflower seed producers. When moisture levels do exceed 10 percent, discounts will be applied either as a reduction in price paid or as a reduction in pounds for which paid. In some contracts, the producer may be responsible for the cost of drying sunflower to the 10-percent level. Moisture levels in excess of 12 percent are often accepted only at the buyer's discretion.

Sunflower Selling Alternatives for Producers

Sunflower is priced on a hundredweight basis. The marketing alternatives and tools available to producers fall into four broad categories: cash sales, forward cash contracts (FCC), forward cash grower contracts (FCGC), and cross hedges based on soybean oil futures. While most sunflower is sold using one of these four basic marketing alternatives, producers should note that sunflower markets

are varied and contract arrangements will differ by processor, by year, and in accordance with changing sunflower market and crop conditions.

Cash sales. Cash sales can be used to market both oil and confectionary sunflower. As with cash sales for other Kansas crops, producers can deliver their sunflower to the buyer and receive the spot or current cash price adjusted for any appropriate premiums or discounts based on the quality of the delivered sunflower. In some instances, the buyer will quote a price for sunflower on the farm, resulting in a price adjusted for transportation costs.

Forward cash contracts (FCC). Relatively standard forward cash contracts are often used in contracting regular oil sunflower. These cash contracts are similar to and sometimes exactly the same as the forward cash contracts used for wheat, corn, and other commodities. These contracts require producers to deliver a preset number of pounds to the elevator or crush plant at a specified time, while allowing the producer complete freedom in regard to crop production decisions. The forward cash contract price is determined, but it is subject to premiums or discounts associated with sunflower seed quality.

If for any reason producers cannot fulfill the delivery obligations of a forward cash contract with their own production, they can either buy sunflower seed from the elevator or another producer with which to make delivery or buy out the contract. This buy-out or settlement price is the difference between the going market price at delivery and the forward contracted price.

For example, a situation could occur where a producer forward cash contracted 10,000 pounds of sunflower at $10 per hundredweight for delivery in October, but then in October did not have enough sunflower seed production to fulfill the forward contract obligation. If prices in October were $12 per hundredweight, the producer could buy out the contract for $2 per hundredweight ($12 market price less the $10 FCC) for a total of $200.

Conversely, if prices in October were $8 per hundredweight (less than the FCC price of $10), the producer would have no problem fulfilling the obligations of the contract by purchasing lower priced sunflower from other growers and delivering it to fulfill the forward contract commitment. A sample forward cash contract is included in Appendix B.

Forward cash grower contracts (FCGC). This type of contract is typically used for specialty-niche crops such as confectionary or high-oleic-oil sunflower. Like conventional forward cash contracts, forward cash grower contracts typically commit producers to deliver a preset number of pounds to a processing plant. A sample forward cash grower contract is shown in Appendix C. FCGSs differ from FCCs in four primary ways:

1) They are acreage contracts that state a minimum number of acres that the producer and processor agree will be planted in order to meet the production or total pound commitment specified in the contract. Production on the contracted acres over and above the quantity specified in the contract is generally committed to the contracting processor for sale at the cash price available at the time of delivery.
2) Because of the importance of seed quality in specialty-niche markets, processors typically require the producer to purchase specific seed varieties to be planted on the contracted acres. These processors often provide agronomic recommendations to help producers grow a high-quality sunflower crop.
3) These contracts often contain "act of God" clauses that excuse the producer from performance of the contract in instances where acts beyond the producer's control destroy the crop (for example, fire, drought, or accidents). This clause is made available because the type of sunflower production being contracted is often unique in quality and potentially not replaceable from the production of other sunflower growers. This clause represents an added risk assumed by the processor.
4) These contracts are sometimes considered "buyer's call" contracts, in which producers are required to store the crop for a period of time after harvest. The contracting processor will typically provide a storage credit or price premium to help cover the cost of storage and interest until the time the processor requires delivery.

Cross hedges. Hedging can be defined as "selling (or buying) futures in advance of a later cash sale (or purchase) of a commodity produced (or used) in a business operation." For crop producers, this specifically means selling futures in advance of later cash sales. When the crop is harvested and sold in the cash market, the futures contract is bought back to close out the futures hedge position. If the futures market price declines after the initial preharvest futures sale, losses in the cash market are offset by gains in the futures market (which were initially sold at a high price and bought back at a lower price). Conversely, if the futures market price rises after the initial preharvest futures sale, losses in the futures market (which were initially sold at a lower price than they were bought back for) are offset by gains in the cash market.

Local sunflower basis is a key factor in hedging strategies. Basis is defined as the difference between cash and futures prices. For more information on basis, see the K-State Research and Extension publication MF-1003, *Basis: The Cash/Futures Price Relationship*. When supply and demand factors affect both cash and futures markets in similar and relatively predictable ways, then basis is less variable and the likelihood of having a successful hedge is greater. Wheat in Kansas can be hedged successfully because the same market fundamentals that affect Kansas City Board of Trade (KCBT) wheat futures also tend to affect local cash wheat prices, resulting in basis levels that are relatively predictable from year to year.

Hedging oil sunflower differs from hedging wheat because no specific futures contract for sunflower seed exists. Sunflower producers can use Chicago Board of Trade (CBT) soybean oil futures to cross hedge their sunflower prices. Although cross hedging may be used successfully, it does involve more basis risk than for other cash commodi-

ties that have matching futures contracts (such as hard red winter wheat in Kansas). While sunflower seed and soybean oil are both part of the oilseed market complex, the market fundamentals that influence soybean oil prices do not always influence sunflower seed and sunflower oil prices in the same direction or magnitude. There may even be short periods of time when soybean oil and sunflower seed or oil prices may move in opposite directions. This may be caused by variability in weather conditions between world sunflower growing regions that tend to be geographically concentrated versus world soybean production regions that tend to be more widely dispersed geographically. Also, demand for alternative types of oilseed may vary since not all are perfect substitutes.

Another important factor in cross hedging oil sunflower with CBT soybean oil futures is determining what hedge ratio to use. A hedge ratio of 1.0 is used for cash commodities that have an associated futures contract. For example, for a Kansas producer to hedge 5,000 bushels of wheat, they would sell 5,000 bushels of KCBT wheat futures in the appropriate futures contract month. Because cash sunflower seed prices do not change in an exact one-for-one relationship with CBT soybean oil futures, a hedge ratio different than 1.0 is needed for cross hedging purposes. This ratio represents the quantity of sunflower seed production to be cross hedged by selling a certain quantity of CBT soybean oil futures. In past years, the sunflower industry has typically used a ratio of 0.5 (120,000 pounds of sunflower for every 60,000 pounds of CBT soybean oil futures contract) for cross hedging cash sunflower seed prices. At yields of 1,500 pounds per acre, 120,000 pounds represents 80 acres of sunflower seed production.

A recent K-State study found that an average hedge ratio of 0.58 has been effective in cross hedging northwest Kansas sunflower prices with soybean oil futures (Graff, et al., 1997). Table 8 illustrates how the northwest Kansas hedge ratio varies using weekly prices for cash sunflower and alternative soybean oil futures contract months from January 8, 1986, to April 23, 1997. Table 8 shows the hedge ratio and the quantity of sunflower effectively hedged per 600-hundredweight soybean oil contract. If a sunflower grower wants to hedge using March soybean oil futures, Table 8 should be used. Because the March hedge ratio is 0.629, the amount of cash sunflower seed hedged is approximately 954 hundredweight (600 hundredweight ÷ 0.629). An October soybean oil futures hedge has a hedge ratio of 0.529, indicating the cash sunflower quantity to be hedged is approximately 1,134 hundredweight.

In summary, cross hedging is an available marketing alternative that producers should use with caution until they are familiar with the mechanics and procedures involved in making futures hedges.

Table 8. *Cross-hedge Estimates for Hedging Northwest Kansas Sunflowers in Soybean Oil Futures*

Soybean oil futures contract month	Sunflower-soy oil hedge ratio [1]	Sunflower cwt. hedged per 600-cwt. soybean oil contract
January	0.554	1,083
March	0.629	954
May	0.689	871
July	0.580	1,034
August	0.533	1,126
September	0.578	1,038
October	0.529	1,134
December	0.565	1,062

[1] Graff, et al., *Cross Hedging Agricultural Commodities*, Kansas State University, 1997. Models are based on weekly cash price and soybean oil futures prices during the January 8, 1986, through April 23, 1997, period.

[2] The overall average hedge ratio across all contract months was 0.58.

Sunflower Price Forecasts

Forecasts of sunflower prices may be very useful to producers in forming the sunflower price expectations they use in their production, marketing, and financial plans. Oil sunflower cash price forecasting models were developed for northwest Kansas by Graff and others (Table 9). These models depend solely on CBT soybean oil futures prices to predict cash oil sunflower prices.

This is consistent with actual practice, as sunflower oil prices are the primary determining factor for sunflower seed prices, and sunflower oil prices typically are closely aligned with soybean oil prices. Separate sunflower cash price prediction models are presented for each available soybean oil futures contract.

For example, if the October 1998 soybean oil futures price in July 1998 is $26 per hundredweight, the October model indicates the expected October 1998 cash sunflower price is $11.73 in northwest Kansas [–$2.02 + (0.529 × $26)]. These models explained from 72 percent to 81 percent of the variability in weekly oil sunflower cash prices from 1986 to early 1997. Their forecast errors as a percent of average sunflower cash prices ranged from 10.83 percent to 14.19 percent. In the October 1998 forecast example, if prices averaged $10 during October for the 1986 to 1997 period, there is a 67-percent probability that actual October 1998 oil sunflower cash price will be within the $10.58 to $13.49 range (that is, within 11.46 percent of $10 or $1.15 of the October 1998 price forecast of $11.73 per hundredweight).

These models do not account for the effect of the Sunflower Oil Assistance Program (SOAP) on U.S. sunflower oil exports from 1987 to 1993. These export subsidies may have skewed the traditional price relationships between sunflower seed and soybean oil. The SOAP program may have been partially responsible for large price premiums that periodically existed at the U.S. Gulf of Mexico export locations for sunflower oil relative to soybean oil during the period (National Sunflower Association, 1997).

Other sunflower seed price forecasting models have been developed using both sunflower oil and sunflower meal prices. The following sunflower seed cash price model developed by O'Brien uses monthly average cash sunflower oil and sunflower meal prices for October 1985 to August 1997. A variable also is included to measure the effect of the 1988-89 through 1990-91 marketing years on monthly average cash sunflower seed prices. All prices are on a dollar-per-hundredweight basis.

Table 9. *Forecast Models for Northwest Kansas Oil Sunflower Prices Using Soybean Oil Futures*

Soybean oil futures contract month	Cash sunflower price forecast models for northwest Kansas [1]	RMSPE [2]
January	Oil SF cash $\$_{Jan}$ = \$2.96 + (0.554 × soy oil futures $\$_{Jan}$)	13.56%
March	Oil SF cash $\$_{Mar}$ = \$4.57 + (0.629 × soy oil futures $\$_{Mar}$)	14.19%
May	Oil SF cash $\$_{May}$ = \$5.84 + (0.689 × soy oil futures $\$_{May}$)	13.24%
July	Oil SF cash $\$_{July}$ = \$3.23 + (0.580 × soy oil futures $\$_{July}$)	14.40%
August	Oil SF cash $\$_{Aug}$ = \$2.07 + (0.533 × soy oil futures $\$_{Aug}$)	12.19%
September	Oil SF cash $\$_{Sep}$ = \$2.56 + (0.578 × soy oil futures $\$_{Sep}$)	12.72%
October	Oil SF cash $\$_{Oct}$ = \$2.02 + (0.529 × soy oil futures $\$_{Oct}$)	11.46%
December	Oil SF cash $\$_{Dec}$ = \$3.09 + (0.565 × soy oil futures $\$_{Dec}$)	10.83%

[1] Graff, et al., *Cross Hedging Agricultural Commodities*, Kansas State University, 1997. Models are based on weekly cash price and soybean oil futures prices during the January 8, 1986, through April 23, 1997, period.
[2] RMSPE stands for "root mean square percentage error," indicating that the models forecast error as a percentage of the respective average sunflower price. A price forecast is expected to fall within 1 RMSE of the forecast price 67 percent of the time.

Oil-SF cash \$ = 1.60 + (0.36 × SF-oil cash \$)
+ (0.71 × SF-meal cash \$) + (0.70 × years: 88-90)

Changes in sunflower oil and meal cash prices and the unique effect of the 1988 to 1990 period explained 82 percent of the variation in cash sunflower seed prices during the October 1985 to August 1997 period. This model had a standard error of 85 cents, indicating there is a 67-percent probability that the price model is accurate within 93 cents, give or take. If for a particular month sunflower oil prices are projected to be \$27 per hundredweight and sunflower meal prices are projected to be \$80 per ton (\$4 per hundredweight), this model would forecast that month's average sunflower seed prices to be \$10.92 [–\$1.60 + (0.36 × \$27) + (0.71 × \$4) + (0.70 × 0)]. This model would predict monthly average cash sunflower seed prices in the range of \$10.03 to \$11.89 (\$10.96 +/– \$0.93) with 67-percent accuracy. If a producer or processor has estimates of future sunflower oil and meal prices, this model provides another source of sunflower seed forecast information for use in management decisions.

Sunflower Market Information

Information about sunflower prices is critical when making planting and marketing decisions. Elevators and processing plants that purchase sunflowers regularly provide current price quotes and forward bids directly to farmers. The USDA-Kansas Department of Agriculture Market News is a primary source of public sunflower market information. The goal of this cooperative arrangement between the Kansas State Board of Agriculture and USDA's Grain and Market News Service is to provide sunflower market information to producers in Kansas and the larger High Plains region. The "Kansas Sunflower Market Report" is a daily report containing price quotes from nine oil, one high-oleic, and three confectionary buyers in Kansas. Another report, the "USDA Weekly National Sunflower Summary," contains Kansas prices from the "Kansas Sunflower Market Report" along with sunflower market price information from other states. Both reports are made available to newspapers, electronic data systems, and other news organizations for public distribution. Most of the newspapers that publish sunflower price quotations are located in western Kansas. Statewide coverage will likely expand if sunflower acreage expands into central and eastern parts of the state. The National Sunflower Association also provides a daily sunflower market summary and commentary. Information about daily oil sunflower prices for all plant locations, the Chicago Board of Trade soybean oil futures contract closes, and a short market commentary is available on a 24-hour basis by calling the National Sunflower Association at (701) 328-5106.

Developing a Sunflower Marketing Plan

Marketing sunflower begins when the planting decision is made. Producers must compare the profit potential of alternative crops and of the different kinds of sunflower (oil, high-oleic, and confectionary). Their focus should be on sunflower price prospects and available forward contract prices, required delivery grades and standards, and their management expertise in producing each type of sunflower. Producers must accurately assess the likelihood that they will be able to produce sunflower seed that will qualify for the quality-based premiums offered.

Once harvest is completed, it is important that producers know the quality of their crop. The producer's highest quality sunflower should be delivered on the contract or to the buyer paying the highest quality premiums. A producer's lower quality, uncontracted sunflower production can be targeted to buyers with less-discriminating standards. For example, low-oil-content sunflower may net a better price from birdseed packagers than from sunflower crushers.

For sunflower and other crops, it is important to develop a sound marketing plan. Developing a sunflower marketing plan should involve five steps:

1) ***Gather.*** Gather the information necessary to make marketing decisions. Producers should be aware of current supply and demand fundamentals for sunflowers and other oilseeds. They also should be aware of current and historical sunflower prices and seasonal price patterns in their region. The number of local buyers and the types of sunflowers they handle should

be known, as well as the cost to transport sunflowers between them. Other information about producer's cost of production and projected net returns and the availability and cost of storage is needed to make farm management decisions.

2) ***Think.*** Once the necessary information is gathered, the production and marketing plan should be carefully evaluated. Issues to consider relate to (a) what type of sunflower production (oil, high-oleic, or confectionary) works best for the producer; (b) how much of expected annual production should be forward contracted prior to harvest; (c) what quantity of noncontract production should be priced or sold at harvest vs. how much should be stored for later sale; and (d) what price level should a producer consider to be a "good" pricing opportunity. The sunflower production and marketing plan should be integrated into the overall farm management plan. Plans should be made early, prior to the onset of fieldwork activities and other financial and market concerns.

3) ***Write.*** Marketing plans should be written down to help producers be disciplined in their decision making. Written marketing plans may need to be updated as crop and market conditions change. Putting the plan in writing helps producers follow the sound and integrated management plan they have developed for their farms.

4) ***Verbalize.*** Sharing marketing ideas with spouses, Extension agents, neighbors, lenders, and others provides a producer with valuable and sometimes critical feedback. Such sharing can be valuable in both the process of developing the plan and in critically evaluating past marketing decisions.

5) ***Defend.*** Being convinced that their sunflower marketing plan is sound enables producers to actually carry out the plan. Lack of belief in the quality of a marketing plan will likely lead to its abandonment when decisions need to be made later.

Sunflower Information from K-State Research and Extension

For more information about sunflower production and marketing, contact a K-State Research and Extension county or area office. Specific information about marketing sunflower and other Kansas commodities is available through the Department of Agricultural Economics, Kansas State University, 342 Waters Hall, Manhattan, Kansas, (785) 532-4493.

Appendix A

Table A. *U.S. Sunflower Seed Supply, Disappearance, and Price: 1980-81 through 1997-98*

Year (Sept. 1 – Aug. 31)	Supply				Disappearance					U.S. farm price ($/cwt.)
	Beginning stocks	Production	Imports	Total supply	Crush	Non-oil use + seed	Exports	Total use	Ending stocks	
1980	896	1,697	28	2,621	780	154	1,505	2,439	182	11.11
1981	182	2,035	32	2,249	374	177	1,555	2,106	143	10.80
1982	143	2,419	40	2,602	766	191	1,348	2,305	297	9.03
1983	297	1,451	31	1,779	590	113	1,044	1,747	321	3.00
1984	32	1,698	26	1,756	567	128	991	1,685	711	1.30
1985	71	1,430	26	1,527	674	276	365	1,315	212	7.94
1986	212	1,214	8	1,434	635	242	304	1,181	253	6.90
1987	253	1,183	10	1,446	900	79	270	1,249	197	8.35
1988	197	813	25	1,035	575	294	87	956	79	12.11
1989	79	798	20	897	546	230	96	872	25	10.62
1990	25	1,031	40	1,096	593	295	121	1,008	88	10.89
1991	88	1,639	75	1,802	952	425	163	1,540	262	8.71
1992	262	1,163	47	1,472	923	363	118	1,404	69	9.75
1993	69	1,167	25	1,261	661	429	99	1,189	71	12.89
1994	71	2,194	42	2,306	1,313	604	287	2,203	103	10.71
1995	103	1,819	21	1,943	915	598	224	1,737	205	11.52
1996 [1]	205	1,627	18	1,850	839	668	147	1,654	196	11.80
1997 [1]	196	1,699	18	1,913	827	717	177	1,721	192	10.57 – 12.21

[1] USDA forecast as of November 12, 1997.

Table B. *U.S. Sunflower Seed Oil Supply, Disappearance, and Price: 1980-81 through 1997-98 (1,000 metric tons)*

Year (Oct. 1 – Sept. 30)	Supply			Disappearance				SF oil price – Minneapolis crude ($/cwt.)
	Beginning stocks	Production	Total supply	Domestic	Exports	Total use	Ending stocks	
1980	73	298	371	29	301	330	41	26.95
1981	41	137	178	63	103	166	12	24.95
1982	12	303	315	43	229	272	43	22.46
1983	43	204	247	53	188	241	63	3.62
1984	6	219	225	65	130	195	30	29.99
1985	30	265	295	65	205	270	25	19.10
1986	25	266	291	84	156	240	51	16.02
1987	51	377	428	38	319	357	71	23.59
1988	71	235	306	57	212	269	37	22.69
1989	37	215	252	76	159	235	17	24.41
1990	17	243	260	76	163	239	21	23.59
1991	21	413	438	179	214	393	45	21.60
1992	45	331	376	85	266	351	25	25.32
1993	25	263	292	58	204	262	30	30.99
1994	29	528	558	78	444	521	37	28.22
1995	37	390	428	76	285	361	67	25.41
1996 [1]	67	365	436	82	325	407	29	22.55
1997 [1]	29	362	395	75	283	359	36	23.00 – 26.00

[1] USDA forecast as of November 12, 1997.

Table C. *U.S. Sunflower Seed Meal Supply, Disappearance, and Price: 1980-81 through 1997-98 (1,000 metric tons)*

Year (Oct. 1 – Sept. 30)	Supply			Disappearance			Ending stocks	SF meal price – 28% protein ($/ton)
	Beginning stocks	Production	Total supply	Domestic	Exports	Total use		
1980	4	439	443	440	NA	440	3	110.71
1981	3	201	204	200	NA	200	4	106.17
1982	4	434	438	433	NA	433	5	101.63
1983	5	265	270	240	25	265	5	111.62
1984	5	321	326	307	14	321	5	52.63
1985	5	357	362	313	44	357	5	68.97
1986	5	305	310	269	36	305	5	76.23
1987	5	426	431	381	46	427	4	98.91
1988	4	291	295	286	6	292	3	122.50
1989	3	264	267	259	3	262	5	100.73
1990	5	293	298	288	5	293	5	88.02
1991	5	498	510	451	53	503	6	77.13
1992	6	440	451	401	48	449	2	88.93
1993	2	327	332	291	37	328	5	94.37
1994	5	653	658	566	89	653	5	65.34
1995	5	458	403	433	25	458	5	123.41
1996 [1]	5	440	445	419	21	440	5	123.41
1997 [1]	5	408	413	390	18	408	5	86.21 – 111.62

[1] USDA forecast as of November 12, 1997.

Appendix B

SAMPLE
FORWARD CASH CONTRACT

This agreement entered into on this _____ day of _____ , 19 ____ , between _____ of _____ , hereinafter designated as the Seller and LOCAL COOPERATIVE ASSOCIATION, (Anywhere), KANSAS, hereinafter designated as the Buyer.

WITNESSETH: The Seller has this date agreed to sell to the Buyer and the Buyer has agreed to buy from the Seller _____ bu./cwt. of _____ at $ _____ per unit less charges with sufficient and proper dockage, to be delivered sound and dry to the elevator of the Buyer, or substation thereof, not later than _____ , 19 __ . The Seller agrees that the above price is a base price and shall be adjusted to compensate for lower grades which may be delivered and accepted on this contract. This contract is made for the sole purpose of establishing the price stated herein for this commodity. The Seller hereby certifies that he is the sole owner of said commodity and that the same is free from all liens and encumbrances. This contract shall be nonassignable by both parties. It is further agreed that this contract shall be binding upon the heirs, administrators and executors of the respective parties hereto.

In consideration of the above agreement of the Seller to sell this commodity, it is agreed between the Seller and the Buyer that the Seller is to receive payment for this grain on _____ , 19 ___ .

The Seller warrants and promises to deliver the commodity called for herein immediately during or after the same and in the event of a calamity such as hail, storm, drought or otherwise, so that the Seller does not have on hand the grain, all of which is without his fault, then the Seller has the following options:

a) Buy equivalent commodity as called for in above and deliver to Buyer within a reasonable time such commodity but no later than _____ , 19 ____ .

b) Pay in cash to the Buyer the difference between the contract and the market price at date of settlement, the market price to be posed price at the elevator, at date of settlement, which shall not be later than _____ , 19 _____ , but in no event shall Buyer pay any cash to Seller.

WITNESS the hands of the parties hereto the date and year first above written.

_____
Seller

_____
Witness

By: LOCAL COOPERATIVE ASSOCIATION

Appendix C

SAMPLE
FORWARD CASH GROWER CONTRACT

This agreement is made between CONFECTION PROCESSORS, INC. (hereinafter Buyer) and _____ (hereinafter Grower) whose address is _____.

1. This is a contract between Buyer and Grower whereby Buyer agrees to buy from Grower and Grower agrees to sell to Buyer _____ pounds of confection sunflower seeds as more particularly set forth below.

2. Buyer recommends, and Grower agrees, that _____ acres, at a minimum, will be planted to cover all the above stated contracted pounds. Grower agrees not to contract with any third party for production. If Growers production on all acres exceeds the pounds stated in item 1, Buyer will have the first right to purchase the excess production at the then prevailing market price.

3. Grower must provide a legal description of all confection sunflower acres planted.

4. Grower agrees to purchase his seed requirements from Buyer or its designated sellers.

5. Grower agrees that all sunflower seed produced under terms of this contract shall be delivered to and marketed through Buyer.

6. The base price will be $ _____/cwt. for all product over a 20/64 round hole screen and $ _____/cwt. for all product under 20/64 and over 14/64 screen. Any discounts will be charged according to the percentage of pounds received above and below a 20/64 screen. Grower is responsible for all charges including freight to delivery point.

Buyer will have sole discretion to determine when it will accept delivery of the contracted seed. Buyer agrees to call all previously uncalled seed no later than nine months after harvest. Buyer will attempt to take delivery during the month of _____. Buyer will pay Grower a storage credit of $ ____/cwt. per month on the undelivered portion of contracted production.

TERMS, STANDARDS, AND CONDITIONS

7. All seed will be purchased on a basis of unloaded weights and grades using the terms, standards, and conditions set forth:
   a. Foreign Material (FM): All material in sample that is not sunflower seeds. A 1 percent dock for each 1 percent FM on total pounds up to a maximum of 12 percent FM. Then a 1.5 percent dock for each 1 percent FM over 12 percent and up to a maximum of 16 percent. Then a 2 percent dock for each 1 percent FM over 16 percent and up to a maximum allowable of 25 percent FM. Over 25 percent FM, Buyers option.
   b. Lights: Considered part of the FM poundage. Lights are any seed with no kernel or an unsatisfactorily developed kernel.
   c. Insect Damage: Considered part of FM poundage, all insect damage will be added to the FM.
   d. Cracked and Broken kernels: Considered part of the FM poundage and will be added to the FM.
   e. Burrs of any kind: Considered part of the FM poundage and will be added to the FM.
   f. Seeds passing through a 14/64 round hole screen: Considered part of the FM poundage and will be added to the FM.
   g. Sclerotinia: Automatic rejection of the load or Buyers option.
   h. Moisture: 10 percent or less will be considered dry and have no dock. Dock will be a 2 percent dock on each 1 percent on total pounds of moisture percentages over 10 percent and up to a maximum allowable of 12 percent. Grower will also be liable for all drying and associated charges, including handling charges, on all moisture levels over 10 percent. Any moisture over 12 percent, Buyer's option.

Any load not meeting the above specifications may be rejected without canceling the contract in its entirety, or at Buyers discretion, accepted and discounted at market rates.

8. Fire, strikes, accidents, acts of God or public enemy, or other causes beyond the control of the parties hereto shall excuse them from the performance of this contract; provided, however, that should any event occur, either party must notify the other party within ten (10) days of the event by certified mail.

GROWER GUIDELINES

9. Grower agrees:
   a. To follow good cultural practices, including appropriate crop rotation.
   b. To bear all production expenses and all decisions related thereto.
   c. This contract is not a partnership nor a joint venture between Grower and Buyer.
   d. To warrant that there will be no undisclosed liens on said products when delivered to Buyer. If liens exist, it is Buyer's option to pay the lien, which shall be subtracted from any money owed by Grower to Buyer.

THIS AGREEMENT WHEN SIGNED BY GROWER AND GROWERS LANDLORD, IF APPLICABLE, IS AN OFFER TO MAKE A CONTRACT. NO CONTRACT WILL ARISE UNTIL THIS AGREEMENT IS RECEIVED BY AND SIGNED BY BUYER.

GROWER MAY NOT ASSIGN ANY OF HIS OBLIGATIONS UNDER THIS AGREEMENT WITHOUT THE PRIOR WRITTEN CONSENT TO BUYER. THIS CONTRACT CANNOT BE AMENDED EXCEPT BY WRITTEN AGREEMENT SIGNED BY OTHER PARTIES. HAVING FIRST READ AND UNDERSTOOD THE ABOVE, EACH PARTY TO THE CONTRACT ACKNOWLEDGED HIS/HER ACCEPTANCE OF THE ABOVE TERMS AND CONDITIONS OUTLINED HEREIN.

THIS DOCUMENT WHEN ACCEPTED BY BUYER SHALL CONSTITUTE THE ENTIRE AGREEMENT BETWEEN THE PARTIES.

GROWER _____ DATE _____ LIENHOLDER _____

WITNESSED _____ BY: CONFECTION PROCESSORS, INC. _____

DATE _____

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Kansas State University Agricultural Experiment Station and Cooperative Extension Service

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