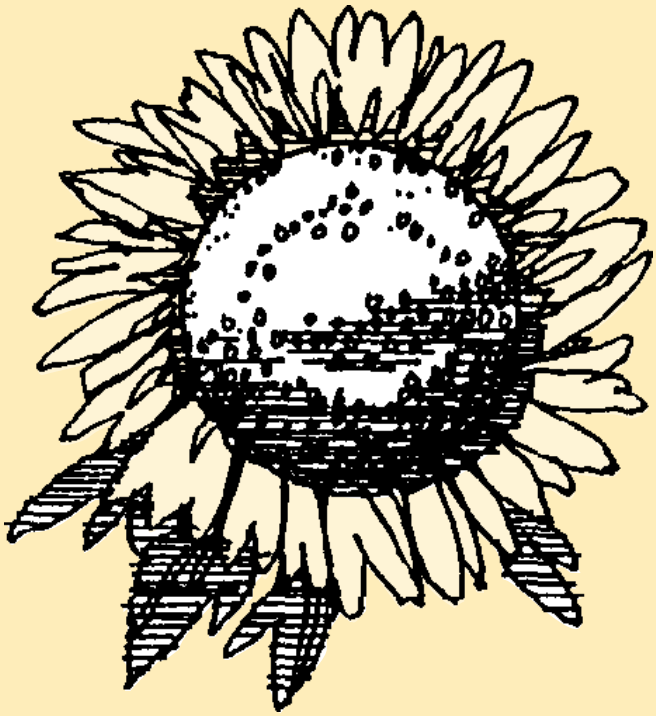

MARKETING KANSAS SUNFLOWER

COOPERATIVE EXTENSION SERVICE
KANSAS STATE UNIVERSITY

Marketing Kansas Sunflower

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Sunflower is a viable crop for Kansas agricultural producers. Agronomically, it is well adapted to both irrigated and dryland rotations, and even as a "double-crop" where growing season length permits. Additionally, four major plants in Kansas process sunflowers, ensuring demand.

Sunflower markets, though, are different from other Kansas crops. Sunflower markets are more varied—oil, confection and birdseed—and contracting is more prevalent. In addition, because producers often sell or contract directly with processors, knowing and understanding grade and quality specifications is more important. This publication answers some basic questions and concerns regarding sunflower marketing. It briefly describes sunflower markets and then discusses deliverable grades and quality specifications, and the types of sales available to Kansas producers. The publication concludes with three short sections concerning sunflower market information, marketing plan development and how sunflower fits into government farm programs.

Markets for Sunflowers

Sunflower is a relatively small crop in both Kansas and the United States, as Table 1 illustrates. Sunflower is primarily grown in the Plains States of North Dakota, South Dakota, Minnesota, Kansas, Colorado, Nebraska, and Texas.

While sunflower is grown in all parts of the state, Northwestern Kansas—home of the four sunflower processing plants—is the dominant production area, accounting for over half of all Kansas sunflower produced in both 1990 and 1991.

Two primary kinds of sunflower are grown in Kansas — oil and confectionery (non-oil or edible). Oil sunflower has a shiny black color and is more common, representing from 67% to 75% of Kansas acreage. It is primarily crushed to produce both a high-quality vegetable oil used in cooking and sunflowerseed meal, a high protein livestock feed. Confectionery sunflower, on the other hand, has larger seeds that are black with white stripes, and is grown to produce food products for baking or direct nut consumption. Birdseed is a smaller, yet fast growing market that is shared by both oil and confectionery sunflower along with certain sunflower varieties that are grown and contracted strictly for the birdseed market.

Table 1. Planted acreage of selected crops in 1992.

	Kansas	U.S.
	. . . thousands of acres . . .	
Wheat	12,000	72,262
Sorghum	3,300	13,277
Soybeans	1,900	59,330
Corn	1,850	79,325
Sunflower	160	2,217

The oil sunflower market. Demand for oil sunflower depends largely on exports, both whole seed and product resulting from the sunflowerseed crush. In 1990, exports accounted for nearly 80% of oil sunflower disappearance (168,000 MT whole seed and 163,000 MT oil). Sunflowerseed oil is one of many oils that make up the "oilseeds complex;" others in this group include soybean, cottonseed, canola, industrial rapeseed, safflower, crambe, sesameseed, coconut, and palm. These vegetable oils compete, act as substitutes, and as such influence the prices of each other and overall oilseed prices. Soybean oil dominates the oilseeds complex due to its market share, more than 70% of U.S. fat and oil consumption. Because of this, soybean oil prices, both cash and futures, often act as benchmarks for the entire oilseeds complex. Sunflowerseed oil has relatively low levels of both saturated fat and linolenic acid which make it a preferred oil for cooking. [1] Therefore, sunflowerseed oil typically commands a price premium over soybean oil.

High oleic sunflowers are special oil varieties that possess higher levels of oleic acid—a fatty acid that adds stability to oils and increases shelf life. As a result, high oleic sunflower varieties command a price premium over regular oil sunflower. Currently, the high oleic sunflower market is very new, as seed companies work to develop improved varieties. In 1993 only a limited acreage was contracted.

Sunflowerseed meal is the second end product coming

[1]Saturated fat is associated with high serum cholesterol levels and heart disease in some people. Oils with linolenic acid levels above 2% (sunflower is 0%) tend to develop off flavors because the linolenic acid oxidizes quickly and must be hydrogenated to enhance shelf life.

from the sunflowerseed crush. It is used in livestock rations as a protein supplement and is nearly all consumed in the U.S. Sunflowerseed meal can be sold at 28, 32, or 38 percent protein content, depending on the amount of dehulling prior to crushing. The crush plant in Kansas produces a 30-32% protein meal. Compared to soybean meal, sunflowerseed meal has lower protein (28-38% vs. 44%), a higher fiber content (13-21% vs. 7%), a limited level of lysine (an important nutritional component in swine and poultry diets), and is typically priced at a discount.

The confectionery sunflower market. Confectionery sunflower is primarily a specialty food product. It can be dehulled and used in baking, or sold inshell as a snack food. The largest seeds are typically sold inshell, the smallest are sold on the birdseed market and those in between are dehulled and sold as nut meats. In general, processors act as conduits between distributors (wholesalers, retailers and export markets) and producers. They clean, size and dehull seeds based on specific orders from these distributors.

Sunflowerseed is generally viewed by the public as a healthy snack, allowing it to differentiate itself somewhat from other potential substitutes (peanuts, almonds, walnuts, potato chips, dried fruit, etc.).

Confectionery sunflower represents a small percentage of the overall sunflower market—28% of total disappearance in 1990-91 according to USDA estimates. Data pertaining to confectionery sunflower disappearance is limited, but USDA estimates that most U.S. production is consumed domestically. Kansas confectionery sunflower, however, has a reputation for both a larger seed and a distinctively sharp black/white stripe pattern—an aesthetic advantage in the inshell market. Because of these advantages, industry sources estimate a majority (50-70%) of Kansas grown confectionery sunflower is sold through export markets. Historically, confectionery sunflower command a price premium over oils. Price data from North Dakota for the years 1981-90, show that this premium has ranged from 1.5% below to as high as 81% over the price of oil seed types. The ten year average premium was 37.7% or $3.44 per cwt. However, if confectionery sunflower is crushed, it is typically sold at a 20-30% discount to oil sunflower, due to its lower oil content.

The birdseed market. Information regarding birdseed use is limited but a 1985 survey by the U.S. Fish and Wildlife Service found that 82 million Americans feed wild birds—a 32% increase over 1982. The same survey estimated total birdseed expenditures at just over 1 billion

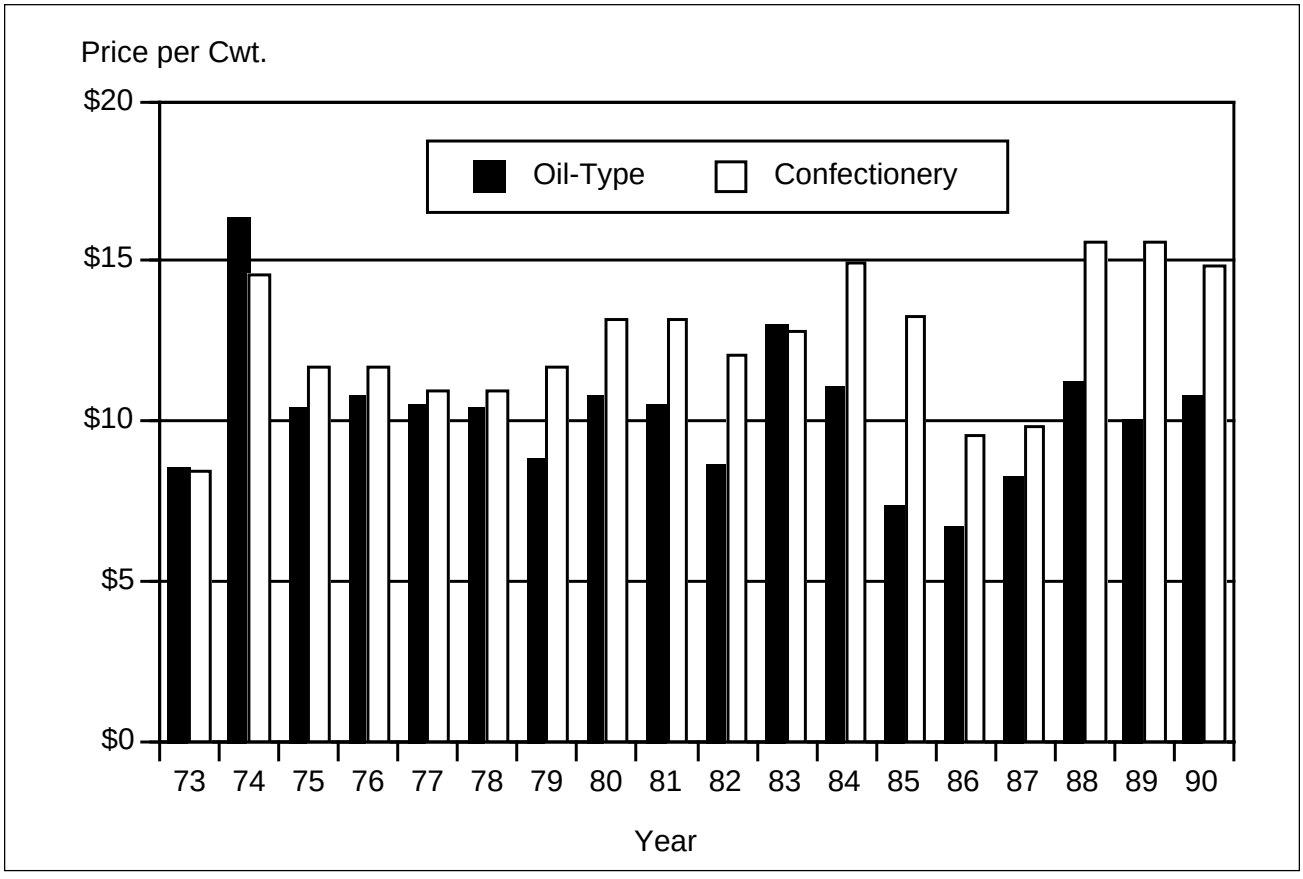

Figure 1. Annual average prices for oil and confectionary sunflower (Source: NDSU).

dollars in 1985, a 116% increase over 1982. Today, some birdseed industry sources estimate the birdseed market to be a 10 billion dollar industry. While the total impact of the birdseed market on overall sunflower sales is hard to document, the National Sunflower Association estimated that in the 1990-91 marketing year, 200,000 tons of sunflower was used as birdseed (18% of reported production in 1990). Both oil and confectionery sunflower are used in the birdseed market, however oils are preferred because of their higher oil content (energy) and thinner hulls (easier to crack open).

The Kansas sunflower market. Presently, Kansas has four major sunflower plants: one oilseed crush plant near Goodland and three confectionery processors, two in Colby and one in Goodland. In addition to the major plants, there are also a handful of birdseed packagers that operate in Central and Eastern Kansas buying smaller quantities of sunflower. The demand for Kansas sunflower will likely continue to grow because of the processors within the state and the advantages associated with Kansas' central location. Compared to the more northern sunflower producing areas of the U.S., Kansas holds a transportation advantage in many domestic markets and also in the Mexican export market. Mexico was the fifth largest importer in the world 1987-90. In addition to the four sunflower processors who contract and buy from producers all over Kansas, many elevators also handle sunflower. The majority of these elevators are located in the western third of the state but as sunflower acreage increases, more elevators in the central and eastern regions will likely begin to handle the crop. Elevators typically deal in oil sunflower, comparing bids from crushers, exporters and birdseed packagers, then delivering to the highest market at that particular time.

Delivering sunflower:

Because of sunflower's distinct markets, and the fact that producers deal directly with processors more often with sunflower than with other Kansas crops, knowing the quality of sunflower produced and delivered is critical. Many factors can affect sunflower quality, hence value. These include oil content, seed size, foreign material, dockage, insect damage, moisture content, test weight, and kernel color or smell. Some factors are more relevant to oil sunflower and others pertain more to confectionery sunflower. Certain factors such as large seed size and high oil content can result in price premiums while low oil content, small seed size and low test weight can result in price discounts. Some quality factors — foreign material, insect damage, small seed size, insect infestation, presence of scleratinia mold, and high moisture content can cause reductions in the pounds of sunflower that are purchased and may result in rejection of the entire load. This section examines some quality factors and illustrates the potential impacts they have on sunflower profits. The official Federal Grade Standards for sunflower are included in Table 2.

Oil content. Generally, 80 percent of oil sunflower's value is from oil. As a result, it is most often priced according to oil content. The standard is 40 percent oil, with premiums paid for levels higher and discounts for lower oil content. A sample oil sunflower premium scale follows:

A premium of +2% of the price for each 1% over 40.0% to 45.0%, a premium of +1.5% for each 1% over 45%. A discount of -2% of the price for each 1% under 40.0% to 38.0%, a discount of -3% for each 1% under 38.0% to 32.0%, and -3.5% for each 1% under 32.0%.

The effect of this oil content based pricing scale on per acre profit is shown in Table 3. It illustrates the importance of production factors such as date of planting and variety, that affect sunflower oil content. Oil content in Northwest Research-Extension Center Trials in 1992, ranged from 36.4% to 41.9% for dryland sunflower, and 37.4% to 43.2% under irrigation.

Seed size. Confectionery sunflower prices are typically quoted on a dual scale: one price for large seeds (sizing over a 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

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
		. . . . . percent		
U.S. No. 1	25.0	0.5	5.0	5.0
U.S. No. 2	25.0	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. Nos. 1 or 2; or

(b) Contains eight or more stones which have an aggregate weight in excess of 0.20 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 an unknown foreign substance(s), 10 or more rodent pellets, bird droppings, or equivalent quantity of other animal filth per 600 grams of sunflower seed; or

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

(d) Is heating or otherwise of distinctly low quality.

Note: Dockage for confectionery sunflower includes any whole sunflowerseeds that size through a 10/64 round hole sieve.

Table 3. Sample oil sunflower pricing scale ($9.00/cwt. base).

Oil Content Percent	Prem./Disc. Percent	Net Price	Gross Income[1]	Net Income[2]	Difference
			. . . . . Per acre		
46%	+11.5%	$10.04	$150.60	$52.42	$15.60
44%	+8.0%	$ 9.72	$145.80	$47.62	$10.80
42%	+4.0%	$ 9.36	$140.40	$42.22	$ 5.40
40%	0.0%	$ 9.00	$135.00	$36.82	- base -
38%	-4.0%	$ 8.64	$129.60	$31.42	($ 5.40)
36%	-10.0%	$ 8.10	$121.50	$23.32	($13.50)
34%	-16.0%	$ 7.56	$113.40	$15.22	($21.60)

[1] Based on a 1,500 lb. seed yield per acre.
[2] Based on $98.18 total cash cost per acre [Source: Dryland Sunflowers in Western Kansas—Oil Type (W-S-F Rotation), MF-887].

to small seeds, the greater the profit potential. Again, producers need to consider the production factors that affect seed size, such as date of planting, variety, soil moisture and plant population. Table 4, helps to illustrate this point on a per acre basis. In Northwest Research-Extension Center Trials in 1992, 73% of dryland confectionery sunflower seeds sized over a 20/64 sieve, under irrigation, 64%.

Foreign matter (FM) and dockage. In general, sunflower foreign material and dockage will average between 5% and 10%—higher than most crops—but low enough to cause little economic harm. However, instances of +20% FM and/or dockage have been reported. Thus, understanding FM and dockage and how they can affect net income is important.

Foreign Material and dockage refer to the amount of material in a load of sunflower that is not considered deliverable sunflower. Discounts are typically assessed by paying only for the actual deliverable sunflowerseed and not the FM and/or dockage. For example, if a producer delivers a 4,000 lb. load that contains 5% FM and/or dockage, the processor will pay for 3,800 lbs. of sunflower [4,000 lbs. less (5% x 4,000 = 200 lbs.)].

By definition, foreign material is “any and all material other than sunflowerseed”, with empty hulls and parts of seed generally considered sunflowerseed. Dockage, on the other hand is “all matter other than whole sunflowerseeds containing kernels” (the meat of a sunflowerseed). Dockage is a more strict definition which will often include hulls, broken seeds, 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 used for confectionery sunflower since processors cannot use the empty hulls and damaged seeds.

From a strictly economic standpoint, FM and/or dockage have little effect on overall profit. Profit will be

Table 4. Varying confectionery seed size percentages ($13/$9 per Cwt. - dual scale)

Sizing over a 20/64 sieve	Net price	Gross income[1]	Net income[2]	Difference
		. . . . . .Dollars per acre		
75%	$12.00	$180.00	$70.10	$ 6.00
65%	11.60	174.00	64.10	- base -
55%	11.20	168.00	58.10	(6.00)
45%	10.80	162.00	52.10	(12.00)

[1] Based on a 1,500 lb. seed yield per acre.
[2] Based on $109.90 total cash cost per acre [Source: “Dryland Sunflowers in Western Kansas—Confectionery (W-S-F Rotation)”, MF-937.

Table 5. Effect of foreign material and/or dockage on pay weight per acre[1]

Total delivered pounds	FM and/or dockage percent	FM/dockage pounds	. . .FM/dockage scale . . . 1-for-1 Pay wt.[2] pounds	> 1-for-1 Pay wt.[3] pounds
1500	0	0	1500	1500.0
1579	5	79	1500	1500.0
1667	10	167	1500	1500.0
1765	15	265	1500	1447.3
1875	20	375	1500	1350.0
2000	25	500	1500	1240.0
2143	30	643	1500	1114.4

[1] Based on a 1,500 lb. seed yield per acre.
[2] Pay weight calculated assuming a 1% dockage for each percentage point of FM and/or dockage.
[3] Pay weight calculated assuming a greater than one-for-one dockage: 1% dockage for each percentage point of FM and/or dockage up to 12%, and a 2% dockage for each percentage point of FM and/or dockage greater than 12%.

Table 6. Effect of FM and/or dockage on income (one-for-one discount)[1]

Total delivered pounds	FM and/or dockage percent	Pay weight pounds	Extra transportation[2]	Gross income[3]	Net income[3]	Difference
				. . . . . Per acre		
1500	0	1500.0	$0.00	$150.00	$50.00	$0.67
1579	5	1500.0	0.32	150.00	49.68	0.35
1667	10	1500.0	0.67	150.00	49.33	- base -
1765	15	1500.0	1.06	150.00	48.94	(0.39)
1875	20	1500.0	1.50	150.00	48.50	(0.83)
2000	25	1500.0	2.00	150.00	48.00	(1.33)
2143	30	1500.0	2.57	150.00	47.43	(1.90)

[1] Based on a 1,500 lb. seed yield per acre.
[2] Calculated as $0.40/cwt. transportation cost for FM and/or dockage hauled.
[3] Gross income calculated using a price of $10.00/cwt., and net income calculated using $100/acre costs.

Table 7. Effect of FM and/or dockage on income (> 1-for-1 discount)[1].

Total delivered pounds	FM and/or dockage percent	Pay weight pounds	Extra transportation[2]	Gross income[3]	Net income[3]	Difference
				. . . . . Per acre		
1500	0	1500.0	$0.00	$150.00	$50.00	$ 0.67
1579	5	1500.0	0.32	150.00	49.68	0.35
1667	10	1500.0	0.67	150.00	49.33	- base -
1765	15	1447.3	1.06	144.73	43.67	(5.66)
1875	20	1350.0	1.50	135.00	33.50	(15.83)
2000	25	1240.0	2.00	124.00	22.00	(27.33)
2143	30	1114.4	2.57	111.44	8.87	(40.46)

[1] Based on a 1,500 lb. seed yield per acre.
[2] Calculated as $0.40/cwt. transportation cost for FM and/or dockage hauled.
[3] Gross income calculated using a price of $10.00/Cwt., and net income calculated using $100/acre costs.

affected only if the levels of FM and/or dockage are extremely high, incurring significant transportation costs for material that cannot be sold, and 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 FM and/or dockage on pay weight, given two different discount scales. First shown, is a one-for-one discount scale, whereby the processor pays only for the delivered sunflower. And shown secondly, a greater than one-for-one discount scale, whereby the processor increases the discount for extremely high levels of FM and/or dockage. In addition, Tables 6 and 7 illustrate the effects of these different discount scales on per acre profits.

Table 5 demonstrates that foreign material and/or dockage do not affect the actual pounds of sunflower delivered. In addition, it shows that foreign material and/or dockage have little affect 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***.** Tables 6 and 7 further illustrate this by focusing on per acre profit both with and without a greater than one-for-one discount for high FM and/or dockage.

For example, data in Table 6 show that when there is a one-for-one discount on FM and/or dockage, producers get paid for the actual delivered sunflower and income is only slightly reduced by the added transportation costs. On the other hand, data in Table 7 illustrate potentially large reductions in per-acre income when FM and/or dockage is high and a greater than one-for-one discount is in place.

The key, from a management standpoint, is to balance the levels of harvest losses (seeds left in the field) and FM and/or dockage in the harvested sunflower. Goals to strive for are 5% or less harvest losses and 10% or less FM and/or dockage. A good source of additional information concerning sunflower harvesting is, "Sunflower Production Handbook," Cooperative Extension Service, Kansas State University, C-727.

Test weight. A standard bushel of sunflower weighs 28 pounds and to grade U.S. No. 1 or 2, sunflower must weigh a minimum of 25 pounds. In general, because of their larger seed size, confection sunflower have lower test weights than oil sunflower. In Northwest Research-Extension Center Trials in 1992, oil sunflower had average test weights of 27.3 and 30.0 lbs. per bushel under dryland and irrigated conditions. Confectionery sunflower had average test weights of 19.0 and 20.7 lbs. Low test weights sometimes result in price discounts. For example, there may be a 1% discount for each 0.5 lb. under a predetermined minimum test weight (for example, 25 lbs. for oils and 19 lbs. for confectionery). Producers should consider test weight as a factor when selecting sunflower varieties to plant and date of planting, but as rule, test weight is not as big a concern as oil content or seed size.

Moisture content. The majority of Kansas sunflower is harvested at moisture levels near 9.0%, which according to the "Sunflower Production Handbook," is a safe level for storage. Discounts for moisture typically are only assessed at moisture levels above 10%. Thus moisture content is not a problem for High Plains producers in most years. But, when moisture levels exceed 10%, discounts will be applied either as a reduction in the price paid or as a reduction in the pounds paid for (in some contracts, the producer may be responsible for the cost of drying sunflower down to the 10% level). In addition, moisture levels in excess of 12% are often accepted only at the buyer's discretion.

Sunflower sales

Sunflower is priced on a hundredweight (cwt.) basis. The marketing alternatives 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 the four basic marketing alternatives, producers should note that sunflower markets are varied and that contracts, from processor to processor and from year to year, will also vary as sunflower market and crop conditions change.

Cash sales. Cash sales can be used to market both oil and confection sunflower and are handled in the same manner as most other Kansas crops. Producers 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 typically 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 and allow them complete freedom to produce the crop however they see fit. The forward cash contract price is set, but it is subject to premiums or discounts associated with 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 from the elevator or a neighbor to make delivery or can buy out the contract. This "buy out" or settlement price is the difference between the going market price at delivery and the forward cash contracted price. For example, if a producer forward cash contracted 10,000 lbs. of sunflower at $10.00 per cwt. for delivery in October, and then in October could not deliver the sunflower and prices were $12.00, they could "buy out" the contract for $2.00 per cwt. ($12 market price less the $10 FCC) for a total of $200.00. In the situation where prices are less than that contracted ($8.00/cwt.), the producer would likely have no problem fulfilling the obligations of the contract using lower priced sunflower from other growers. Note: A sample forward cash contract is reproduced on page 10.

Forward cash grower contracts (FCGC). This type of contract is typically used for specialty/niche crops such as confectionery (or high oleic oil) sunflower. Like straight forward cash contracts, forward cash grower contracts typically commit producers to deliver a preset number of pounds to the processing plant but FCGC's differ in four primary ways:

1. They are acreage contracts which state a minimum number of acres that the producer and processor agree should be planted in order to meet the pound commitment specified in the contract. In addition, production on the contracted acres over and above the pounds listed in the contract are also generally committed to the contracting processor at the cash price available at delivery.
2. Because of the importance of seed quality in specialty/niche markets, processors typically require the producer to purchase specific seed to be planted on the contracted acres. In addition, it should be noted that these processors often provide agronomic recommendations to help producers grow a high quality sunflower crop.
3. They often contain "Act of God" clauses, which excuse the producer from performance of the contract in instances where acts beyond the producer's control work to destroy the crop (fire, drought, accidents, etc.). This is in response to the fact that the sunflower being contracted for is often unique in quality and potentially not replaceable from the production of other growers. In addition, it represents an added risk that the processor assumes.
4. They are sometimes considered "buyer's call"

contracts, requiring producers 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.

Note: A sample forward cash grower contract appears in Appendix B on page 11.

Cross hedges. Hedging can be defined as "selling (buying) futures in advance of a later cash sale (purchase) of a commodity you produce (use) in your operation." For crop producers, it more specifically means selling futures in advance of later cash sales (when the crop is harvested and sold on the cash market, you buy the futures contract back). If the oilseeds market falls, your losses in the cash market are offset by gains in the futures market (sold high, bought low). If the oilseeds market rises, your losses in the futures market (sold low, bought high) are offset by gains in the cash oil sunflower market.

The key to hedging is basis, defined simply as the difference between cash and futures prices (for more information about basis, see "Basis: The Cash/Futures Price Relationship", Cooperative Extension Service, Kansas State University, MF-1003). When supply and demand factors affect both markets in similar and relatively predictable ways, basis is less variable and hedging can be successful. Wheat in Kansas can be hedged successfully because the same market fundamentals that affect Kansas City Board of Trade wheat futures will also affect local cash wheat prices, resulting in basis levels that from year to year are relatively predictable.

Hedging oil sunflower is different. Because there are no sunflower futures markets, sunflower producers must use Chicago Board of Trade (CBT) soybean oil futures, resulting in what is known as a "cross hedge." Cross hedging can be successful, but does increase basis risk compared to other commodity hedges. For example, while both sunflowerseed and soybean oil are part of the oilseeds complex, the same fundamentals that influence soybean oil do not always influence sunflowerseed oil in the same direction or magnitude. In fact, there may be short periods when sunflowerseed oil prices are moving in the opposite direction than soybean oil prices. There are several reasons for this, one of which is the variability of weather in the more concentrated sunflower growing regions versus the more widely dispersed growing regions in the world for soybeans. Another, is the variability in demand for different types of oil. All oilseeds are not perfect substitutes.

Another concern when cross hedging oil sunflower is the "hedge ratio." For most commodities, we assume a hedge ratio of 1.0. For example, to hedge 5,000 bushels of wheat, we use 5,000 bushels of KCBT wheat futures. But cash sunflower prices do not move one-for-one with soybean oil futures, thus a different ratio of sunflower pounds to oil futures pounds must be used. A ratio of 0.5 (120,000 lbs. of sunflower {80 acres at 1,500 lbs./ac.} for every 60,000 lb. CBT soybean oil futures contract) has in the past been used in the sunflower industry, but a North Dakota State University study found that a hedge ratio of 0.31, based on Duluth prices, is more effective. In addition, the study found that the optimum hedge ratio may vary significantly from year to year, further increasing basis risk.

Because of the basis variability associated with sunflower, cross hedges are clearly not perfect. Compounding this situation in Kansas is the recent opening of the crush plant in Goodland, which has caused a tremendous change—for the better—in the demand picture for Kansas sunflower. But because of this change, there is a lack of reliable sunflower price data, making analysis of price relationships impossible at this time. In summary, cross hedging is a marketing alternative that exists but producers should approach it with caution until more information and analysis can be done.

Sunflower market information

Information regarding sunflower prices is critical when making planting and marketing decisions. Purchasing elevators and plants will always provide their latest price quotes and forward bids, but other sources of sunflower price information include:

1. Federal State-Market News - This is a cooperative arrangement between the Kansas State Board of Agriculture and USDA's Grain and Market News Service. Its goal is to disseminate sunflower market information to Kansas and other High Plains producers. The "Kansas Sunflower and Canola Market Report," is gathered daily and put on the wire services each afternoon, where it can be picked up by newspapers, electronic data systems and other news organizations. The report contains price quotes from thirteen oil and four confectionery sunflower buyers in Kansas. Another USDA report, the "Weekly National Sunflower Summary" contains Kansas prices from the "Kansas Sunflower and Canola Market Report" along with price information from other states and is also available through the wire services.

2. Local and regional newspapers - Many newspapers quote local cash commodity prices. At this time, few newspapers in central and eastern Kansas list sunflower prices, but as sunflower acreage expands, more newspapers across Kansas will likely start. The key is for interested producers to contact their local papers and request that sunflower price information be listed along with other crop commodities. Once newspapers are aware of the need for this price information they will often work to publish it.

Developing a sunflower marketing plan

Marketing sunflower begins when the decision to plant is made. Producers must compare the profit potential not only of other crops but also of the different kinds of sunflower (confectionery, regular oil, high oleic oil, etc.). The focus should be on the prices available, the delivery grades and standards required, and the producer's ability to grow each type of sunflower. Typically, higher prices are associated with sunflower that have higher grade and quality standards. Producers must decide whether the premiums available offset the probability that less pounds of sunflower will be considered as deliverable quality.

Secondly, once the crop is harvested it is important to know the quality of sunflower you've produced. The highest quality sunflower should be delivered on the contract or to the buyer paying the highest premium for quality. In addition, knowing the quality of sunflower will enable you to shop around for the best markets for any uncontracted production. For example, low oil content sunflower may net a better price from birdseed packagers than from crushers.

Finally, as with marketing any crop, it is important to develop a sound marketing plan of action. Developing a sunflower marketing plan, should include five steps:

1. Gather

Gather the information necessary to make marketing decisions. Are you aware of current supply and demand fundamentals? Have you studied and/or collected sunflower prices for your area? How many buyers are there for the type of sunflower you're growing? Are there significant differences in transportation costs between the different buyers? What is your cost of production? Can you store your sunflower? What is your estimated storage costs per month? And finally, where do sunflower sales fit in your overall cashflow?

2. Think

Once the necessary information is gathered, think your plan through. What type of sunflower sales are best for you? How much of your expected production should you contract before harvest? How much should be priced at harvest, and how much should you store? What price level do you consider a "good" pricing opportunity? Make sure you integrate your sunflower marketing plan into your overall farm management plan. Think these things through early in the year, at a time when you're less likely to be affected by market or financial concerns.

3. Write

Write your marketing plan down! It may need to be updated as crop and market conditions change, but write it down so you'll be reminded of the sound and integrated plan you've developed.

4. Verbalize

Share your marketing ideas. It can often help to bounce your ideas off of someone else, your spouse, your County Extension Agent, a neighbor, or a lender.

5. Defend

Unless you're convinced that your sunflower marketing plan is sound for you and your operation, you'll never follow through. You must be able to state why your plan is best.

Sunflower and the government program[2]

Sunflower, for government program purposes, is classified as a minor oilseed, along with canola, flaxseed, mustard seed, rapeseed, safflower, and other oilseeds as determined by the Secretary of Agriculture (note: soybeans are considered an oilseed but not a minor oilseed).

Planting Provisions - Under the 1990 Farm Bill sunflower can be planted on:

Free acres—Those acres over and above a producer's total program crop acreage base.

Flex acres—Flex acres are determined as a percentage of a producer's crop acreage base. Normal flex acres are not eligible for deficiency payments accruing to program crops and can be planted to sunflower. If optional flex acres are planted to sunflower, those acres are no longer eligible for deficiency payments accruing to the program crop.

0/92 acres — Under this provision, producers can plant sunflower on payment acreage (calculated as a percentage of their crop acreage base) and receive up to 92% of the deficiency payments accruing to the program crop but lose eligibility to obtain an oilseed marketing loan. Producers can choose to retain marketing loan eligibility and give up the 0/92 deficiency payments.

Price support for minor oilseeds was provided under the 1990 Farm Bill for the first time. Separate marketing loans were established for both oil and confectionery sunflower, along with a 2% loan origination fee. Farmers can repay the loans at the lesser of the loan rate or the prevailing local posted county price (a world price adjusted for locational differences), as determined by the

[2]For more information regarding government program rules and regulations, contact your local Agricultural Stabilization and Conservation Service (ASCS) Office, or write to ERS-NASS, P.O. Box 1608, Rockville, MD 20849-1608 for a copy of, "The Basic Mechanisms of U.S. Farm Policy," Miscellaneous Publication, No. 1479, January 1990. Or, "The 1990 Farm Act and the 1990 Budget Reconciliation Act", Miscellaneous Publication, No. 1489, December 1990.

Secretary of Agriculture. To cut administrative costs, loan deficiency payments are available to producers who agree not to place their crop under loan. The loan deficiency payments are based on the difference between the loan rate and the local posted county price on the day the producer applies for the loan deficiency.

Export programs — Sunflower exports are primarily assisted through the following government export programs:

EEP	Export Enhancement Program,
SOAP	Sunflower Oil Assistance Program
Credits	Short term export credit guarantees (GSM/102/103)
PL-480	Food donations known as “Food for Peace”

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Appendix A — Sample forward cash contract

SAMPLE

FORWARD CASH CONTRACT

This agreement entered into this _____ day of _____, 91 ___, 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 an 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 option of:

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

b) Or he may 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 B— Sample forward cash grower contract

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 Growers agrees, that _____ acres, a at minimum, will be planted to cover the above stated contracted pounds. Grower agrees not to contract with any third party for production. If Grower's production on all acres exceeds the pounds states 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% dock for each 1% FM on total pounds up to a maximum of 12% FM. Then a 1.5% dock for each 1% FM over 12% and up to a maximum of 16%. Then a 2% dock for each 1% FM over 16% and up to a maximum allowable of 25% FM. Over 25% FM, Buyer's 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 Buyer's option.
   h. Moisture: 10% or less will be considered dry and have no dock. Dock will be a 2% dock on each 1% on total pounds of moisture percentages over 10% and up to a maximum allowable of 12%. Grower will also be liable for all drying and associated charges, including handling charges, on all moisture levels over 10%. Any moisture over 12%, Buyer's option.

Any load not meeting the above specifications may be rejected without canceling the contract in its entirety, or at Buyer's 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.
   c. 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 owned by Grower by Buyer.

THIS AGREEMENT WHEN SIGNED BY GROWER AND GROWER'S 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.

THE BUYER HAS SECURED INDEPENDENT BOND COVERAGE IN THE AMOUNT OF $300,000 FOR THE PROTECTION OF GROWER UNDER REGULAR DELAYED SETTLEMENT TERMS.

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

GROWER _____ DATE _____ LIENHOLDER_____

WITNESSED BY: _____ BY: CONFECTION PROCESSORS, INC. _____ DATE_____

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Kansas State University
Manhattan, Kansas

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