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## South Dakota Soybean Processors: Joint Ventures and Strategy

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### South Dakota Soybean Processors

Rodney Christianson, Chief Executive Officer (CEO) of South Dakota Soybean Processors (SDSP), was preparing information for his board of directors to consider. It was March 2002. For the past two years, various alternatives had been discussed. Their largest customer who purchased 85 percent of SDSP's crude soybean oil was building its own crushing plant to supply itself with crude soybean oil and would no longer need to purchase it from SDSP. Because SDSP did not own a vegetable oil refinery, it would need to find another customer for its crude soybean oil. Four alternatives had been discussed and each involved further investments in soybean crushing. However, additional soybean oil would be needed. The decision was to determine how to obtain the oil.

Rodney Christianson was well known in the oilseed industry. He had served as CEO of SDSP since its formation in 1996. Prior to that, he had worked for Cargill in their food, industrial, and oilseed sectors. He had also worked internationally in Brazil while at Cargill. Rodney had been part of the team that had constructed Cargill's sunflower plant in West Fargo, North Dakota. He was a Minnesota farm boy with a bachelor's degree in engineering from the University of North Dakota.

*"I grew up in Northern Minnesota on a farm. I went out and started work in '75 in the oilseed processing industry with Cargill Incorporated. I came to a point in my life that I could summarize it by saying I spent 20 years at home and 20 years with a great corporation — maybe it was time to get out on my own and try something. So at that point I was really looking to get into a smaller entrepreneurial type setting and was happy to come across South Dakota Soybean Processors. We talked and we liked each other and everything's grown since then."*

*--CEO, Rodney Christianson*

### Soybean Consumption and Markets

Soybean processing yields crude oil and meal. These two components have different markets. Soybean meal is used as an ingredient in animal feed rations due to its high protein content of 44 percent or higher compared to wheat and corn, which have about 9 percent protein. Poultry

accounted for 53 percent of all soybean meal consumed from 1995 to 2000 while swine consumed 30 percent and the rest was consumed by other animals. Poultry and pork consumption (exports and per capita domestic consumption) has risen steadily over the past five years.

Crude soybean oil is refined for use in processed foods such as margarine, salad dressings, and baked goods. Total soybean usage in frying and baking fats and oils grew from 2.3 billion pounds in 1976 to over 5 billion pounds in 2000 while soybean usage in salad and cooking fats and oils grew from 3.4 billion pounds to over 7.3 billion (Exhibits 1 and 2). On a per capita basis, this was 15.4 pounds in 1970 and 26.8 in 2000 for salad and cooking fats and oils and 10.5 pounds in 1970 and 20.8 in 2000 for frying and baking fats and oils. Putnam and Allshouse noted that per capita consumption almost doubled because manufacturers switched from using animal fats to vegetable fats. During the 1995 to 2000 time period, frying and baking fats and oils accounted for nearly 46 percent of soybean oil consumption; salad and cooking fats and oils accounted for 39 percent; and margarine accounted for 15 percent.

Soybeans were developed in China. It was not until 1904 when Dr. George Washington Carver researched their nutritional properties that they were used in the United States for food consumption. Worldwide, the consumption of edible oils and fats is now increasing at approximately 4 percent annually. This is due primarily to changes in tastes and preferences as incomes in Asia and South America increase. In addition, consumers are substituting vegetable oils for animal fats.

Soybeans also are used in the production of soy functional ingredients and nutraceuticals. Functional ingredients are food ingredients that perform specific functions in food manufacturing such as binding food products together, emulsifying products such as fats within chocolate, and enhancing the flavor of bakery products. Nutraceuticals are food ingredients that produce specific health benefits such as vitamin E.

**Exhibit 1. Fats and Oils used in Manufacturing, Million Pounds, 1976 to 2000**

Year	Soybean	Cottonseed	Corn	Olive	Other <sup>a</sup>	Total <sup>b</sup>
1976	3,349	380	294	62	327	4,412
1977	3,325	398	288	54	347	4,412
1978	3,825	446	297	62	294	4,924
1979	4,060	403	317	59	261	5,100
1980	4,042	460	350	58	257	5,167
1981	4,308	380	385	59	188	5,320
1982	4,383	416	352	64	235	5,450
1983	4,680	415	403	71	206	5,775
1984	4,563	378	474	87	187	5,689
1985	4,749	384	515	105	247	6,000
1986	4,761	403	484	114	306	6,068
1987	5,094	405	490	140	252	6,381
1988	4,918	642	580	179	180	6,499
1989	4,542	666	636	157	188	6,189
1990	4,662	460	636	213	172	6,143
1991	4,832	427	577	218	312	6,366

1992	4,931	374	586	253	402	6,546
1993	4,974	352	554	267	364	6,511
1994	5,218	285	423	278	376	6,580
1995	5,473	251	429	251	340	6,744
1996	5,508	242	432	248	287	6,717
1997	6,192	248	364	360	299	7,463
1998	6,200	178	393	364	362	7,497
1999	6,235	309	400	359	427	7,730
2000	7,361	304	502	459	566	9,192

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<sup>a</sup>Includes peanut and edible rapeseed

<sup>b</sup>Includes quantities of other fats and oils

Source: Putnam and Allshouse

**Exhibit 2. Frying Fats and Baking Oils used in Manufacturing, Million Pounds, 1976 to 2000**

Year	Soybean	Cottonseed	Lard	Tallow	Other <sup>a</sup>	Total <sup>b</sup>
1976	2,322	128	156	622	710	3,938
1977	2,279	160	185	748	483	3,855
1978	2,480	189	220	808	362	4,059
1979	2,680	169	316	713	335	4,213
1980	2,651	189	378	684	298	4,200
1981	2,767	136	315	724	362	4,304
1982	2,948	158	251	679	355	4,391
1983	2,914	139	277	632	419	4,381
1984	3,465	151	263	821	408	5,108
1985	3,625	173	289	1,015	462	5,564
1986	3,375	182	274	973	649	5,453
1987	3,434	136	224	890	619	5,303
1988	3,562	170	265	840	540	5,377
1989	3,509	192	295	752	590	5,338
1990	4,004	252	264	637	527	5,684
1991	4,152	260	274	460	621	5,767
1992	4,140	241	310	427	643	5,761
1993	4,951	266	296	404	627	6,544
1994	4,929	216	287	405	528	6,365
1995	4,673	212	325	374	447	6,031
1996	4,690	237	284	320	404	5,935
1997	4,517	256	272	312	322	5,679
1998	4,748	200	280	259	262	5,749
1999	5,069	167	241	262	229	5,968
2000	5,714	166	239	284	214	6,617

<sup>a</sup>Includes corn and palm oils

<sup>b</sup>Includes small quantities of other fats and oils

Source: Putnam and Allshouse

## **The Soybean Processing Industry**

The soybean processing chain was divided into distinct stages including soybean production, crushing (sometimes called processing), and soybean oil refining. One bushel of soybeans typically yields about 44 pounds of meal, 11 pounds of oil, and 4 pounds of soybean hulls. The soybean oil is typically the most valuable followed by the soybean meal and soybean hulls.

### **Soybean Production**

Soybeans were produced in the central U.S. and were typically planted in a rotation of soybeans in one year followed by corn in the next year. This was done to break up plant and insect diseases. Brazil, China, and Argentina were three other countries that produced large amounts of soybeans. Soybean crushing plants were typically located near production areas. Because soybean meal was the chief product produced from soybeans, plants were also located near areas where there was significant poultry and swine production to reduce transportation costs. Soybean oil refineries were typically located near processing plants to further reduce the costs of shipping the oil.

U.S. soybean acreage had almost doubled since 1970 (Exhibit 3). In particular, since the passage of the 1996 FAIR Act, which uncoupled farm subsidies from a requirement to plant certain crops, soybean acreage had grown rapidly. Much of this acreage had come in places where farmers switched from lesser-valued crops such as wheat in states like Kansas, North Dakota, and South Dakota. Some of this was due to a more favorable loan rate for soybeans relative to other crops. Yields had also increased due to improved planting practices and other production improvements.

### **Soybean Crushing**

Historically, 55 to 60 percent of total soybean production in the United States is crushed in a year. Another 25 to 30 percent is exported and the remainder is used as seed, feed, and other residual uses (Exhibit 4). With regard to crushed soybeans, approximately 75 percent of soybean meal is fed domestically and the remainder is exported annually (Exhibit 5). Soybeans are cleaned and cracked into four to eight pieces to release the meat of the soybean. Then the hull is removed using a grain dryer and cleaning system. The soybean meat is then heated to about 170 degrees and rolled through a mill to produce flakes. This process releases the oil from the meat. The oil is processed and stored while the soybean meal is ground and stored.

There were 15 companies that crushed soybeans at 64 plants (several of these plants are currently idle) in the United States in 2002. Four of these were new entrants that had built plants since 1996. Five firms controlled 86 percent of per bushel daily capacity. These were Archer Daniels Midland Company (ADM), Cargill, Ag Processing, Inc. (AGP), Central Soya, and Bunge (Exhibit 6).

The industry is highly competitive and firms compete on price, transportation costs, service, and product quality. Several firms are global in scope and compete multinationally. It is expected that demand will grow to an additional 1.7 million bushels of daily capacity by 2020, which means that existing firms or new entrants will build additional capacity.

**Exhibit 3. Number of Acres Planted, Average Yield per Acre, and Average Price per Bushel for U.S. Soybeans, 1968 to 2001**

Year	Acres	Yield	Price
1968	42,265	26.7	2.43
1969	42,534	27.4	2.35
1970	43,082	26.7	2.85
1971	43,476	27.5	3.03
1972	46,866	27.8	4.37
1973	56,549	27.8	5.68
1974	52,479	23.7	6.64
1975	54,590	28.9	4.92
1976	50,269	26.1	6.81
1977	58,978	30.6	5.88
1978	64,708	29.4	6.66
1979	71,411	32.1	6.28
1980	69,930	26.5	7.57
1981	67,543	30.1	6.07
1982	70,884	31.5	5.71
1983	63,779	26.2	7.83
1984	67,755	28.1	5.84
1985	63,145	34.1	5.05
1986	60,405	33.3	4.78
1987	58,180	33.9	5.88
1988	58,840	27.0	7.42
1989	60,820	32.3	5.69
1990	57,795	34.1	5.74
1991	58,250	34.2	5.58
1992	59,180	37.6	5.56
1993	60,085	32.6	6.40
1994	61,620	41.4	5.48
1995	62,495	35.3	6.72
1996	64,195	37.6	7.35
1997	70,005	38.9	6.47
1998	72,025	38.9	4.93
1999	73,730	36.6	4.63
2000	74,266	38.1	4.55
2001	75,216	39.2	4.35

Source: USDA National Agricultural Statistics Service

**Exhibit 4. Supply and Disappearance of Soybeans in the United States, Million Pounds,  
1968 to 2001**

	<u>Supply</u>			<u>Disappearance</u>			
	Beginning Stocks	Production	Total	Crush	Exports	Seed, Feed, and Residual	Total
1968	166	1,107	1,273	606	287	53	946
1969	327	1,133	1,460	737	433	58	1,228
1970	230	1,127	1,357	760	434	64	1,258
1971	99	1,176	1,275	721	417	65	1,203
1972	72	1,271	1,343	722	479	82	1,283
1973	60	1,548	1,608	821	539	77	1,437
1974	171	1,216	1,387	701	421	77	1,199
1975	188	1,549	1,737	865	555	71	1,491
1976	245	1,289	1,534	790	564	77	1,431
1977	103	1,767	1,870	927	700	82	1,709
1978	161	1,869	2,030	1,018	739	97	1,854
1979	176	2,261	2,437	1,123	875	81	2,079
1980	358	1,798	2,156	1,020	724	99	1,843
1981	313	1,989	2,302	1,030	929	89	2,048
1982	254	2,190	2,444	1,108	905	86	2,099
1983	345	1,636	1,981	983	743	79	1,805
1984	176	1,861	2,037	1,030	598	93	1,721
1985	316	2,099	2,415	1,053	741	85	1,879
1986	536	1,943	2,479	1,179	757	107	2,043
1987	436	1,938	2,374	1,174	804	95	2,073
1988	302	1,549	1,851	1,058	527	88	1,673
1989	182	1,924	2,106	1,146	622	102	1,870
1990	239	1,926	2,165	1,187	557	96	1,840
1991	329	1,987	2,316	1,254	684	103	2,041
1992	278	2,190	2,468	1,279	771	128	2,178
1993	292	1,870	2,162	1,276	588	95	1,959
1994	209	2,515	2,724	1,405	840	149	2,394
1995	335	2,174	2,509	1,370	849	111	2,330
1996	183	2,382	2,565	1,436	886	118	2,440
1997	132	2,703	2,835	1,597	874	155	2,626
1998	200	2,741	2,941	1,590	805	202	2,597
1999	348	2,654	3,002	1,578	973	165	2,716
2000	290	2,758	3,048	1,641	998	165	2,804
2001	248	2,923	3,175	1,665	980	173	2,818

Source: Bureau of the Census

**Exhibit 5. Supply and Disappearance of Soybean Meal in the United States, Million Pounds, 1970 to 2001**

	<u>Supply</u>			<u>Disappearance</u>			Price <sup>a</sup>
	Beginning Stocks	Production	Total	Domestic	Exports	Total	
1970	137	18,035	18,172	13,467	4,559	18,026	84.33
1971	146	17,024	17,170	13,173	3,805	16,978	98.20
1972	192	16,709	16,901	12,160	4,558	16,718	253.42
1973	183	19,674	19,857	13,792	5,558	19,350	160.57
1974	507	16,702	17,209	12,552	4,299	16,851	141.26
1975	358	20,754	21,112	15,612	5,145	20,757	157.68
1976	355	18,488	18,843	14,056	4,559	18,615	218.73
1977	228	22,371	22,599	16,276	6,080	22,356	179.45
1978	243	24,354	24,597	17,720	6,610	24,330	206.18
1979	267	27,105	27,372	19,214	7,932	27,146	197.05
1980	226	24,312	24,538	17,591	6,784	24,375	235.13
1981	163	24,634	24,797	17,714	6,908	24,622	196.62
1982	175	26,714	26,889	19,306	7,109	26,415	200.94
1983	474	22,756	23,230	17,615	5,360	22,975	203.21
1984	255	24,529	24,784	19,480	4,917	24,397	136.40
1985	387	24,951	25,338	19,090	6,036	25,126	166.20
1986	212	27,758	27,970	20,436	7,295	27,730	177.31
1987	240	28,060	28,300	21,323	6,824	28,147	239.35
1988	153	24,943	25,113	19,498	5,442	24,940	252.40
1989	173	27,719	27,928	22,291	5,319	27,610	186.48
1990	318	28,325	28,688	22,934	5,469	28,403	181.40
1991	285	29,831	30,183	23,008	6,945	29,953	189.20
1992	230	30,364	30,687	24,251	6,232	30,483	193.75
1993	204	30,514	30,788	25,283	5,356	30,638	192.86
1994	150	33,265	33,479	26,538	6,717	33,256	162.55
1995	223	32,527	32,826	26,611	6,002	32,613	236.00
1996	212	34,211	34,525	27,321	6,994	34,314	270.90
1997	210	38,176	38,442	28,894	9,330	38,224	185.28
1998	218	37,797	38,114	30,662	7,122	37,784	138.55
1999	330	37,591	37,970	30,346	7,331	37,677	167.70
2000	293	39,389	39,733	31,713	7,636	39,350	173.60
2001	386	39,839	40,275	32,350	7,650	40,000	168.00

<sup>a</sup>Decatur, IL price for 48% protein (\$ per hundredweight)

Source: Bureau of the Census

**Exhibit 6. Capacity of U.S. Soybean Crushers in 2002, Measured in Bushels per Day**

Processor	Crush Capacity
ADM	1,605,000
Cargill	1,185,000
Bunge	750,000
AGP	630,000
Central Soya	485,000
Perdue	165,000
Owensboro	120,000
CHS Cooperatives	120,000
South Dakota Soybean Processors	80,000
Incobrasa	70,000
Riceland	65,000
CGB	65,000
Creston Cooperative	27,000
Rose Acre	25,000
Zelland Farms	25,000
Total	5,417,000

**Soybean Oil Refining**

In any given year, approximately 80 percent of the soybean oil was used domestically with the remainder being exported (Exhibit 7). Over 96 percent of all soybean oil was used in food products with the remainder being used in industrial applications. However, crude soybean oil had to be refined before being used in food manufacturing. Oil refineries were also able to process other oils such as sunflower, canola, cotton, peanut, and flaxseed. Refining involved removing acids, phosphatides, waxes, and oxidized components in order to make the oil suitable for consumption.

Since 1980, soybean crushers have acquired or built vegetable oil refineries such that soybean crushers now own 84 percent of the vegetable oil capacity. The top four firms (ADM, Cargill, Bunge, and AGP) had 66 percent of U.S. vegetable oil refining capacity in 2002 (Exhibit 8). ADM, Cargill, and AGP were fairly balanced between crude soybean production and refining capacity such that they did not sell much crude oil to oil refiners. Three of the soybean crushing firms had more refining capacity than their oil production capacity and hence, purchased crude soybean oil on the open market. For example, CHS Cooperatives purchased almost 60 percent of its crude soybean oil from other sources.

The majority of soybean oil was degummed whereby the oil was processed through a centrifuge and the gums were separated from the oil. The gum was used in products such as lecithin. The majority of vegetable oil exports were degummed.

**Price Volatility**

A well-established cash and futures market (Chicago Board of Trade) exists for soybeans, soybean meal, and soybean oil. Thus, crushers and refiners hedge their prices for soybeans against soybean oil and meal. Firms sell a soybean futures contract when soybeans are purchased and buy soybean meal and soybean oil futures contracts when cash sales of those two products

occur. This enables firms to reduce their price risk. Typically the price of soybean oil is about twice that of soybean meal.

**Exhibit 7. Supply and Disappearance of Soybean Oil in the United States, Million Pounds, 1970 to 2001**

Year	Beginning Stocks	Supply			Disappearance		Price <sup>a</sup>
		Production	Total	Domestic	Exports	Total	
1970	543	8,265	8,808	6,292	1,743	8,035	12.84
1971	773	7,892	8,665	6,482	1,398	7,880	11.27
1972	785	7,501	8,286	6,704	1,066	7,770	16.46
1973	516	8,995	9,511	7,282	1,436	8,717	31.53
1974	794	7,375	8,169	6,580	1,028	7,608	30.69
1975	561	9,630	10,191	7,964	976	8,940	18.30
1976	1,251	8,578	9,829	7,511	1,547	9,058	23.87
1977	771	10,288	11,059	8,273	2,057	10,330	24.51
1978	729	11,323	12,052	8,942	2,334	11,276	27.15
1979	776	12,105	12,881	8,981	2,690	11,671	24.32
1980	1,210	11,270	12,480	9,113	1,631	10,744	22.73
1981	1,736	10,979	12,715	9,536	2,077	11,612	18.95
1982	1,103	12,040	13,143	9,857	2,025	11,882	20.62
1983	1,261	10,872	12,133	9,588	1,824	11,412	30.55
1984	721	11,468	12,209	9,917	1,660	11,577	29.51
1985	632	11,617	12,257	10,053	1,257	11,310	18.00
1986	947	12,783	13,745	10,833	1,187	12,020	15.40
1987	1,725	12,974	14,895	10,930	1,873	12,803	22.67
1988	2,092	11,737	13,967	10,591	1,661	12,252	21.10
1989	1,715	13,004	14,741	12,083	1,353	13,436	22.30
1990	1,305	13,408	14,730	12,164	780	12,944	21.00
1991	1,786	14,345	16,132	12,245	1,648	13,893	19.10
1992	2,239	13,778	16,028	13,054	1,419	14,473	21.40
1993	1,555	13,951	15,574	12,941	1,529	14,471	27.10
1994	1,103	15,613	16,733	12,916	2,680	15,597	27.60
1995	1,137	15,240	16,472	13,465	992	14,457	24.75
1996	2,015	15,752	17,821	14,264	2,037	16,300	22.50
1997	1,520	18,143	19,723	15,264	3,077	18,341	25.80
1998	1,382	18,105	19,565	15,550	2,425	17,975	19.90
1999	1,590	18,340	19,995	15,900	2,000	17,900	15.60
2000	1,520	17,825	19,427	16,056	1,376	17,432	14.15
2001	1,995	18,433	20,502	16,218	1,406	17,624	

<sup>a</sup>Decatur, IL price, cents/lb

Source: Bureau of the Census

**Exhibit 8. Capacity of U.S. Vegetable Oil Refiners in 2002, Measured in Million Pounds per Day**

Refiner	Refining Capacity
ADM <sup>a</sup>	20,700,000
Cargill <sup>a</sup>	12,480,000
Bunge <sup>a</sup>	7,560,000
AGP <sup>a</sup>	6,960,000
AC Humko	4,020,000
Central Soya <sup>a</sup>	3,960,000
CHS Cooperatives <sup>a</sup>	3,960,000
Procter & Gamble	2,880,000
Con Agra	1,800,000
Owensboro Grain <sup>a</sup>	1,680,000
Perdue Farms <sup>a</sup>	1,560,000
Golden Food	1,440,000
Riceland <sup>a</sup>	1,080,000
Plains Cooperative	960,000
California Oil	720,000
Total	71,760,000

<sup>a</sup>Denotes an oil refiner that is also a soybean crusher

In addition, firms place a board margin whereby soybean futures are purchased and soybean oil and meal futures are sold at a prearranged relationship to one another. This board margin is liquidated when purchases and sales were made. The relationship between soybean, soybean meal, and soybean oil prices is shown in Exhibit 9. The price spread has narrowed since 1998 primarily due to new entrants and competition.

**Competition in the Soybean Crushing and Oil Refining Industry****Archer Daniels Midland Company (ADM)**

ADM was incorporated in 1923 as the successor to the Daniels Linseed Co., which was founded in 1902. ADM is involved in procuring, transporting, storing, processing and merchandising agricultural commodities and products. It was one of the world's largest processors of oilseeds, corn and wheat (Exhibit 10). The company also processed rice, milo, oats, barley, peanuts and cane sugar. Other operations included transporting, merchandising and storing agricultural commodities and products. It is also the world's largest producer of soy proteins and lecithins with almost 30 percent market share. It operated 17 soybean-crushing plants and 13 vegetable oil refineries in the United States.

**Exhibit 9. Annual Value of Products per Bushel of Soybeans Processed, and Spot Price Spread, 1988/89-2000/01 Marketing Years**

Year	Value of products per bushel						% of value				
	Soybean oil <sup>a</sup>		Soybean meal <sup>b</sup>				Total, \$	Soybean		Illinois Price	Price Spread
Yield, lbs	Price, cents	Value, \$	Yield, lbs	Price, \$	Value, \$	Oil		Meal			
1988/89	11.16	21.66	2.42	47.43	256.50	6.08	8.50	0.28	0.72	7.53	0.97
1989/90	11.17	21.80	2.44	47.63	190.22	4.53	6.97	0.35	0.65	5.96	1.01
1990/91	11.23	21.31	2.39	47.47	180.19	4.28	6.67	0.36	0.64	5.90	0.77
1991/92	11.42	19.31	2.21	47.51	190.65	4.53	6.73	0.33	0.67	5.84	0.89
1992/93	10.84	20.96	2.27	47.54	192.68	4.58	6.85	0.33	0.67	5.95	0.90
1993/94	10.87	26.78	2.91	47.62	194.98	4.64	7.55	0.39	0.61	6.59	0.96
1994/95	11.08	27.70	3.07	47.33	162.03	3.83	6.90	0.44	0.56	5.73	1.18
1995/96	11.15	24.89	2.78	47.69	227.95	5.44	8.21	0.34	0.66	7.39	0.82
1996/97	10.91	22.49	2.45	47.37	259.87	6.15	8.61	0.29	0.71	7.55	1.06
1988/89	11.16	21.66	2.42	47.43	256.50	6.08	8.50	0.28	0.72	7.53	0.97
1989/90	11.17	21.80	2.44	47.63	190.22	4.53	6.97	0.35	0.65	5.96	1.01
1990/91	11.23	21.31	2.39	47.47	180.19	4.28	6.67	0.36	0.64	5.90	0.77
1991/92	11.42	19.31	2.21	47.51	190.65	4.53	6.73	0.33	0.67	5.84	0.89
1992/93	10.85	20.96	2.27	47.54	192.68	4.58	6.85	0.33	0.67	5.95	0.90
1993/94	10.87	26.79	2.91	47.82	194.98	4.64	7.55	0.38	0.61	6.59	0.96
1994/95	11.09	27.70	3.07	47.33	162.03	3.83	6.90	0.44	0.56	5.73	1.18
1995/96	11.18	24.89	2.78	47.69	227.95	5.44	8.22	0.34	0.66	7.39	0.83
1996/97	10.91	22.60	2.47	47.36	270.74	6.41	8.88	0.28	0.72	7.80	1.08
1997/98	11.25	25.65	2.88	47.41	197.40	4.68	7.56	0.38	0.62	6.64	0.92
1998/99	11.30	20.57	2.32	47.25	137.31	3.24	5.57	0.42	0.58	5.00	0.57
1999/00	11.34	15.81	1.79	47.76	158.04	3.77	5.57	0.32	0.68	4.90	0.66
2000/01	11.24	13.99	1.57	48.01	166.79	4.00	5.58	0.28	0.72	4.77	0.80

<sup>a</sup>Crude, tanks, f.o.b. Decatur.

<sup>b</sup>48 percent (solvent), Decatur.

**Exhibit 10. ADM's Selected Financial Data (in millions of \$US), 1997 to 2001**

	1997	1998	1999	2000	2001	2002
Net Revenue	18,104	19,832	18,509	18,612	20,051	20,454
Net Income	377	404	266	301	383	511
Earnings per Share	0.55	0.59	0.39	0.45	0.58	0.78
Total Assets	11,354	13,834	14,030	14,472	14,340	15,416
Long-Term Debt	2,345	2,847	3,192	3,277	3,351	3,111
Stockholder's Equity	6,050	6,505	6,241	6,110	6,332	6,755

**Cargill**

Cargill ranked fourth in sales among food and beverage companies (behind Philip Morris, Con Agra, and PepsiCo). It was a marketer, processor, and distributor of agricultural, food, financial, and industrial products and services (Exhibit 11). It also was the United States' largest grain exporter. Many of Cargill's products were bulk commodities. Consequently, Cargill had developed a vast transportation and distribution network that enabled it to provide low-cost

industrial and food products to processors and other customers. It operated 13 soybean-crushing plants and 7 vegetable oil refineries in the United States. It announced in March 2002 that it was building a soybean protein plant in Ohio.

**Exhibit 11. Cargill Selected Financial Data (in millions of \$US), 1997 to 2001**

	1997	1998	1999	2000	2001	2002
Net Revenue	55,695	51,418	45,697	47,602	49,204	50,826
Net Income	814	468	597	480	358	827
Earnings per Share <sup>a</sup>	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Total Assets	23,421	27,069	24,577	24,168	26,803	29,487
Long-Term Debt <sup>a</sup>	n.r.	n.r.	n.r.	n.r.	n.r.	n.r.
Stockholder's Equity	6,592	6,836	7,592	7,888	7,524	8,143

<sup>a</sup>Not reported as Cargill is privately held and only releases selected financial information

**Bunge**

Bunge was founded in early 19th-century Amsterdam as a grain trader. Since then, Bunge built an international company and moved its headquarters to Brazil and expanded into North America, Asia and Australia (Exhibit 12). They are the largest soybean crusher in Argentina and a major producer of isolated soy protein, which are used in soy functional ingredients and nutraceuticals. In the 1990s, Bunge focused strategically on food production and moved its headquarters to White Plains, NY, in 1999. It operated seven soybean-crushing plants and five vegetable oil refineries in the United States. In 2002, it acquired Cereol which would make it the world's largest oilseed processor.

**Exhibit 12. Bunge's Selected Financial Data (in millions of \$US), 1997 to 2001**

	1997	1998	1999	2000	2001
Net Revenue	7,484	9,103	8,075	9,667	11,484
Net Income	83	92	(5)	12	134
Earnings per Share	1.29	1.43	-0.08	0.19	1.8
Total Assets	6,092	5,814	4,611	5,854	5,443
Long-Term Debt	1,735	1,210	1,121	1,257	1,010
Stockholder's Equity	1,453	1,495	1,197	1,139	1,376

**Agricultural Processing, Inc (AGP)**

AGP was formed in 1983 and is owned by 243 local cooperatives and eight regional cooperatives (including CHS Cooperatives) that represent more than 250,000 farmers in North America (Exhibit 13). It operates a unique Soybean Component Premium Program that bases producer payments on the protein and oil content in their soybeans. It operated nine soybean-crushing plants and four oil refineries in the United States.

**Central Soya**

Central Soya is owned by Cereol, a large European food company, and was originally founded in 1934. In 1987, it was purchased by Cereol who is also the world leader in soy protein and lecithin production (Exhibit 14). It operated six crushing plants and three oil refineries in the United States.

**Exhibit 13. AGP's Selected Financial Data (in millions (\$US), 1997 to 2001)**

	1997	1998	1999	2000	2001
Net Revenue	2,948	2,615	2,094	1,962	1,789
Net Income <sup>a</sup>	40.4	57.5	19.2	20.9	46
Earnings per Share <sup>b</sup>	n.a.	n.a.	n.a.	n.a.	n.a.
Total Assets	762	749	789	798	706
Long-Term Debt	78	68	95	95	95
Stockholder's Equity	327	354	368	375	387

<sup>a</sup>Before taxes<sup>b</sup>As a cooperative, this information is not applicable**Exhibit 14. Cereol (Central Soya) Selected Financial Data (in millions of EUR), 1997 to 2001**

	1997 <sup>a</sup>	1998	1999	2000
Net Revenue	n.a. <sup>a</sup>	4,914	4,317	4,765
Net Income	n.a. <sup>a</sup>	94.8	19.6	2.6
Earnings per Share <sup>b</sup>	n.r. <sup>b</sup>	n.r. <sup>b</sup>	n.r. <sup>b</sup>	n.r. <sup>b</sup>
Total Assets	n.a. <sup>a</sup>	654	2,536	2,746
Long-Term Debt	n.a. <sup>a</sup>	663	731	844
Stockholder's Equity	n.a. <sup>a</sup>	826	886	908

<sup>a</sup>Data is not available for 1997 or 2001 (acquired by Bunge)<sup>b</sup>Not reported**CHS Cooperatives**

CHS Cooperatives was formed from the merger of Harvest States Cooperatives and Cenex, Inc. in 1998 (Exhibit 15). It is a regional cooperative owned by farmers, ranchers, and local co-ops in the United States. Cenex supplied farm inputs such as petroleum and agronomy supplies to its members while Harvest States Cooperatives marketed grain and oilseeds. It also processed grain into flour and oilseeds into meal and oil. It owned one soybean crushing plant and two vegetable oil refineries.

**Exhibit 15. CHS Cooperatives Selected Financial Data (in millions of \$US), 1997 to 2001**

	1997	1998	1999	2000	2001
Net Revenue	9,732	8,410	6,381	8,498	7,753
Net Income	151.9	177.3	86	87	178.6
Earnings per Share	n.a. <sup>a</sup>	n.a.	n.a.	n.a.	n.a.
Total Assets		2,469	2,788	3,173	3,057
Long-Term Debt		443	461	480	542
Stockholder's Equity	945	1,030	1,118	1,164	1,261

<sup>a</sup>As a cooperative, this information is not applicable.**South Dakota Soybean Processors**

South Dakota Soybean Processors (SDSP) was formed in 1993 with the purpose of building a soybean crushing facility in South Dakota. At that time, the state produced about 90 million bushels of soybeans annually and all were shipped to other states for processing. The rationale for building a plant in South Dakota was to 1) lower the costs of soybean meal to livestock producers in the area as almost 40 percent of the soybean meal produced from the 90 million

bushels of soybeans was ultimately shipped back for use in feed rations and 2) increase the local price of soybeans by creating a local market for soybeans.

Other soybean processors had been contacted first about building a plant, but no company expressed any interest. A group of producers formed the cooperative and developed a plan to build and operate a soybean crushing plant. Over 2,100 producers invested in the cooperative. Four locations were considered for a plant, which was to be the first new plant built since 1978 in the United States. Ultimately, the board of directors decided to build a plant in Volga, South Dakota in 1995. Volga is 30 miles from the Minnesota border and five miles from Brookings. Production within a 50-mile radius of the plant's location was approximately 45 to 50 million bushels annually, which was more than twice the plant's capacity in 1995. SDSP's mission statement was relatively succinct.

*South Dakota Soybean Processors is a value added cooperative of agricultural producers with emphasis on adding value to soybeans. Our goal is to be financially strong and make a maximum value added payment to our members while maintaining growth and capital stock. South Dakota Soybean Processors will maintain a competitive position in the market place by providing quality products to our customers with highly efficient and cost effective processes.*

*South Dakota Soybean Processors will ensure success through teams of dedicated and competent directors and associates. We will seek to meet the needs of our members in a friendly and professional manner, and to listen to suggestions from members, associates, and customers.*

Early on, the Board helped develop several basic beliefs. These were that South Dakota Soybean Processors should be financially strong with a solid equity position and pay back 70 percent of its profits in cash.

South Dakota Soybean Processors was organized as a cooperative. Cooperatives were a unique organization form compared to C corporations, limited liability companies, partnerships and proprietorships. Cooperatives were common in agriculture-related industries, but much less common in other industries. Non-agricultural cooperatives included credit unions, mutual insurance companies, rural electric utilities, and telephone cooperatives. Essentially, cooperatives were business organizations whose members were also the users of the cooperative's business or services.

In SDSP's case, soybean producers were the users. The users were the voting members who controlled the co-op, the owners who provided the equity capital, and the patrons who received the benefits of use including (1) a market or buyer for their soybeans and (2) a share of the profits based on use or patronage. Profits or net income was usually distributed as patronage refunds per bushel.

It was organized as a closed-membership cooperative. Members were required to purchase one share of stock for each bushel of soybeans that were to be delivered to the plant with a minimum purchase of 2,500 shares. Each share purchased obligated the producer to deliver one bushel of soybeans annually. However, since not all of the equity shares (called equity units by SDSP) had been sold, producers were required to supply soybeans at some prorated rate. For example, in 2002, 14,129,250 shares had been sold, which would mean that only that many bushels were

committed to the plant if the 1 share:1 bushel ratio held. Instead, producers would supply 28 million bushels or about two bushels per share of stock. Over nine million shares were sold originally with an average investment of 10,000 shares per producer and an average price of \$2.19 per bushel. (Stock shares were sold at a price of \$2.00, \$2.25, and \$2.50 per share).

Each member of the cooperative had one vote on all matters. Membership had to be comprised of at least 85 percent active producers, which included landlords and tenants. Shareholders could transfer the stock to immediate family members; a farm family corporation or partnership in which the member was a shareholder; a new entity formed from a merger; or an owner, partner, or shareholder of a dissolved partnership. Only existing members could purchase additional stock in SDSP.

A 21-member board of directors represented the members and were elected to three-year terms from districts that were proportional to the geographical location of members. There were three directors per district. Four districts were in South Dakota, two were in Minnesota, and one represented all other members not located in these six districts.

### **Plant Description**

SDSP began operations in late 1996. It owned and operated a state-of-the-art soybean crushing plant in Volga, South Dakota. The plant was built to crush 16 million bushels annually and has since expanded to 28 million bushels. In 1997, SDSP crushed 13.453 million bushels and this had increased to 21.15 million in 1998, 24.15 million in 1999, 26.25 million in 2000, and 26.8 million in 2001. The expansion in 1998 cost \$1.8 million and was funded primarily through earnings generated in 1997. SDSP processes local soybeans into soybean meal, crude soybean oil, and soybean hulls. This results in an annual production of about 600,000 tons of soybean meal, 157,000 tons of crude oil, and 49,000 tons of soybean hulls.

*“The business has gone through consolidation and has been down for a long time. Before 1996 when SDSP was formed, the top five processors controlled 86% of the industry and there were 12 companies. Since South Dakota Soybean Processors was formed, we have seen a lot of growth. It was spurred because of the farm program and increased soybean acreage being formed. Five new companies with a stand-alone plant have come into the market since 1996. We represent less than one percent of the U.S. crushing capacity.”*

*--CEO, Rodney Christianson*

The plant is located on 47 acres east of Volga and SDSP has an option to purchase an additional 60 acres. The plant can currently process about 80,000 bushels per day and has historically run at 88 to 95 percent of capacity. The plant generally runs at full capacity from December through May and then undergoes two weeks of maintenance.

Most of the soybeans are trucked to the plant and about 75 percent comes directly from producer-members. Trucks are weighed and then sent to one of two receiving lines that can process 15,000 bushels per hour. The soybeans are sampled and graded for moisture, foreign material, and other quality discounts. The plant had capacity to store 1.5 million bushels of soybeans or about four weeks of operations. There were 5,000 tons of storage for soybean meal (about three days of operations) and 30 million pounds of storage for soybean oil.

SDSP also has a unique relationship with the Chicago Board of Trade. It has two long-term storage tanks that store oil, which have been delivered to the Board of Trade and are owned by the warehouse receipt holders who pay a daily storage fee of \$0.00003 per pound.

About 55 percent of the soybean meal, oil, and hulls are shipped via truck while the remainder is shipped via rail. Almost 70 percent of the oil is shipped via rail. Almost 300 hopper cars are leased for the shipment of meal and hulls and another 10 tanker cars are leased for soybean oil.

### **Market Segments**

Soybean meal was used as a high protein livestock feed or as an ingredient to livestock feed. The climate in South Dakota and the western Corn Belt, in general, yielded a lower protein soybean. When processed, South Dakota soybeans typically had a 47 percent protein soybean meal compared to the industry standard of 48 percent protein meal. Thus, SDSP's soybean meal sold at a discount to 48 percent protein meal. There was a market for low protein soybean meal (44 percent soybean meal), which meant blending 47 percent soybean meal with soybean hulls. However, this market was small and it was expected that SDSP had to increase its soybean meal percentage to the industry standard of 48 percent in the future.

South Dakota Soybean Processors was actively involved with agronomists and soybean breeders in an attempt to improve varieties with greater protein. Approximately one-third of the soybean meal was exported with the remainder being sold in South Dakota (27 percent) and the rest of the United States (40 percent). The largest customer was Commodity Specialists who resold the soybean meal to others. CHS Cooperatives, Land O'Lakes, and Purina purchased another 15 percent. The market for soybean meal has a high price elasticity of demand, so volume discounts were often used.

Soybean hulls were blended with higher protein soybean meal to produce a 44 percent soybean meal or sold separately in pellets or loose form for use in livestock diets. Pelleting enabled the hulls to be shipped further distances to direct on-farm users. The majority of soybean hulls (75 percent) were sold in South Dakota with the remainder being sold in the United States. Large dairies and feedlots were the largest purchasers of soybean hulls. Pelleted soybean hulls had a \$5 to \$10 premium due to the ease of handling and transportation.

Soybean oil was delivered to the Chicago Board of Trade, sold to vegetable oil refiners for packaging into food fats and oils, or processed with other chemicals to form polyurethane. Almost all of the soybean oil (85 percent) was sold in Minnesota (97 percent) to CHS Cooperatives who had an oil refinery in Mankato. This location was only 160 miles from Volga. However, CHS Cooperatives had begun building a soybean crushing plant and oil refinery near Fairmont, Minnesota (about halfway between Volga and Mankato) and would significantly reduce their outside purchases of soybean oil.

### **Financial Performance**

*“Anything that we do, first of all we have to pass the test — do we remain financially strong or do we get better financially because of what we’re going to do? If we make this investment, will it then allow us to pay a larger value-added payment?”*

*--CEO Rodney Christianson*

South Dakota Soybean Processors had been profitable since its formation (exhibits 16 to 18). It had paid back producers approximately 70 percent of all income each year, retained about 15 percent to be paid back in future years, and kept 15 percent for future growth as retained earnings. Its stock share price had traded locally at \$2.49 in 1998, \$2.86 in 1999, \$3.03 in 2000, and \$2.67 in 2001. In addition, the local basis for soybeans had narrowed by about \$0.25 per bushel since the plant had opened.

**Exhibit 16. South Dakota Soybean Processors Statements of Operations, Years Ended August 31, 1998-2001**

	1998	1999	2000	2001
Bushels Processed	21,722,885	24,150,363	26,250,016	26,803,782
Net Revenue	157,344,377	134,167,994	134,669,671	147,746,720
Cost of Revenue				
Cost of Product Sold	135,168,038	115,139,175	117,199,909	120,025,911
Freight and Rail	5,036,167	5,922,369	6,911,644	8,991,399
Brokerage Fees	472,296	331,533	350,349	312,578
Total Cost of Revenue	140,676,501	121,393,077	124,461,902	129,329,888
Gross Proceeds	16,667,876	12,774,917	10,207,769	18,416,832
Operating Expenses				
Production	7,923,417	7,976,891	9,223,525	11,167,147
Administration	2,075,113	1,884,678	1,627,982	2,018,738
Total Operating Expenses	9,998,530	9,861,569	10,851,507	13,185,885
Operating Proceeds	6,669,346	2,913,348	(643,738)	5,230,947
Other Income (Expense)				
Interest Expense	(1,286,173)	(747,244)	(1,031,335)	(766,423)
Other Nonoperating Income	1,768,484	1,808,889	1,907,587	2,443,569
Patronage Dividend Income	1,359,820	648,443	1,650,979	2,650,635
Total Other Income (Expense)	1,842,131	1,710,088	2,527,231	4,327,781
Net Proceeds	8,511,477	4,623,436	1,883,493	9,558,728
Cash Paid to Members	5,822,558	3,436,451	579,302	5,731,197
Cash Retained by SDSP	1,430,331	794,999	46,503	2,072,428
Equity Patronage Retained	1,258,588	617,214	1,650,976	2,210,249

**Exhibit 17. South Dakota Soybean Processors Balance Sheets, August 31, 1998-2001**

	1998	1999	2000	2001
<b>Assets</b>				
<b>Current Assets</b>				
Cash	1,277,743	353,608	7,742	4,521,834
Trade Receivable (1998 includes \$238,700 sales and excise refunds)	7,973,202	7,584,977	10,414,233	10,530,672
Inventories	4,201,931	3,628,199	5,180,669	2,735,865
Margin Deposits	412,805	601,078	462,923	1,238,090
Prepaid Expenses	183,592	209,854	147,922	160,587
Property and Equipment	37,281,627	41,000,417	42,200,223	43,678,433
Less Accumulated Depreciation	(4,193,845)	(6,700,638)	(9,397,001)	(11,816,521)
<b>Other Assets</b>				
Investments	1,100,715	1,692,192	3,278,335	5,780,614
Loans Fees, net of amortization	34,632	28,074	24,015	19,956
Other	119,480	2,240		--
Total Assets	48,391,882	48,400,001	52,319,061	56,849,530
<b>Liabilities and Members' Investments</b>				
<b>Current Liabilities</b>				
Excess of Outstanding Checks Over Bank Balance			1,769,082	2,527,939
Current Maturities of Long-Term Debt	1,853,088	2,199,120	621,673	2,057,949
Accounts Payable	987,322	401,394	411,589	724,953
Accrued Commodity Purchases	2,789,506	5,487,227	6,652,834	6,186,785
Retainages Payable	249,556			
Accrued Expenses	685,455	833,480	919,386	1,449,639
Accrued Interest	94,832	60,598	94,020	32,024
<b>Long-Term Liabilities</b>				
Long-Term Debt, less current maturities	12,497,410	11,360,593	15,322,195	8,324,334
Deferred Compensation		17,000	36,000	70,000
<b>Members' Investments</b>				
Membership Stock, par value \$100				
Authorized, 2,500 shares				
Issued	209,200	210,100	210,300	209,700
Equity Stock, par value \$0.50 per share	7,064,625	7,064,625	7,064,625	7,064,625
Additional Paid-In Capital	13,760,512	13,764,612	13,768,212	13,773,012
Accumulated Net Proceeds	8,200,376	7,001,252	5,449,145	14,428,570
Total Liabilities and Members' Investments	48,391,882	48,400,001	50,549,979	54,321,591

**Exhibit 18. South Dakota Soybean Processors Statement of Cash Flows, Years Ended August 31, 1998-2001**

	1998	1999	2000	2001
<b>Operating Activities</b>				
Net Proceeds	8,511,477	4,623,436	1,883,493	9,558,728
Changes and Credits to Net Proceeds Not Affecting Cash				
Depreciation	2,257,064	2,506,793	2,710,363	2,562,878
Amortization	6,431	6,558	4,059	4,059
Loss on Disposal of Property and Equipment				119,483
Non-Cash Patronage Dividends	(1,038,647)	(591,477)	(1,253,143)	(1,835,279)
Change in Assets and Liabilities	6,412,795	2,857,690	(1,096,187)	2,648,962
Net Cash From Operating Activities	16,149,120	9,403,000	2,248,585	13,058,831
<b>Investing Activities</b>				
Purchases of Investments	(25,000)		(333,000)	(667,000)
Proceeds From Sale of Property and Equipment				118,623
Purchase of Property and Equipment	(1,571,697)	(3,718,790)	(1,213,806)	(1,859,674)
Net Cash (Used For) Investing Activities	(1,596,697)	(3,718,790)	(1,546,806)	(2,408,051)
<b>Financing Activities</b>				
Proceeds From Members' Investment Transactions	10,850	5,000	3,800	4,200
Patronage Capital Paid to Members		(5,822,560)	(3,435,600)	(579,303)
Net (Payments) on Notes Payable - Seasonal Loan	(6,483,185)			
Deferred Loan Costs and Other	(2,626)			
Proceeds From Long-Term Debt			2,519,520	
Principal Payments on Long-Term Debt	(6,819,409)	(790,785)	(135,365)	(5,561,585)
Net Cash (Used For) Financing Activities	(13,294,370)	(6,608,345)	(1,047,645)	(6,136,688)
Net Change in Cash	1,258,053	(924,135)	(345,866)	4,514,092
Cash at Beginning of Year	19,690	1,277,743	353,608	7,742
Cash at Ending of Year	1,277,743	353,608	7,742	4,521,834
<b>Supplemental Disclosures of Cash Flow Information</b>				
Cash Paid During the Year for:				
Interest		781,478	997,913	828,419
Income Taxes				

**Strategic Joint Ventures**

*"We're just a basic industry, low-cost type of environment. If you look at the core crushing business as a whole, being a low cost producer is critical to us. So we will continue to focus and look at investments and things we have to do so the conversion of a bushel of soybeans to meal and oil will continue to be at low-cost. Another goal we believe is that over a five year period of time, we should have 60% of our revenues going to a value added product versus the commodity of meal and oil product."*

*--CEO, Rodney Christianson*

SDSP had developed three strategies for the 2000 to 2005 time period. These were: 1) maintain its competitive advantage in processing soybeans at the lowest possible cost, 2) move its products up the value-added food chain, and 3) develop strategic alliances to help meet its goals and objectives. SDSP was planning on adding an additional 20,000 bushels of daily capacity to help strive to process soybeans at the lowest cost. It was committed to generate 50 percent of its revenues from value-added products that had higher margins. This would mean further refining of soybean oil. Finally, the Board of Directors and Rodney had implemented four options to help accomplish the last two objectives.

### **Option #1: SoyOyl®**

Urethane Soy Systems Company, Inc. (USSC) was based in Princeton, Illinois. It held a patent on SoyOyl®, which was a polyol made from soybean oil. Polyol was a key chemical in making foam that reacted with other chemicals to form polyurethane foam, which could be made in flexible or rigid form. Flexible foam was typically used in furniture and carpet padding, automotive interiors, and footwear. Rigid foam was found in insulation, simulated wood, flotation, and packaging. Substitutes for the product included traditional petroleum-based polyols. This global market was 12 billion pounds per year (4.6 billion pounds consumed in the United States) and growing at 5 to 8 percent annually.

SDSP acquired exclusive rights to supply soybean oil to Urethane Soy Systems Company (USSC) for use in manufacturing SoyOyl. The price was tied to the Chicago Board of Trade futures price. In addition, SDSP would receive a fee for every pound of soybean oil used in manufacturing SoyOyl. This fee would be discounted if more than 8.3 million pounds were purchased monthly and further discounted if 16.6 million pounds were purchased monthly. Currently, SDSP could manufacture 5 million pounds per month of soybean oil for use in SoyOyl. Any other additives needed to produce SoyOyl would be paid by USSC. To further build a relationship with USSC, SDSP purchased a 4 percent ownership in the company and these 1,000 shares cost \$1 million. They obtained one non-voting seat on the board of directors. At the present time, SDSP has an offer to purchase a minimum of 47 percent of the voting shares in USSC which, if accepted, would give them majority voting shares.

In addition, SDSP had an option to purchase the rights to a process for refining crude soybean oil for use in industrial products such as manufacturing SoyOyl. A patent had been applied for, but it was not critical to the success of SoyOyl because it had already been patented. This option would be a fee of 2 percent of the first \$1 million of net proceeds from the sale of any polyol products such as SoyOyl. Any proceeds beyond \$1 million would be subject to a 1 percent fee. If losses were incurred, these could be recovered in subsequent years when the process became profitable.

If the demand for SoyOyl increased, SDSP would need to increase processing capabilities through the addition of more tanks and mixers. If demand grew slowly, these expenses could be purchased through income from SoyOyl. If demand grew quickly, SDSP would have to seek debt or additional equity to finance these investments.

### **Option #2: Minnesota Soybean Processors**

A group of Minnesota soybean producers were forming a cooperative, Minnesota Soybean Processors (MSP), to build a crushing plant that would crush 80,000 bushels of soybeans each day. SDSP had provided the business plan and construction management team in exchange for a fee that was equal to 10 percent of the equity raised by MSP. At least 80 percent of that fee would be reinvested as equity in the plant at a rate of \$2 per share. MSP had received \$31

million. SDSP provided management and marketing services including day-to-day control of the plant. This agreement was for five years.

The SDSP Board of Directors also made available \$1 million in interest-free loans to SDSP members who wanted to invest in MSP. For every \$4 invested in MSP, SDSP would provide a \$1 loan whose collateral would be the allocated equity not yet paid back to the member from 1998 to 2000. For example, if a member wanted to purchase 2,500 shares of MSP stock (e.g., deliver 2,500 bushels to MSP) at a \$2 per share fee, this would require \$5,000. However, a producer would only be required to pay \$3,750. The additional \$1,250 would be covered by the loan.

SDSP would be required to purchase part of the land in Brewster where the plant would be located (\$150,000) and build a 63 million-pound soybean oil storage tank and loading facilities to store oil for the Chicago Board of Trade (\$2.3 million). The land and tank will be sold to MSP at some agreed upon price after the plant begins operations. MSP would not have any oil refining capability.

### **Option #3: Vertically Integrate**

SDSP was awarded a USDA Rural Development grant of \$500,000 to investigate the possibility of vertically integrating into manufacturing soy diesel, refining vegetable oil, or soy protein concentrates such as lecithin. The price of soybean oil had declined in recent years due to overcapacity and some substitution by consumers to oilseeds made from sunflowers, olives, and other oils. Competition in soy proteins was stiff because markets were slow in developing. Minnesota has recently set up a program to subsidize soy diesel. It was finishing the business plan this fall.

### **Option #4: Finding New Customers**

SDSP found a new customer for its crude soybean oil. Firms such as Hunt Wesson, Procter & Gamble, Louis Dreyfus, ADM, Cargill, and AC Humko purchased crude oil and refined it for their own uses. However, these customers already had oil refiners supplying them with oil and it would likely mean offering a lower price. AC Humko was the largest independent refiner and SDSP had signed a long-term supply agreement for all of SDSP's oil. SDSP would supply three of its plants in Illinois and Oklahoma with refined and bleached soybean oil. In addition, it had purchased the equipment for an oil refinery from AC Humko and had built a refinery alongside the Volga plant. The supply of soybean oil was high at the present time. Because it did not remove the gums from its oils, it could not compete in the export markets. In addition, the increase in capacity caused by the new MSP plant and new CHS plant would mean more soybean oil in the market.

## **Organizational Issues**

*"No matter how you look at it, we are going to need soybean oil in excess of what we produce. That has implications for our legal status as a cooperative. So we looked at various options and the membership voted to reorganize as a limited liability company."*

*--CEO, Rodney Christianson*

It was apparent that SDSP would need more soybean oil in order to fulfill any demand for SoyOyl, soybean diesel, and its own refinery customers. It needed to determine how it was

going to find that additional oil. Its organizational status as a cooperative meant that its members were required to supply the soybeans needed to process into oil and soybean meal. This was considered patronage business as defined by the Internal Revenue Code as net proceeds were allocated to patrons based on their participation in the cooperative. However, the potential for increased soybean oil requirements for products such as diesel fuel and SoyOyl<sup>®</sup> meant that it would need to purchase soybean oil that would not be produced from its member's soybeans. This would be non-patronage business. The potential for increased amounts of non-patronage business might place their cooperative status in jeopardy. In addition, this non-patronage business would be subject to "double-taxation" on the non-patronage income if it was distributed to the member-owners.

Thus, SDSP began considering various organizational options that would enable its member owners to still own the cooperative but not be obligated to supply all of the soybeans needed to operate the plant. This would give SDSP flexibility to purchase raw soybean oil and refine it instead of adding crushing capacity to obtain the oil. The Board considered different options including: 1) continue to operate as a cooperative and pay the corporate tax on the non-patronage sourced income, 2) not expand into these new investments, and 3) form a limited liability company (LLC).

One such structure that would accomplish the goals of ownership by soybean growers and enable SDSP to have the flexibility to acquire soybean oil was an LLC. This organizational structure would enable SDSP to pass along income directly to its members without taxing at the company level. In contrast, a corporation would have to pay a corporate income tax. A "partnership" or single taxation structure would exist and distribution of income to owners as dividends would then be taxed at the owner level. If SDSP remained a cooperative, non-patronage income would be taxed at the company level and taxed again at the patron or owner level if distributed as a patronage refund or a dividend. In addition, this LLC structure allowed flexibility to transfer equity shares between members and would also enable it to increase its potential investor pool if it ever needed additional capital.

### **Comparison of Equity Owner Rights**

As a cooperative, SDSP received a deduction from taxable income at the cooperative level under Subchapter T of the tax code on patronage earnings distributed as a qualified patronage refund as long as it distributed at least 20 percent of patronage distributions as cash. Each member was subject to income tax and self-employment tax based on the amount of patronage refunds distributed to each member. A LLC would be considered a partnership for federal income tax purposes and pay no taxes on its net income. Each member would be subject to income tax on its allocable share of income, gain, loss, deduction, or credit. This would occur regardless of whether SDSP distributed any cash to its members. The Internal Revenue Service had not ruled whether LLC members were subject to self-employment tax with regard to earnings distributions but it was expected that taxes would not be levied against capital unit ownership.

Members also had limited liability protection as members of a co-op or an LLC. In other words, members were not personally liable for the debts and other liabilities of SDSP as a co-op or an LLC. As a cooperative, SDSP was required to distribute a minimum of 20 percent of its annual patronage income distributed as qualified patronage refunds. As a LLC, SDSP would have an Operating Agreement that would require it to distribute not less than 30 percent of SDSP's annual net income to members based on the proportion of ownership unless its net income was less than \$500,000 or if the LLC was bankrupt or if the distribution would make it bankrupt.

Currently, SDSP members were required to deliver soybeans based on the annual call from the Board of Directors. In 2001, members were required to deliver two bushels of soybeans for every bushel of owned equity stock. An LLC would have no delivery requirement.

SDSP's Articles of Incorporation authorized 2,500 units or common shares of capital stock with a par value of \$100 and 80,000 shares of preferred stock with a par value of \$100. There were also 59,500,000 shares of equity units with a par value of \$0.50. The LLC's Operating agreement provided for 14,129,250 Class A capital units. The Board of Managers for the LLC could also create and issue additional capital units with different rights and power.

The existing cooperative linked equity shares with the right and obligation to deliver soybeans and receive patronage. Voting was based on the number of common stock shares owned. The Operating Agreement for the LLC called for one vote regardless of the number of capital units owned by a member.

In the past, there was no public trading of the SDSP's stock and this would continue to be the case for the LLC. Shares could be transferred between family members in the cooperative and the LLC. One important distinction was that shares could only be held by agricultural producers and this was not the case in the LLC. The LLC would also provide for a limited amount of transfers between members in a year.

The LLC would have a Board of Managers whose initial membership would be the directors of SDSP. Under terms of the limited liability partnership, a member could be a producer, corporation, partnership, trust, or other similar entity. Members are required to own at least 2,500 capital units in the LLC. Should a member become a holder of less than 2,500 units or held more than 1.5 percent of the total capital units or became bankrupt or attempted to dispose of its capital units in some way that had not been approved by the Board of Managers, then SDSP had the right to acquire the capital units at \$0.20 per unit. The par value of the units ranged from \$2 to \$2.50 and averaged \$2.19.

As a cooperative incorporated in South Dakota, any changes in the cooperative's structure required approval of 75 percent of the members. The LLC required approval of two-thirds of the membership. Furthermore the LLC would be required to submit reports as called for by the Securities and Exchange Act.

### **Limited Liability Company**

Soybean Processors LLC was formed October 12, 2001 with a single member, SDSP. The cooperative's Board of Directors voted to exchange the assets and liabilities of SDSP for Class A capital units in Soybean Processors LLC. Operationally this meant that one share of SDSP stock was exchanged for one share of the LLC whose name was then changed to SDSP LLC after the exchange. (We will continue to use SDSP to denote SDSP LLC). The process was done as described in Exhibit 19.

**Exhibit 19. Time Line of Activities for the SDSP Conversion to an LLC**

Date	Activity
October 12, 2001	Soybean Processors LLC formed.
December 10, 2001	SDSP Board of Directors approves the conversion subject to at least 75 percent of the membership voting in favor of the conversion.
May 14, 2002	SDSP mails prospectus to its members describing the proposed change.
June 20, 2002	SDSP members vote to approve the conversion to an LLC.
July 1, 2002	The LLC acquired the assets and liabilities of SDSP and changed its name to South Dakota Soybean Processors LLC.

In order to become a Class A member of the LLC, the producer who owned stock in SDSP was required to sign an agreement that he or she would abide by the terms of the Operating Agreement and terminate their existing member agreement with the cooperative. If he or she did not agree to these two conditions, then he or she would receive income or losses but would have no voting rights. In addition, SDSP LLC could decide to redeem their stock at some future date.

**Tax Issues and the Reorganization**

The acquisition of SDSP's assets and liabilities by SDSP LLC would result in an appraisal to determine the value of the assets. A June 30, 2001 appraisal of the plant, property, and equipment as well as investment assets (e.g., equity in regional cooperatives), found that the value of these assets was \$56,037,790 as of December 31, 2001. The tax value of these assets was \$49,547,684 as seen in Exhibit 20.

**Exhibit 20. Determination of South Dakota Soybean Processors Value**

Item	Value	Per Share
Appraised Value as of June 30, 2001		
Plant, Property, and Equipment	33,900,000	
CoBank Patronage Allocation	57,928	
Cenex Harvest States Patronage Allocation	162,530	
Urethane Soy Systems Company, Inc. (4% interest)	10,000	
Cenex Harvest States Accrued Patronage	121,313	
Aggregate Book Value of Other Assets as of December 31, 2001	21,786,019	
Fair Market Value of Total Assets as of December 31, 2001	56,037,790	3.97
Less: Aggregate Tax Basis in Total Assets <sup>a</sup>	49,547,684	3.51
Taxable Gain on Distribution <sup>b</sup>	1,487,798	
Less: Accrued Income Tax <sup>c</sup>	(505,851)	(0.04)
Less: Other Liabilities as of December 31, 2001	(25,901,437)	(1.83)
Total Members Interest before Discounts	29,630,502	2.10
Less: Lack of Marketability Discount <sup>d</sup>	(1,481,525)	(0.10)
Total	28,148,977	1.99
Less: Minority Interest Discount <sup>e</sup>	(1,407,449)	(0.10)
Value of Liquidating Distribution	26,741,528	1.89

<sup>a</sup>Current tax value being used by SDSP.

<sup>b</sup>This is the gain expected on the income distribution.

<sup>c</sup>Equal to 34 percent (tax rate) of the taxable gain on distribution.

<sup>d</sup>Equal to 5 percent of members interest due to lack of liquidity in stock shares.

<sup>e</sup>Equal to 5 percent of members interest due to non-controlling interest in SDSP.

The Internal Revenue Service had not yet decided whether members of such an LLC were subject to self employment tax with regard to earnings. But proposed rules suggested that earnings based on capital unit ownership would not be subject to self employment tax. However, there would be a tax implication for each producer depending upon the value of each member's actual adjusted tax basis in the shares. The actual adjusted tax basis was equal to the original purchase price of the share (adjusted for the three for two split that occurred in 1998) plus the retained distributions and retained allocations of each member in SDSP. Because there were different purchase prices for the stock shares, depending upon when the stock was purchased, the tax implications were different for each member. SDSP had prepared an example of the tax implications for each producer as shown in Exhibit 21. In this case, Member A has a slight tax loss while Member B and Member C have a greater tax loss.

**Exhibit 21. Example of Individual Member Adjusted Tax Basis Calculation for Shares Purchased in Different Years**

	Member A	Member B	Member C
Calculation of Individual Adjusted Basis	\$2.00 (original 1995 offering)	\$2.25 (1995)	\$2.50 (1999)
Pre-split price per share	2.00	2.25	n.a.
Adjusted post-split price per share	1.33	1.5	2.5
Add: Prior written allocations through August 31, 2001	0.64	0.64	0.64
Add: Estimated retainage through December 31, 2001			
Adjusted tax basis per share	(1.97)	(2.14)	(3.14)
Less: Value of Distribution <sup>a</sup>	1.89	1.89	1.89
Taxable gain (loss) per share	(0.08)	(0.25)	(1.25)

<sup>a</sup>This is taken from the per value of the distribution as shown in Exhibit 20.

**Transfer of Shares**

It was important that the LLC not be treated as a publicly traded partnership. In the opinion of SDSP's tax counsel, SDSP would not be treated as a publicly traded partnership as long as it limited stock transfer to so-called "safe harbors." The LLC's Operating Agreement stated that stock transfers would only occur if they complied with the partnership tax status, which meant that it could not be readily traded on a secondary market.

Transfers would only occur for qualified redemptions and repurchases, transfers to a qualified matching service, or private transfers. Qualified redemptions or repurchases could not occur until at least 60 days after the LLC received written notice that a member wanted to exercise a redemption or repurchase right. The purchase price was to be set less than five times a year. The net sum transferred during the year could not exceed 10 percent of the total interests in capital or profits.

Transfers to a qualified matching service were considered qualified if: 1) it consisted of a computerized or printed system that listed bid or ask prices to match member buyers and sellers, 2) matching occurred by listing the buyers and sellers or allowing buyers to bid and sellers to ask a price, 3) the seller could not enter into an agreement until at least 15 days had passed since the price was posted and closing could not occur until 45 days had passed, 4) the matching service had to ensure that the asks and bids were quotes and not commitments to buy or sell, 5) seller

information must be removed within 120 days of posting and cannot be reentered until 60 days had passed, and 6) the sum of the percentage transfers transferred during the year, not including private transfers, could not exceed 10 percent of the total interests in partnership capital or profits.

Private transfers included: 1) transfers due to death, 2) gifts between family members as defined by the tax code, 3) transfers from qualified retirement plans or an IRA, and 4) block transfers whereby a member transfers shares that represented more than two percent of the total interests in partnership capital or profits.

### **Summary**

*“We think this organizational structure is going to carry us into the 21<sup>st</sup> century and give us maximum flexibility. We’re still a producer-owned business and that’s the important feature. Now we need to focus on markets for soy-based products such as food, fuel, and foam.”*

*--CEO Rodney Christianson*

### **Michael Boland and David Barton**

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