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Grain Marketing Patterns in South Dakota: Methods of Purchase, Methods of Sale, Grain Destinations, and Modes of Transportation

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by

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Introduction

The U.S. Agriculture is going through a transition. Federal spending on farm programs are being curtailed and agricultural policies are being modified to make production of farm commodities responsive to the market forces. In this competitive environment, efforts on the part of the commodity groups for market development are becoming increasingly more important. However, in order to devise any market development plan for a commodity, the understanding of the present status of the marketing system is important. At the minimum, one needs to know the methods of purchase and sale, types of buyers, shipment destinations, and transportation modes for the commodity.

These aspects of grain marketing in South Dakota have not been researched for past three decades. The prior study on the South Dakota grain movements and transportation, containing the information for 1974, was completed by Lamberton and Rudel in 1976. In 1974, there were 427 licensed elevators in South Dakota, which handled 184 million bushels or 77% of total grain production in South Dakota (Lamberton and Rudel, 1974, 2 & 17). During the last three decades, the grain sector in South Dakota has gone through phenomenal changes. For example, since 1974, the soybeans, corn, and wheat production in the state have increased by 919%, 377%, and 67%, respectively. During this period, the production of oats and barley in the state has become much less important and the state has emerged as the second most sunflower seed producing state in the U.S. Other changes in the South Dakota grain sector include, a decrease in the number of licenced grain dealers, a change in the relative competitive position of rail and truck transportation in the state, an increased use

of grain futures and options for hedging, an increased use of complete commercially manufactured feed by the livestock and hog producers, and an increased use of grain in production of ethanol and other industrial products. Under these circumstances the need for updating and analyzing the information on grain marketing system in South Dakota cannot be overemphasized. With this back drop, the main objective of this study was to identify existing grain marketing patterns in South Dakota.

Since a large proportion of the grain is handled by grain elevators, the data on grain marketing patterns were collected through a survey of the grain elevators in South Dakota during spring 1996. The specific objectives of the study were to identify:

a) the quantities of different grains handled by the grain elevators,

b) alternative methods of purchase by the grain elevators,

c) alternative methods of sale by the grain elevators,

d) major types of buyers for grain sold by the grain elevators,

e) major destinations of grain shipped by the grain elevators, and

f) the relative importance of alternative modes of transportation for different grains shipped by the grain elevators.

The study investigated the marketing patterns for spring wheat, winter wheat, oats, barley, corn, soybeans, and sunflower seeds for the crop year 1994-95. The cash receipts from marketing of these grains and oilseeds accounted for $1.42 billion, 83.6% of cash receipts from all crops by South Dakota producers during the calendar year 1994. This research report is devoted to describing the study methodology and reporting the results for the whole state. Regional results are reported in four seperate research reports, one for

wheat, one for barley and oats, one for corn and soybeans, and one for sunflower seeds. These research reports are cited in the list of references and their copies can be obtained by writing to the first author.

Survey Procedure and Methods

Since one of the objectives of this study was to estimate total quantity of grain moving through the marketing system, the study focussed on the grain elevators rather than the firms owning the elevators. Accordingly, for the purpose of data collection, each grain elevator was viewed as a separate entity. Grain dealers or truckers who bought grain in South Dakota but did not have an elevator or storage facility were also treated as elevators.

A mail survey questionnaire was developed and pre-tested. After pre-testing, the questionnaire was modified to correct the problems. The questionnaire was mailed to the managers of all grain elevators in South Dakota during the third week of February 1996. A copy of the survey questionnaire is provided in Appendix C. Four weeks after the initial mailing a reminder letter along with another copy of the questionnaire was mailed. Each returned questionnaire was checked for any inconsistencies and incomplete sections. In some cases, some responses were completed or corrected through one or more follow up telephone calls to the responders. In total, 120 completed surveys were received. The profile of responding elevator managers is presented in Appendix B. The data was tabulated and analyzed using the SAS procedures for microcomputers.

Determining the Total Number of Grain Dealers in South Dakota

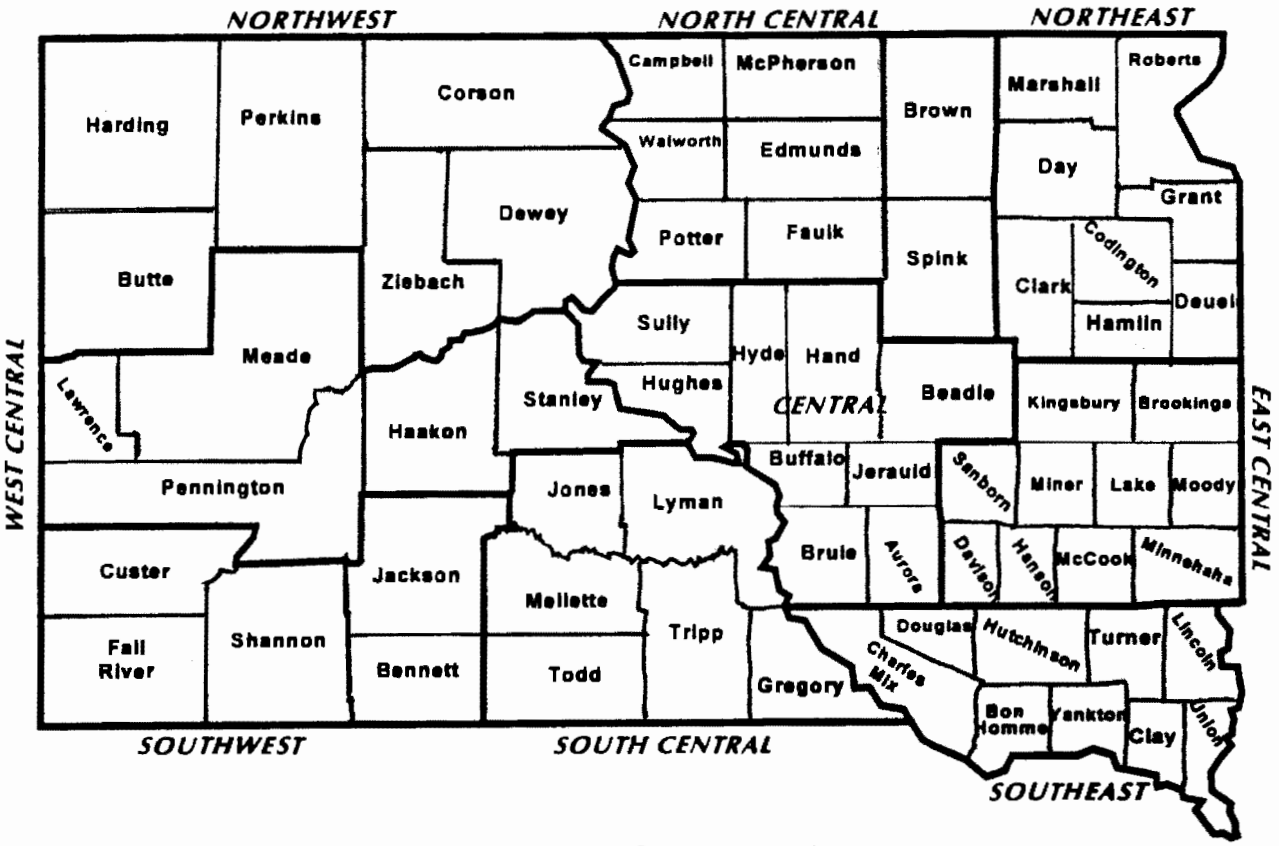
To determine the accurate number of grain elevators and dealers who engage in purchase of grain from South Dakota in a particular year is a difficult task. All grain dealers, involved in storing or handling grain, are required to obtain either a federal or a state warehouse License. Since some warehouse licensees may not engage in actual purchase of South Dakota grain in a particular year, the warehouse licensee list tends to over estimate the number of active grain dealers.

A current list of warehouse licensees, obtained from South Dakota Public Utility Commission, the agency responsible for warehouse licensing in the state, formed the initial list of grain elevators in South Dakota. All licensees in the list were assigned a code and a survey questionnaire was mailed to each licensee on this list. However, after receiving the useable responses, the remaining entries in the list were carefully reviewed. The processors and feed mills which bought grain mainly from other elevators and dealers, the dealers which had gone out of business, and licensee truckers who did not purchase any South Dakota grain during the crop year 1994-95 were dropped from the list. In total, 40 licensees were dropped from the original list obtained from the South Dakota Public Utility Commission and it was determined that the total number of active elevators and grain dealers in South Dakota was 275 during the crop year 1994-95.

Defining the Regions and Distribution of the Sample

Weather and soil conditions in South Dakota vary considerably. Consequently, the types of grains produced also vary from one part of the state to another. Due to this

Fig 1. South Dakota Agricultural Statistics Districts



Source: South Dakota Agricultural Statistic Service

Table 1. Selected Grain and Oilseed Acres Harvested in South Dakota, 1994-95

Description	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soybeans	Sunflower Seed
	..... 1,000 Acres Harvested for Grain						
REGION:							
Northwest	216.0	65.0	34.0	39.5	13.5	-	7.4
North Central	820.0	104.0	110.0	110.5	381.0	230.0	352.4
Northeast	441.0	24.0	85.0	68.8	468.0	532.0	122.6
West Central	49.0	351.0	19.0	9.2	5.5	-	-
Central	329.0	287.0	65.0	41.0	419.0	62.0	285.1
East Central	75.0	87.0	112.0	21.9	973.0	724.0	44.6
South Western	5.0	81.0	4.0	3.6	11.0	12.7	-
South Central	17.0	280.0	37.0	5.7	139.0	839.0	50.9
South East	28.0	71.0	94.0	9.8	990.0	34.9	29.6
SOUTH DAKOTA 1/	1980.0	1350.0	560.0	310.0	3400.0	2400.0	920.0

1/ State total for Sunflowr seed acres also includes 3.4 thousand acres in other unspecified districts and 24.0 thousand non oil sunflower seed acres.

SOURCE: South Dakota Agricultural Statistics, USDA, South Dakota Agricultural Statistics Service, 1996.

Table 2. Selected Grain and Oilseed Production in South Dakota, 1994-95

Description	Spring Wheat (mil bu)	Winter Wheat (mil bu)	Oats (mil bu)	Barley (mil bu)	Corn (mil bu)	Soybeans (mil bu)	Sunflower Seed (mil lb)
REGION:							
Northwest	5.17	1.89	1.61	1.41	0.98	-	8.37
North Central	21.09	3.74	5.40	4.65	39.51	8.15	567.38
Northeast	13.45	0.87	5.29	3.35	48.89	17.46	189.00
West Central	0.98	10.41	0.64	0.25	0.31	-	-
Central	7.38	8.50	3.65	1.63	38.61	2.25	417.79
East Central	2.09	2.99	6.99	1.00	111.41	27.98	73.62
South Western	0.12	2.30	0.12	0.11	1.18	-	-
South Central	0.44	9.80	1.90	0.20	10.80	0.48	81.92
South East	0.76	2.70	5.76	0.40	115.50	34.88	47.40
SOUTH DAKOTA 1/	51.48	43.20	31.36	13.02	367.20	91.20	1427.20

1/ State total for Sunflowr seed also includes 3.32 mil lbs production in other unspecified districts and 38.40 mil lbs of nonoil sunflower seed.

SOURCE: South Dakota Agricultural Statistics, USDA, South Dakota Agricultural Statistics Service, 1996.

variability, USDA's crop reporting service has divided the state into nine Agricultural Statistics Districts, also known as the Crop Reporting Districts, as shown in Fig 1.

The area harvested and production of the selected grains during the crop year 1994-95, for different crop reporting districts of South Dakota are reported in Tables 1-2. The production of spring wheat is concentrated in North Central and Northeast South Dakota, where as the winter wheat is predominant in South Central, Central, and West Central South Dakota. Most of the barley and oats are produced in the North Central, Northeast, Central and East Central South Dakota. The corn and soybeans are mainly produced in South East, East Central, and Northeast regions of the state. Sunflower seeds are mostly produced in North Central, Northeast, and Central regions of the state.

In addition to regional differences in production, there are also regional differences in grain marketing patterns. Since different grains are purchased by different types of buyers, and move in different directions, the marketing patterns are expected to vary by grain and by region. In order to capture regional variations in marketing patterns, the state was divided into eight geographic regions. Seven of these regions are identical to the USDA's crop reporting districts. Southwestern South Dakota had only two elevators of which only one responded to the survey. In order to keep confidentiality of the responding elevator, the southwestern region was merged with the South Central region.

The response rate for the survey varied from 30 percent in Northwest to 67 percent in South Central, and averaged 44 percent (Table 3). Out of 120 responding elevators, 64 elevators (53% of responding elevators) were located on rail, and 56 of these (47% of responding elevators) actually shipped grain by rail during the crop year 1994-95 (Table 3).

Table 3. Distribution of the Responding Elevators

Region	Total No. of Elevators 1/	Number of Responding Elevators		Number of Responding Elevators on Rail		Number of Responding Elevators Shipping by Rail	
Northwest	11	5	45%	2	40%	1	20%
North Central	49	21	43%	9	43%	10	48%
Northeast	56	17	30%	11	65%	8	47%
West Central	12	5	42%	5	100%	4	80%
Central	23	15	65%	12	80%	11	73%
East Central	58	24	41%	12	50%	11	46%
Southwest	2	1	50%	0	0%	0	0%
South Central	15	10	67%	2	20%	2	20%
Southeast	49	22	45%	11	50%	9	41%
South Dakota	275	120	44%	64	53%	56	47%

1/ Arrived at by adjusting the list of warehouse licencees maintained by the South Dakota Public Utilities Commission. In total 40 Licencees were dropped from the list as it was determined that these licencees did not engage in purchase of grain from producers.

Table 4. Storage Capacities of SD Grain Elevators, 1996

Region	Responding Elevators (numbers)	Nonresponding Elevators 1/ (numbers)	Other Nonresponding Elevators 2/ (numbers)	Avg. Capacity for Responding Elevators (1,000 bu.)	Avg. Capacity for Nonresponding Elevators (1,000 bu.)
Northwest	5	4	2	343	359
North Central	21	19	9	637	374
Northeast	17	30	9	517	388
West Central	5	4	3	430	373
Central	15	5	3	579	456
East Central	24	24	10	344	445
South Central 3/	11	5	1	392	380
South East	22	18	9	420	474
South Dakota	120	109	46	471	413

1/ Elevators which did not respond to the survey and the information on their capacity was available from the South Dakota Public Utility Commission records.

2/ Elevators which did not respond to the survey and the information on their capacity was not available. The capacity for these elevators assumed to be equal to the average for the non-responding elevators in the region with known capacity.

3/ Includes estimates for Southwest region.

The average storage capacity for responding elevators varied from 343 thousand bushels in Northwest South Dakota to 637 thousand bushels in North Central South Dakota (Table 4). Of 155 nonresponding elevators, the capacity information was available for only 109 elevators. The average storage capacity for these nonresponding elevators varied from 359 thousand bushels in Northwest South Dakota to 474 thousand bushels in South East South Dakota. The information on storage capacity was not available for the remaining 46 nonresponding elevators which are classified as other nonresponding elevators in Table 4. Assuming that within each region, the average storage capacity for other nonresponding elevators is similar to that of nonresponding elevators with known storage capacity, the average storage capacity for responding elevators is about 12% higher than those for nonresponding elevators (Table 4). On the whole, the sample of responding elevators is well distributed and representative of all elevators in South Dakota.

Net Quantities of Grain Handled by the Responding Elevators

The respondents were asked about the quantities of different grains they handled during the crop year 1994-95. They were also asked about the quantities of each grain they purchased from other dealers during the crop year. In order to avoid double counting, net quantities handled were computed by deducting the quantities purchased from other dealers from the respective gross quantities handled by the responding elevators.

Net quantities of different grains handled during the 1994-95 crop year by the responding elevators, by regions, are shown in Table 5. During the year, the net quantities handled by the respondents amounted to 25 million bushels of spring wheat, 27 million

Table 5. Net Quantities of Grain Handled by the Respondents, 1994-95

Region	No. of Responding Elevators	Spring Wheat (mil bu)	Winter Wheat (mil bu)	Oats (mil bu)	Barley (mil bu)	Corn (mil bu)	Soybeans (mil bu)	Sunflower Seeds (mil lb)
Northwest	5	2.23	0.37	0.18	0.04	0.21	0.01	10.28
North Central	21	14.21	3.75	0.39	1.46	14.82	7.46	237.16
Northeast	17	3.79	0.32	0.85	0.38	13.91	6.36	23.26
West Central	5	0.55	6.87	0.09	0.03	0.44	0.00	19.73
Central	15	2.92	9.43	0.22	0.05	5.55	0.88	147.17
East Central	24	0.17	0.49	0.61	0.07	17.78	6.88	4.64
South Central 1/	11	0.30	3.46	0.27	0.02	2.00	0.20	40.07
South East	22	0.37	2.18	2.07	0.07	19.74	12.05	23.75
South Dakota	120	24.55	26.87	4.68	2.11	74.44	33.83	506.07

1/ Includes estimates for Southwest region.

Table 6. Estimated Quantities of Grain Handled by SD Elevators, 1994-95

Region	No. of All Elevators	Spring Wheat (mil bu)	Winter Wheat (mil bu)	Oats (mil bu)	Barley (mil bu)	Corn (mil bu)	Soybeans (mil bu)	Sunflower Seeds (mil lb)
Northwest	11	5.03	0.84	0.41	0.09	0.46	0.02	23.18
North Central	49	25.95	6.44	0.71	2.66	25.94	13.40	410.09
Northeast	56	10.30	0.88	2.30	1.03	37.82	17.29	63.26
West Central	12	1.00	17.50	0.40	0.13	0.76	0.00	34.24
Central	23	4.17	13.00	0.33	0.07	8.91	1.45	214.32
East Central	58	0.49	1.39	1.73	0.20	50.37	19.50	13.15
South Central 1/	17	0.46	5.28	0.41	0.02	3.06	0.30	61.27
South East	49	0.82	4.81	5.10	0.15	47.22	28.65	52.43
South Dakota	275	48.22	50.15	11.39	4.36	174.55	80.61	871.93

1/ Includes estimates for Southwest region.

bushels of winter wheat, 5 million bushels of oats, 2 million bushels of barley, 74 million bushels of corn, 34 million bushels of soybeans, and 506 million pounds of sunflower seeds.

Total Quantities of Grain Handled by South Dakota Elevators

Initially, total quantities of grains handled by all elevators in South Dakota were estimated by extrapolating the quantities of grains handled by the sample elevators for each of the eight regions. It was noted that the North Central, West Central, Central, and South Central regions lacked the croping pattern homogeneity resulting in relatively large extrapolation errors. To overcome this problem, each of these four regions was further divided into two homogeneous subregions. The definition of these subregions and the distribution of responding and nonresponding elevators, by these subregions, are given in Table B.1. The net quantities of different grains handled by the responding elevators, at subregion level, are given in Table B.2. It was assumed that during a crop year, the quantity of a grain handled by an elevator in a subregion is directly proportional to the storage capacity of the elevator. In other words, for a given crop year and a subregion, on an average, the quantity of a particular grain handled per unit of the elevator storage capacity is similar for the responding and nonresponding elevators. Accordingly, the total quantity of a grain handled by all elevators in the subregion was estimated by extrapolating the data for the net quantity of the grain handled by the responding elevators, the numbers of active elevators and the storage capacities for the responding elevators and the nonresponding elevators. The estimates of the quantities of different grains handled by SD elevators, at the subregion level, are given in the Table B.3. The estimates for subregions were, in turn, aggregated to

obtain the regional estimates, which are presented in Table-6. It may be noted that the estimates for South Dakota elevators (all elevators including the nonresponding elevators) presented in this report are based on the extrapolation of the data collected from the responding elevators.

During the crop year 1994-95, South Dakota elevators handled 48 million bushels of spring wheat, 50 million bushels of winter wheat, 11 million bushels of oats, four million bushels of barleys, 175 million bushels of corn, and 81 million bushels of soybeans. During the year, the elevators in South Dakota also handled 872 million pounds of sunflower seed.

The total quantity of a particular grain available to dealers during a crop year depends on the production as well as changes in the stock levels during the year. Sales across the state lines by producers also affect the total quantity available to the dealers in South Dakota. Assuming that net sales across the state lines are negligible, total quantities of different grains available in South Dakota were estimated by adding any inventory depletion (deducting any inventory increases) during the crop year to (from) the respective production levels (Table 7). Based on these assumptions, the total quantity handled by all elevators in South Dakota as a percent of the quantity available in the state amounted to 88% for spring wheat, 110% for winter wheat, 34% for oats, 32% for barleys, 52% for corn, 95% for soybeans, and 61% for sunflower seeds (Table 7).

The estimates for spring wheat and winter wheat handled by all elevators in South Dakota seem to have some bias. The main reason for this is that some respondents combined the data for spring and winter wheat. If they mainly handled the winter wheat,they lumped the spring wheat data with the winter wheat data. Similarly, if they predominantly

Table 7. Quantities of Grain and Oilseeds Available to SD Elevators, 1994-95

	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soybeans	Sunflower Seeds
	..... million bu						... million lbs ...
Production 1/	51.48	43.20	31.36	13.02	367.20	91.20	1427.20
Stock Change 2/	-3.13	-2.37	-2.02	-0.55	33.02	6.48	-
Total Available Quantity 3/	54.61	45.57	33.38	13.57	334.18	84.72	1427.20
Quantity Handled by All Elevators	48.22	50.15	11.39	4.36	174.55	80.61	871.93
	..... percent of available quantity						
Quantity Handled by All Elevators	88.3%	110.0%	34.1%	32.1%	52.2%	95.1%	61.1%

1/ State total for Sunflowr seed also includes 3.32 mil lbs production in other unspecified districts and 38.40 million nonoil sunflower seed.

2/ Stock changes are based on marketing years; July 94 through June 95 for Wheat, Oats, and Barley; October 94 through September 95 for Corn; and September 94 through August 95 for Soybeans. Stock changes for all Wheat are assigned to Winter and Spring Wheat based on their respective 5 year production share in South Dakota.

3/ Production minus stock change.

SOURCE: Data on production and stock changes are from USDA, SDASS, 1997.

handled the spring wheat, they lumped winter wheat data with the spring wheat data. It seems that the spring wheat included with the winter wheat exceeded the winter wheat included with the spring wheat. This resulted in a downward bias in the spring wheat estimates and an upward bias in the winter wheat estimates. The combined quantity of spring and winter wheat handled by all elevators in South Dakota is estimated to be 98 million bushels or 98% of combined wheat quantity available during the year. This seems to be a reasonable estimate. Nevertheless, the survey results are reported for both spring and winter wheat separately. This bias in grain movements can be reduced in future studies by more frequent collection of the grain flow data for shorter periods (for example collecting the monthly data 12 times rather than collecting the data for the whole year at one time).

Methods of Purchase by the Responding Elevators

Grain elevators in South Dakota employ a number of methods to purchase grain (Table 8). Three most widely used methods of purchase are cash purchase (used by 97% elevators), delayed pricing (used by 77% elevators), and cash forward contracts (used by 53% elevators). The regional rankings for these methods are similar to the statewide rankings except for the South Central region. In South Central South Dakota, a relatively high proportion of elevators reported the use of cash forward and minimum price contracts, and a relatively small proportion reported the use delayed pricing method.

The quantities of grain purchased by the responding elevators with alternative methods of purchase are shown in Table 9. The three most popular methods of purchase are similar for different grains. These three methods are the cash purchase, delayed purchase, and cash

Table 8. Methods of Purchase by the Responding Elevators, 1994-95

	Region								
	North-west	North Central	North-east	West Central	Central	East Central	South Central 1/	South-east	South Dakota
TOTAL NO. OF RESPONDENTS:	5	21	17	5	15	24	11	22	120
	number of respondents								
METHOD OF PURCHASE:									
1. Cash Purchase	5	20	17	5	14	24	11	20	116
2. Delayed Pricing	3	16	12	4	13	23	4	17	92
3. Basis Contract	0	10	4	0	4	8	4	3	33
4. Hedged to Arrive	0	7	8	3	4	11	5	5	43
5. Minimum Price Contract	0	5	4	3	8	11	7	3	41
6. Cash Forward Contract	3	12	7	3	9	12	8	9	63
7. Others	1	0	0	0	3	1	1	2	8
	percent respondents								
METHOD OF PURCHASE:									
1. Cash Purchase	100%	95%	100%	100%	93%	100%	100%	91%	97%
2. Delayed Pricing	60%	76%	71%	80%	87%	96%	36%	77%	77%
3. Basis Contract	0%	48%	24%	0%	27%	33%	36%	14%	28%
4. Hedged to Arrive	0%	33%	47%	60%	27%	46%	45%	23%	36%
5. Minimum Price Contract	0%	24%	24%	60%	53%	46%	64%	14%	34%
6. Cash Forward Contract	60%	57%	41%	60%	60%	50%	73%	41%	53%
7. Others	20%	0%	0%	0%	20%	4%	9%	9%	7%

1/ Includes information for 1 respondent from Southwest region.

Table 9. Grain Purchased by the Responding Elevators, by Method, 1994-95

	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soybeans	Sunflower Seeds
NUMBER OF RESPONDENTS	83	76	88	52	109	90	56
	..... number of respondents						
METHOD OF PURCHASE:							
1. Cash Purchase	83	76	88	52	109	90	56
2. Delayed Pricing	41	43	8	1	66	56	16
3. Basis Contract	9	10	0	0	23	17	0
4. Hedged to Arrive	11	15	0	0	30	21	0
5. Minimum Price Contract	7	19	0	0	19	17	1
6. Cash Forward Contract	34	34	9	3	43	42	21
7. Others	2	3	0	0	4	4	2
	..... percent respondents						
METHOD OF PURCHASE:							
1. Cash Purchase	100%	100%	100%	100%	100%	100%	100%
2. Delayed Pricing	49%	57%	9%	2%	61%	62%	29%
3. Basis Contract	11%	13%	0%	0%	21%	19%	0%
4. Hedged to Arrive	13%	20%	0%	0%	28%	23%	0%
5. Minimum Price Contract	8%	25%	0%	0%	17%	19%	2%
6. Cash Forward Contract	41%	45%	10%	6%	39%	47%	38%
7. Others	2%	4%	0%	0%	4%	4%	4%
	..... million bu						... million lb ...
METHOD OF PURCHASE:							
1. Cash Purchase	18.06	13.91	2.94	1.87	37.81	16.68	326.18
2. Delayed Pricing	4.62	8.51	0.10	0.11	11.49	5.36	27.91
3. Basis Contract	0.75	0.86	0.00	0.00	1.79	0.42	0.00
4. Hedged to Arrive	1.06	1.00	0.00	0.00	3.60	1.06	0.00
5. Minimum Price Contract	0.18	1.15	0.00	0.00	0.83	0.38	10.09
6. Cash Forward Contract	3.68	2.52	0.11	0.09	21.60	10.05	102.80
7. Others	0.03	0.05	0.00	0.00	0.36	0.23	0.55
TOTAL	28.37	28.00	3.15	2.07	77.48	34.19	467.53
	..... percent quantity						
METHOD OF PURCHASE:							
1. Cash Purchase	64%	50%	93%	90%	49%	49%	70%
2. Delayed Pricing	16%	30%	3%	5%	15%	16%	6%
3. Basis Contract	3%	3%	0%	0%	2%	1%	0%
4. Hedged to Arrive	4%	4%	0%	0%	5%	3%	0%
5. Minimum Price Contract	1%	4%	0%	0%	1%	1%	2%
6. Cash Forward Contract	13%	9%	3%	4%	28%	29%	22%
7. Others	0%	0%	0%	0%	0%	1%	0%
TOTAL	100%	100%	100%	100%	100%	100%	100%

forward contract methods. These three methods, collectively, account for 93% of spring wheat, 89% of winter wheat, 96% of oats, 92% of a barley, 94% of corn, and 98% of sunflower seeds purchased by the responding elevators.

Hedged to arrive and basis contract methods were applied much less frequently by the responding elevators. Hedged to arrive accounted for 4% of each of spring wheat and winter wheat, 5% of corn, and 3% of soybeans purchased by the elevators. Basis contracts accounted for 3% of each of spring wheat and winter wheat, 2% of corn, and 1% of soybeans purchased by the elevators.

Methods of Sale by the Responding Elevators

Elevators in South Dakota employ a number of methods to sell their grain. Commonly applied methods are cash sale, cash forward contracts, basis contracts, and delayed pricing contracts (Table 10). Three most widely used methods of sale in South Dakota are cash sale (used by 90% elevators), cash forward contracts (used by 27% elevators), and basis contracts (used by 23% elevators). The regional rankings for these methods are, more or less, similar to the state wide rankings.

The cash sale method is by far the dominant method of sale followed by cash forward and basis contracts (Table 11). Cash sales accounted for 74% of spring wheat, 71% of winter wheat, 91% of oats, 90% of barleys, 64% of corn, 63% of soybeans, and 57% of sunflower seeds sold by the elevators. Cash forward contracts accounted for 19% of spring wheat, 19% of winter wheat, 8% of oats, 9% of barleys, 17% of corn, 17% of soybeans, and 40% of sunflower seeds sold by the elevators. A basis contract is another

Table 10. Methods of Sale by the Responding Elevators, 1994-95

	Region								
	North-west	North Central	North-east	West-Central	Central	East Central	South Central 1/	South-east	South Dakota
TOTAL NO. OF RESPONDENTS:	5	21	17	5	15	24	11	22	120
	number of respondents								
METHOD OF SALE:									
1. Cash Sale	5	16	16	4	14	23	11	19	108
2. Delayed Pricing	2	3	0	0	2	0	1	3	11
3. Basis Contract	0	5	5	0	3	7	3	4	27
4. Cash Forward Contract	2	8	5	0	4	3	5	5	32
5. Others	0	0	2	1	0	1	0	0	4
	percent respondents								
METHOD OF SALE:									
1. Cash Sale	100%	76%	94%	80%	93%	96%	100%	86%	90%
2. Delayed Pricing	40%	14%	0%	0%	13%	0%	9%	14%	9%
3. Basis Contract	0%	24%	29%	0%	20%	29%	27%	18%	23%
4. Cash Forward Contract	40%	38%	29%	0%	27%	13%	45%	23%	27%
5. Others	0%	0%	12%	20%	0%	4%	0%	0%	3%

1/ Includes information for 1 respondent from Southwest region.

Table 11. Grain Sold by the Responding Elevators, by Methods of Sale, 1994-95

	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soybeans	Sunflower Seeds
NUMBER OF RESPONDENTS	78	71	82	48	104	87	52
	number of respondents						
METHOD OF SALE:							
1. Cash Sale	70	64	81	48	98	76	47
2. Delayed Pricing	5	6	0	0	3	4	2
3. Basis Contract	10	8	2	0	19	16	0
4. Cash Forward Contract	20	17	11	5	28	23	17
5. Others	2	1	1	1	4	3	1
	percent respondents						
METHOD OF SALE:							
1. Cash Sale	90%	90%	99%	100%	94%	87%	90%
2. Delayed Pricing	6%	8%	0%	0%	3%	5%	4%
3. Basis Contract	13%	11%	2%	0%	18%	18%	0%
4. Cash Forward Contract	26%	24%	13%	10%	27%	26%	33%
5. Others	3%	1%	1%	2%	4%	3%	2%
	million bu						million lb
METHOD OF SALE:							
1. Cash Sale	19.22	18.01	2.74	1.77	43.68	19.30	211.05
2. Delayed Pricing	0.17	0.12	0.00	0.00	0.12	0.42	1.34
3. Basis Contract	1.33	2.43	0.02	0.00	9.93	4.07	0.00
4. Cash Forward Contract	4.94	4.85	0.24	0.17	11.29	5.33	148.12
5. Others	0.26	0.08	0.02	0.01	3.23	1.34	9.00
TOTAL	25.92	25.50	3.02	1.96	68.25	30.46	369.51
	percent quantity						
METHOD OF SALE:							
1. Cash Sale	74%	71%	91%	90%	64%	63%	57%
2. Delayed Pricing	1%	0%	0%	0%	0%	1%	0%
3. Basis Contract	5%	10%	1%	0%	15%	13%	0%
4. Cash Forward Contract	19%	19%	8%	9%	17%	17%	40%
5. Others	1%	0%	1%	1%	5%	4%	2%
TOTAL	100%	100%	100%	100%	100%	100%	100%

important method of sale, accounting for 5% of spring wheat, 10% of winter wheat, 15% of corn, and 13% of soybeans sold by the elevators. Delayed pricing and other methods of sales were much less frequently adopted.

Grain Sales by the Responding Elevators, by Destinations

Respondents were asked about the total quantity of each grain handled by their elevators during the crop year 1994-95. They were also asked to provide proportions of sales for each grain during the crop year, attributable to different types of buyers at specified locations. This information was used to develop profiles of South Dakota grain sales in terms of destinations and the types of buyers (Table 12). A summary indicating the destinations of the grain sold by the responding elevators during the crop year is presented in Table 13. A brief discussion of the major destinations for each grain follows.

Spring Wheat Destinations. During the year, 7% of the spring wheat handled by the responding elevators was sold to in state buyers (5% within 30 miles, and another 2% in the state). Two most important out of state destinations for the spring wheat were Minneapolis and Duluth areas, accounting for 88% and 2%, respectively, of the spring wheat shipped by the elevators.

Winter Wheat Destinations. During the year, 7% of winter wheat handled by the responding elevators was sold to in state buyers (5% within 30 miles, and another 2% in the state). Two most important out of state destinations for winter wheat were Minneapolis and Sioux City areas, accounting for 60% and 6%, respectively, of winter wheat shipped by the elevators.

Table 12. Grain Sold by the Responding Elevators, 1994-95

	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soybeans	Sunflower Seeds
NUMBER OF RESPONDENTS	81	74	92	52	81	87	52
	.....	.....	.....	1,000 bu	.....	.....	... 1,000 lb ...
TO LOCAL (with in 30 Miles):							
Farmers as Feed	10	8	839	389	11631	8	0
Feed Mills	0	0	15	25	379	4	0
Ethanol Producers	0	0	0	0	2359	0	0
Other Processors	1306	1333	24	16	3643	2471	768
SUB TOTAL	1316	1341	879	430	18012	2483	768
TO SOUTH DAKOTA (Non-Local):							
Feed Mill	0	27	74	17	1083	0	0
Ethanol Producers	0	0	0	0	786	0	0
Other Processors	432	562	144	166	1423	661	29840
SUB TOTAL	432	589	218	182	3293	661	29840
TO MINNEAPOLIS AREA:							
Spot (Cash) Market	12010	2872	198	587	0	195	15974
Grain Dealers	2304	9116	94	123	297	39	57668
Feed Mills	0	0	0	0	607	0	0
Ethanol Producers	0	0	0	0	300	0	0
Other Processors	8482	4208	40	57	409	2218	103865
Terminals	2071	632	17	104	937	887	15762
SUB TOTAL	24867	16828	349	870	2551	3339	193269
TO SIOUX CITY AREA:							7575
Feed Mills	0	0	134	3	265	60	
Other Processors	35	1064	582	0	766	7345	34178
Terminals	28	551	275	0	2003	1310	
SUB TOTAL	63	1615	991	3	3033	8714	29330
TO PORTLAND AREA	71	68	0	17	35834	13019	36254
TO DULUTH AREA	475	14	0	319	0	1249	13521
TO FOREIGN BUYERS	50	0	0	0	5176	2306	1800
TO OTHERS	836	7464	701	268	7982	1689	98380
TOTAL SALE	28109	27920	3137	2088	75881	33460	444915

Table 13. Grain Sold by the Responding Elevators, by Destinations, 1994-95

	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soybeans	Sunflower Seeds
NUMBER OF RESPONDENTS	81	74	92	52	81	87	52
	.....	.....	.....	million bu	.....	.....	... million lb ...
SALES BY RESPONDENTS TO:							
1. Locals (within 30 Miles)	1.32	1.34	0.88	0.43	18.01	2.48	0.77
2. Others in S. D.	0.43	0.59	0.22	0.18	3.29	0.66	29.84
3. Minneapolis Area	24.87	16.83	0.35	0.87	2.55	3.34	193.27
4. Sioux City Area	0.06	1.61	0.99	0.00	3.03	8.71	0.00
5. Portland Area	0.07	0.07	0.00	0.02	35.83	13.02	0.00
6. Duluth Area	0.47	0.01	0.00	0.32	0.00	1.25	13.52
7. Foreign Buyers	0.05	0.00	0.00	0.00	5.18	2.31	1.80
8. Others	0.84	7.46	0.70	0.27	7.98	1.69	205.71
TOTAL	28.11	27.92	3.14	2.09	75.88	33.46	444.91
	.....	.....	.....	percent	.....	.....	.....
SALES BY RESPONDENTS TO:							
1. Locals (within 30 Miles)	5%	5%	28%	21%	24%	7%	0%
2. Others in S. D.	2%	2%	7%	9%	4%	2%	7%
3. Minneapolis Area	88%	60%	11%	42%	3%	10%	43%
4. Sioux City Area	0%	6%	32%	0%	4%	26%	0%
5. Portland Area	0%	0%	0%	1%	47%	39%	0%
6. Duluth Area	2%	0%	0%	15%	0%	4%	3%
7. Foreign Buyers	0%	0%	0%	0%	7%	7%	0%
8. Others	3%	27%	22%	13%	11%	5%	46%
TOTAL	100%	100%	100%	100%	100%	100%	100%

Oats Destinations. During the year, 35% of the oats handled by the responding elevators were sold to in state buyers (28% within 30 miles, and another 7% in the state). Two most important out of state destinations for oats were Sioux City and Minneapolis areas, accounting for 32% and 11%, respectively, of the oats sold.

Barley Destinations. During the year, 30% of barley handled by the responding elevators were sold to in state buyers (21% within 30 miles, and another 9% in the state). Two most important out of state destinations for barley were Minneapolis and Duluth areas, accounting for 42% and 15%, respectively, of the barley sold by the elevators.

Corn Destinations. During the year, 28% of the corn handled by the responding elevators was sold to in state buyers (24% within 30 miles, and another 4% in the state). Three most important out of state destinations for corn were Portland, Sioux City, and Minneapolis areas, accounting for 47%, 4%, and 3%, respectively, of the corn shipped by the elevators. Another 7% of the corn handled by the respondents was directly sold to foreign buyers.

Soybeans Destinations. Only 9% of the soybeans handled by the responding elevators were sold to in state buyers (7% within 30 miles, and another 2% in the state) during the year. Three most important out of state destinations for the soybean shipments were Portland, Sioux City, and Minneapolis areas, accounting for 39%, 26%, and 10%, respectively, of the soybeans handled by the elevators. Another 7% of the soybeans handled by the respondents were sold directly to foreign buyers.

Sunflower Seed Destinations. Only 7% of the sunflower seeds handled by the responding elevators were sold to in state buyers during the year. The shipments of

sunflower seeds to the Minneapolis area, accounted for 43% of the sunflower seeds handled by the elevators. Relatively large quantities (46%) of the sunflower seeds handled by the elevators were shipped to other unspecified locations.

Grain Sales by the Responding Elevators, by the Types of Buyers

The precise break up of the sales by types of buyers is difficult. This difficulty arises when a relatively large quantity of a grain is shipped to another location without identifying the buyer or the buyer location. For example, a large quantity of wheat is shipped to The Minneapolis spot market, which is then sold to buyers (mainly processors and terminal elevators). In these cases, many respondents were not able to provide the break up of such shipments by the buyer types. Under the circumstances, the Minneapolis spot market was treated as a type of buyer. A summary of grain sales by the responding elevators, indicating the buyer types is presented in Table 14. A brief discussion of major types of buyers for different grains and their relative market share during the crop year follows.

Major Buyers of Spring Wheat. During the year, 51% of the spring wheat handled by the responding elevators was shipped to the Minneapolis area (spot market and area dealers). Shipments to processors, and terminals accounted for 36%, and 9%, respectively, of the spring wheat handled by the responding elevators. Obviously, most of the spring wheat shipped to the spot market and the grain dealers in the Minneapolis area was sold to the processors and the terminal elevators in the Minneapolis area.

Table 14. Grain Sold by the Responding Elevators, by Types of Buyers, 1994-95

	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soybeans	Sunflower Seeds
NUMBER OF RESPONDENTS	81	74	92	52	81	87	52
	..... million bu						... million lb ...
SALES BY RESPONDENTS TO:							
1. Farmers (as feed)	0.01	0.01	0.84	0.39	11.63	0.01	0.00
2. Feed Mills	0.00	0.00	0.22	0.04	2.33	0.06	0.00
3. Ethanol Producers	0.00	0.00	0.00	0.00	3.44	0.00	0.00
4. Other Processors	10.25	7.19	0.79	0.24	6.24	12.70	241.81
5. MPLS. Spot Market	12.01	2.87	0.20	0.59	0.00	0.19	0.00
6. MPLS. Area Dealers	2.30	9.12	0.09	0.12	0.30	0.04	73.64
7. Terminals	2.64	1.27	0.29	0.44	38.77	16.46	29.28
8. Foreign Buyers	0.05	0.00	0.00	0.00	5.18	2.31	1.80
9. Others	0.84	7.46	0.70	0.27	7.98	1.69	98.38
TOTAL	28.11	27.92	3.14	2.09	75.88	33.46	444.91
	..... percent						
SALES BY RESPONDENTS TO:							
1. Farmers (as feed)	0%	0%	27%	19%	15%	0%	0%
2. Feed Mills	0%	0%	7%	2%	3%	0%	0%
3. Ethanol Producers	0%	0%	0%	0%	5%	0%	0%
4. Other Processors	36%	26%	25%	11%	8%	38%	54%
5. MPLS. Spot Market	43%	10%	6%	28%	0%	1%	0%
6. MPLS. Area Dealers	8%	33%	3%	6%	0%	0%	17%
7. Terminals	9%	5%	9%	21%	51%	49%	7%
8. Foreign Buyers	0%	0%	0%	0%	7%	7%	0%
9. Others	3%	27%	22%	13%	11%	5%	22%
TOTAL	100%	100%	100%	100%	100%	100%	100%

Major Buyers of Winter Wheat. Shipments to the Minneapolis spot market and dealers accounted for 43% of winter wheat handled by the responding elevators during the year. Processors and terminals accounted for 26%, and 5%, respectively, of the winter wheat sold by the elevators. Again, most of the winter wheat shipments to the Minneapolis spot market and dealers was sold to the processors and terminal elevators in the Minneapolis area.

Major Buyers of Oats. Sales of oats to farmers (as feed), and feed mills accounted for 34% of all oats handled by the responding elevators during the year. About 25% of the oats were shipped to processors. Shipments to terminals, the Minneapolis spot market, and the Minneapolis area dealers, accounted for 9%, 6%, and 3%, respectively, of the oats handled by the elevators.

Major Buyers of Barley. During the year, about 21% of the barley handled by the responding elevators were sold to feed mills or to farmers (as feed). Shipments to the Minneapolis spot market and the Minneapolis area dealers accounted for 34% of barley sold by the dealers. Shipments to terminals, and processors, accounted for 21%, and 11%, respectively, of the barley handled by the elevators.

Major Buyers of Corn. Corn sales to farmers (as feed) and feed mills accounted for 15%, and 3%, respectively, of the corn handled by the elevators during the year. Terminal elevators were the dominant buyers accounting for 51% of corn handled by the elevators. Another 7% of the corn was sold directly to foreign buyers by the elevators. Sales to ethanol producers and other processors, accounted for 5%, and 8%, respectively, of corn sold by the elevators.

Major Buyers of Soybeans. Soybean shipments to terminals accounted for 49% of the soybeans sold by the responding elevators during the year. Another 7% of the soybeans were directly sold to foreign buyers by the elevators. Shipments to processors accounted for 38% of the soybeans sold by the elevators.

Major Buyers of Sunflower Seeds. In the case of sunflower seeds, the sales to processors were dominant, accounting for 54% of the sunflower seed handled by the responding elevators during the year. Shipments to Minneapolis area dealers and terminals accounted for 17% and 7%, respectively, of sunflower seeds sold by the elevators.

Grain Transportation by South Dakota Elevators

The quantities of grain shipped to different locations by all elevators in South Dakota were estimated by extrapolating the grain shipment data for the responding elevators, reported in Table 12. The estimates for the quantities of grain shipped to different locations by all elevators in South Dakota is presented in Table 15 and Figures 2-3. The respondents were also asked to list the quantities of each grain they shipped via rail to a number of specified locations. The quantities not shipped via rail were assumed to be transported via truck. The estimated grain quantities shipped via train and truck by all elevators in South Dakota, by major destinations is presented in Table 16 and Figures 4-5.

Rail is a vital means of grain transportation from many locations in South Dakota. During the crop years, 1994-95, rail carried 206 million bushels of wheat, oats, barley, corn, and soybeans, and another 131 million pounds of sunflower seeds to various locations.

Table 15. Grain Shipments by SD Elevators, by Destinations, 1994-95

	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soybeans	Grains & Beans TOTAL	Sunflower Seeds
	..... million bu							... million lb ...
GRAIN SHIPPED TO:								
1. Locations in South Dakota	3.0	3.5	4.0	1.3	49.0	7.6	68.3	60.0
2. Minneapolis Area	42.7	30.2	1.3	1.8	5.9	8.0	89.9	378.8
3. Sioux City Area	0.1	2.9	3.6	0.0	7.0	21.0	34.6	1.5
4. Portland Area	0.0	0.1	0.0	0.1	82.4	31.4	114.0	0.0
5. Duluth Area	1.3	0.0	0.0	0.7	0.0	3.0	5.0	6.1
6. Other Locations	1.1	13.5	2.5	0.5	30.2	9.6	57.5	425.1
TOTAL	48.2	50.3	11.4	4.4	174.5	80.6	369.3	871.4
	..... percent							
GRAIN SHIPPED TO:								
1. Locations in South Dakota	6.2%	6.9%	35.0%	29.3%	28.1%	9.4%	18.5%	6.9%
2. Minneapolis Area	88.5%	60.1%	11.1%	41.6%	3.4%	10.0%	24.3%	43.5%
3. Sioux City Area	0.3%	5.8%	31.6%	0.1%	4.0%	26.0%	9.4%	0.2%
4. Portland Area	0.0%	0.2%	0.0%	1.2%	47.2%	38.9%	30.9%	0.0%
5. Duluth Area	2.7%	0.1%	0.0%	15.4%	0.0%	3.7%	1.4%	0.7%
6. Other Locations	2.4%	26.9%	22.3%	12.3%	17.3%	11.9%	15.6%	48.8%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Fig 2. Grain Shipments by SD Elevators by Destinations, Crop Year 1994-95

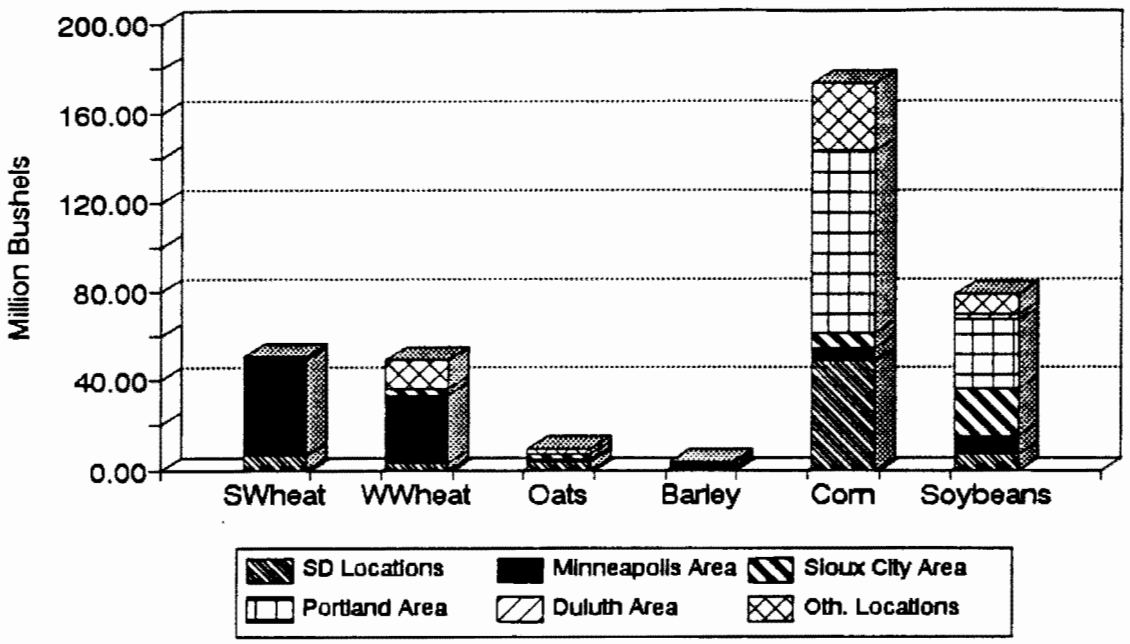
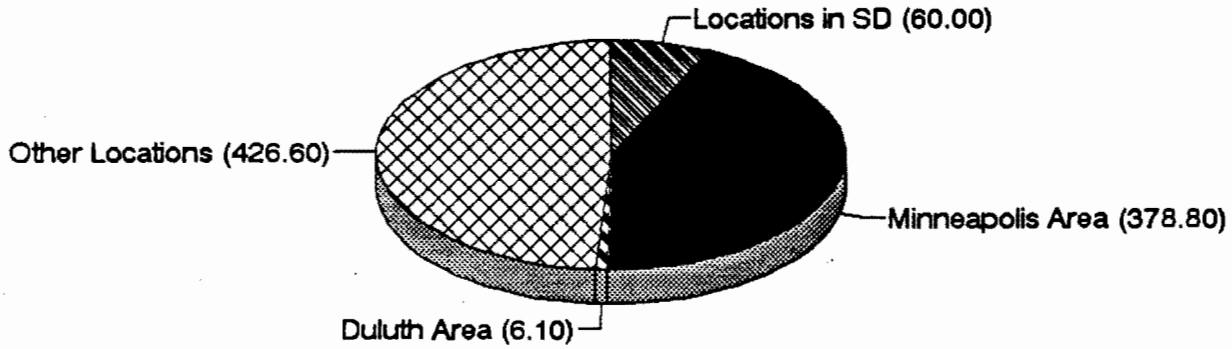


Fig 3. Sunflower Seed Shipments by SD Elevators by Destinations, Crop Year 1994-95



The rail transportation is crucial for moving spring wheat and barley to the Minneapolis area, and corn and soybeans to the Portland area.

Truck transportation is important for moving grain in South Dakota, especially in areas where rail links are not available. During the crop year 1994-95, 163 million bushels of wheat, oats, barley, corn, and soybeans and 741 million pounds of sunflower seeds were shipped via truck by the elevators in South Dakota. Trucks are also used to ship considerable amounts of wheat and sunflower seeds to the Minneapolis area, and oats and soybeans to the Sioux City area. Transportation via truck also plays a crucial role in moving grain to various locations within South Dakota. A brief discussion of relative importance of rail and truck transportation for each grain follows.

Spring Wheat Transportation. During the crop year 1994-95, elevators in South Dakota handled 48 million bushels of spring wheat, of which about 33 million bushels (69%) were shipped by rail and remaining 15 million bushels (31%) were shipped via truck. The Minneapolis area was the dominant destination for spring wheat shipped by the elevators. About 64% of spring wheat shipped by SD elevators reached the Minneapolis area via rail. Another 24% of the spring wheat shipped by the elevators reached the Minneapolis area via truck.

Winter Wheat Transportation. During the crop year 1994-95, the SD elevators shipped 50 million bushels of winter wheat, of which about 20 million bushels (39%) were shipped via rail and remaining 30 million bushels (61%) via truck. About 22% of the winter wheat shipments by the elevators reached the Minneapolis Area via rail. Another 38% of the winter wheat shipped by the elevators reached the Minneapolis Area via truck.

Table 16. Grain Shipments by SD Elevators, by Modes, 1994-95

	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soybeans	Grains & Beans TOTAL	Sunflower Seeds
	..... million bu							... million lb ...
GRAIN SHIPPED BY RAIL TO:								
1. Locations in South Dakota	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Minneapolis Area	30.9	11.2	0.2	1.8	0.9	2.7	47.6	74.6
3. Sioux City Area	0.0	0.9	0.3	0.0	1.9	1.0	4.0	0.0
4. Portland Area 1/	0.0	0.1	0.0	0.1	82.4	31.4	114.0	0.0
5. Duluth Area	1.3	0.0	0.0	0.7	0.0	3.0	5.0	6.1
6. Other Locations 2/	0.8	7.5	0.4	0.2	16.9	9.6	35.4	50.1
SUB TOTAL	33.0	19.7	0.9	2.7	102.0	47.6	206.0	130.8
GRAIN SHIPPED BY TRUCKS TO:								
1. Locations in South Dakota	3.0	3.5	4.0	1.3	49.0	7.6	68.3	60.0
2. Minneapolis Area	11.8	19.1	1.1	0.0	5.0	5.3	42.3	304.2
3. Sioux City Area	0.1	2.0	3.3	0.0	5.1	20.0	30.6	1.5
4. Other Locations	0.3	6.0	2.2	0.3	13.3	0.0	22.2	375.0
SUB TOTAL	15.2	30.6	10.5	1.6	72.5	33.0	163.3	740.6
TOTAL QUANTITY SHIPPED	48.2	50.3	11.4	4.4	174.5	80.6	369.3	871.4
	..... percent of Total Quantity							
GRAIN SHIPPED BY RAIL TO:								
1. Locations in South Dakota	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2. Minneapolis Area	64.1%	22.2%	1.8%	41.5%	0.5%	3.4%	12.9%	8.6%
3. Sioux City Area	0.0%	1.8%	2.9%	0.0%	1.1%	1.2%	1.1%	0.0%
4. Portland Area 1/	0.0%	0.2%	0.0%	1.2%	47.2%	38.9%	30.9%	0.0%
5. Duluth Area	2.7%	0.1%	0.0%	15.4%	0.0%	3.7%	1.4%	0.7%
6. Other Locations 2/	1.7%	14.8%	3.3%	4.9%	9.7%	11.9%	9.6%	5.8%
SUB TOTAL	68.5%	39.1%	8.0%	63.0%	58.5%	59.1%	55.8%	15.0%
GRAIN SHIPPED BY TRUCKS TO:								
1. Locations in South Dakota	6.2%	6.9%	35.0%	29.3%	28.1%	9.4%	18.5%	6.9%
2. Minneapolis Area	24.4%	37.9%	9.3%	0.1%	2.9%	6.6%	11.4%	34.9%
3. Sioux City Area	0.3%	4.0%	28.7%	0.1%	2.9%	24.9%	8.3%	0.2%
4. Other Locations	0.6%	12.0%	19.0%	7.4%	7.6%	0.0%	6.0%	43.0%
SUB TOTAL	31.5%	60.9%	92.0%	37.0%	41.5%	40.9%	44.2%	85.0%
TOTAL QUANTITY SHIPPED	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

1/ Estimates of corn and soybeans shipments to portland area based on respondents answer to corn and soybean soybean sales destined for portland area (all assumed to be shipped by rail). The estimates based on respondents' answers to rail shipments to Portland Area were lower and judged to be in error.

2/ Estimates of rail shipments of spring wheat and soybeans to other locations based on the raspondents' answers to rail shipment questions were adjusted down by 1.6 million and 2.1 million bushels, respectively.

Fig 4. Grain Shipments by SD Elevators by Modes, Crop Year 1994-95

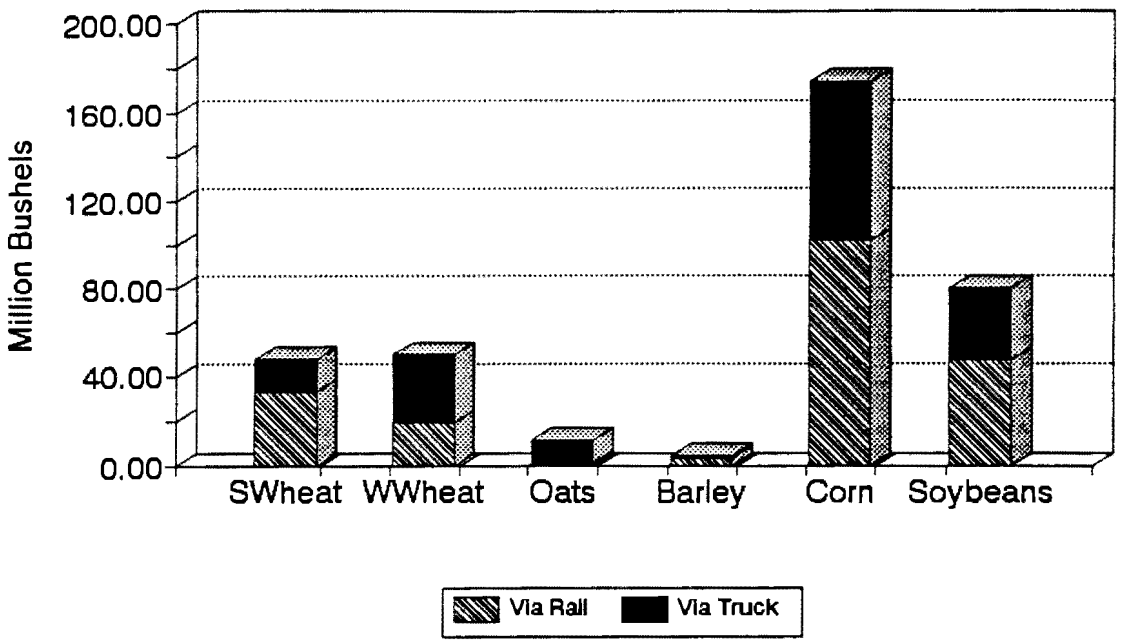
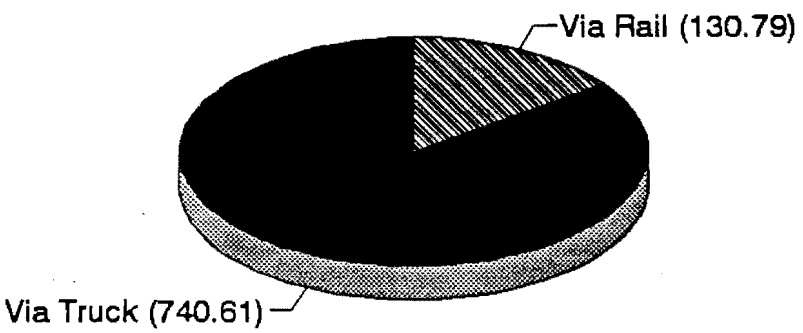


Fig 5. Sunflower Seed Shipments by SD Elevators by Modes, Crop Year 1994-95



Oats Transportation. Rail is used much less for transportation of South Dakota oats. During the crop year 1994-95, the elevators in the state handled 11 million bushels of oats of which about one million bushels (8%) were transported via rail, and the remaining 10 million bushels (92%) were transported via truck. Minneapolis and Sioux City Areas were the two most important rail destinations, accounting for about 2% and 3%, respectively, of oats shipped by the elevators. Shipments on trucks to locations in South Dakota (mainly to the farmers in the area), accounted for 35% of oats shipped by the elevators. The two most important out-of-state truck destinations were the Sioux City and Minneapolis areas, accounting for 29% and 9%, respectively, of oats shipped by the elevators.

Barley Transportation. During the crop year 1994-95, the elevators shipped about 4 million bushels of barley from South Dakota, of which 63% were shipped via rail, and the remaining 37% were shipped via truck. The two most important rail destinations for South Dakota barley were the Minneapolis and Duluth areas, accounting for 42% and 15%, respectively, of the barley shipped by the elevators. The locations in South Dakota were dominant for barley transported via truck, accounting for 29% of the barley shipped by the elevators.

Corn Transportation. The elevators in South Dakota handled 175 million bushels of corn during the crop year 1994-95. Of this 102 million bushels (58%) were transported via rail, and the remaining 73 million bushels (42%) were transported via truck. The most dominant rail destination was Portland, accounting for 47% of corn shipped by the elevators. The locations in South Dakota were dominant for corn transported via truck, accounting for 28% of the corn shipped by the elevators.

Soybean Transportation. During the crop year 1994-95, the elevators in South Dakota handled 81 million bushels of soybeans, of which 48 million bushels (59%) were transported via rail, and the remaining 33 million bushels (41%) were transported via truck. The most important rail destination was Portland, accounting for 39% of soybeans shipped by the elevators. Duluth and Minneapolis areas were also important rail destinations, accounting for 4% and 3%, respectively, of soybeans shipped by the elevators. The most important truck destination was Sioux City area, accounting for 25% of soybeans shipped by the elevators. The locations in South Dakota and Minneapolis area were also important truck destinations, accounting for 10% and 7%, respectively, of soybeans shipped by the elevators.

Sunflower Seeds Transportation. The bulk of the South Dakota sunflower seeds is transported via truck. During the crop year 1994-95, elevators in South Dakota handled 871 million pounds of sunflower seeds, of which only 131 million pounds (15%) were transported via rail, and 740 million pounds (85%) were transported via truck. Rail shipments to the Minneapolis area accounted for 9% of sunflower seed shipments by the elevators. The dominant truck destination for sunflower seeds was also the Minneapolis area, accounting for another 35% of sunflower seeds shipped by the elevators. Truck shipments to locations in South Dakota accounted for 7% of the sunflower seeds shipped by the elevators. A relatively large proportion of sunflower seeds (43%) were shipped via trucks to miscellaneous unspecified locations.

Summary

In an era when the Federal spending on farm programs are being cut and the grain producers are expected to be increasingly more reliant on the markets, the role of farm commodity groups in market development is becoming increasingly more important. However, in order to devise a good market development plan for a commodity, the understanding of the present status of the marketing system is necessary. At the minimum, one needs to know the presently used methods of purchase and sales, major types and locations of the buyers, and the commonly used modes of transportation for the commodity. The previous study on the South Dakota grain movement and transportation was completed in 1976 and contained the data for 1974. No other comprehensive study dealing with the other aspects of grain marketing in South Dakota have been reported. This study is an effort to update the grain movement data and provide the base line information on other important aspacts of grain marketing system in South Dakota.

The major objectives of this study were to identify methods of purchase and sale, types of buyers, modes of transportation and major destinations of South Dakota grain. The study focussed on spring wheat, winter wheat, oats, barley, corn, soybeans, and sunflower seed handled by the grain elevators in South Dakota during the crop year 1994-95. The information was mainly collected from the managers of the elevators through a mail survey during early 1996. The summary of the findings of the study follows.

Since 1974, the grain elevators have been going through a phase of consolidation and restructuring. In 1974, there were 427 licensed elevators in South Dakota, which handled 184 million bushels or 77 percent of total grain production in South Dakota (Lamberton and

Rudel, 1976, 17 & 2). In 1996, there were 315 licensed grain dealers. It was estimated that of these 315, there were at least 40 licensees who did not purchase grain from producers in South Dakota, bringing the number of active grain elevators involved in purchasing grain from producers in South Dakota to 275.

Three most widely used methods of purchase are cash purchase, delayed pricing and cash forward contracts, collectively, accounting for more than 90% of each of the grain and oilseeds purchased by the elevators in South Dakota. Three most commonly used methods for grain sales are cash sales, cash forward contract, and basis contracts, collectively, accounting for more than 93% of each of the grain and oilseeds handled by the elevators.

It is estimated that during the crop year 1994-95, grain elevators in South Dakota handled 369 million bushels or 62 percent of total grain and soybean production in South Dakota. Of these 369 million bushels, 68 million bushels (18%) were sold to in-state buyers. The remaining 301 million bushels (81%) were shipped to the out-of-state buyers.

Both rail and trucks are important modes of transportation for shipping South Dakota grains. During the crop year 1994-95, about 206 million bushels (56% of the combined quantity of grains and soybeans handled by the elevators in South Dakota) were shipped via rail, and the remaining 163 million bushels (44%) were shipped via truck. All shipments via rail were destined for out-of-state locations. The grain and soybean shipments via truck destined for out-of-state locations during the crop year 1994-95 were estimated to be about 95 million bushels (26% of the grain and soybeans handled by all elevators). The grain and soybean shipments via truck destined for in-state locations were estimated to be 68 million bushels. These estimates for in-state truck shipments also include about 27 million bushels

of corn and barley (15% corn and 19% of barley handled by the elevators) sold to area farmers as feed. A good part of these 27 million bushels were, probably, hauled by the farmers in their own trucks.

The South Dakota grain elevators also handled 871 million pounds or 61 percent of sunflower seed production in the state during the crop year 1994-95. Sunflower seeds were shipped predominantly (85%) via truck. Shipments destined to out-of-state locations accounted for 93% of the total sunflower seed handled by the elevators.

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Appendix A

Profile of Responding Elevator Managers

Profile of Responding Elevator Managers

To provide insight about the respondents, the questionnaire included a number of questions about the elevator managers, their education and their experience. Grain elevators in South Dakota are run by well educated and experienced managers (Tables A.1). Forty percent of the elevators are managed by a person with more than 15 years experience as a grain elevator manager. Two thirds of the elevators have a manager with more than 15 years experience in the grain business. One in four elevators has a manager with a college degree, and about half the elevators are managed by someone who has attended some college.

About two thirds of elevator managers have attended at least one seminar on the futures' markets during the preceding three years (Table A.2). One in three elevators has an additional employee (other than the manager) who has also attended at least one seminar on the futures' markets during the preceding three years. Almost all the responding elevators had access to a marketing data network and about 60% of elevators also subscribed to a printed market information service.

Almost half of the responding elevators reported that they hedge at least 75% of the elevator owned grain through futures (Table A.3). The use of the options on agricultural futures amongs the responding elevator managers was much less prevalent. Less than one tenth of the responding elevators reported to hedge at least 75% of the elevator owned grain using options on agricultural futures. One in four responding elevators did not hedge any of their grain.

Table A.1 Formal Education and Experience of the Responding Elevator Managers

	Crop Reporting Districts								
	North-west	North Central	North-east	West-central	Central	East Central	South Central 1/	South-east	South Dakota
	number of respondents								
Manager's Experience as Elevator Manager?									
0-5 Years	2	3	4	1	4	5	4	9	32
6-10 Years	0	7	3	1	3	3	0	4	21
11-15 Years	0	2	4	0	0	6	1	6	19
16-20 Years	2	1	4	3	5	3	6	0	24
More than 20 Years	1	8	2	0	3	7	0	3	24
Total No. of Responses	5	21	17	5	15	24	11	22	120
Manager's Experience in Grain Business?									
0-5 Years	1	1	3	0	0	1	2	4	12
6-10 Years	1	2	0	2	3	1	1	4	14
11-15 Years	0	1	2	0	4	1	0	6	14
16-20 Years	1	4	5	0	2	5	3	2	22
More than 20 Years	2	13	7	3	6	16	5	6	58
Total No. of Responses	5	21	17	5	15	24	11	22	120
Manager's Formal Education?									
Some High School	0	2	0	0	0	1	0	1	4
Graduated from High School	2	10	9	3	9	11	5	13	62
Some College/Technical School	1	5	4	1	2	5	0	5	23
Graduated from College	2	4	4	1	4	7	6	3	31
Total No. of Responses	5	21	17	5	15	24	11	22	120
	percent								
Manager's Experience as Elevator Manager?									
0-5 Years	40%	14%	24%	20%	27%	21%	36%	41%	27%
6-10 Years	0%	33%	18%	20%	20%	13%	0%	18%	18%
11-15 Years	0%	10%	24%	0%	0%	25%	9%	27%	16%
16-20 Years	40%	5%	24%	60%	33%	13%	55%	0%	20%
More than 20 Years	20%	38%	12%	0%	20%	29%	0%	14%	20%
Total No. of Responses	100%	100%	100%	100%	100%	100%	100%	100%	100%
Manager's Experience in Grain Business?									
0-5 Years	20%	5%	18%	0%	0%	4%	18%	18%	10%
6-10 Years	20%	10%	0%	40%	20%	4%	9%	18%	12%
11-15 Years	0%	5%	12%	0%	27%	4%	0%	27%	12%
16-20 Years	20%	19%	29%	0%	13%	21%	27%	9%	18%
More than 20 Years	40%	62%	41%	60%	40%	67%	45%	27%	48%
Total No. of Responses	100%	100%	100%	100%	100%	100%	100%	100%	100%
Manager's Formal Education?									
Some High School	0%	10%	0%	0%	0%	4%	0%	5%	3%
Graduated from High School	40%	48%	53%	60%	60%	46%	45%	59%	52%
Some College/Technical School	20%	24%	24%	20%	13%	21%	0%	23%	19%
Graduated from College	40%	19%	24%	20%	27%	29%	55%	14%	26%
Total No. of Responses	100%	100%	100%	100%	100%	100%	100%	100%	100%

1/ Includes information for 1 respondent from Southwest region.

Table A.2 Elevator Operators' Training in Futures and Access to Information

	Crop Reporting Districts								
	North-west	North Central	North-east	West-central	Central	East Central	South Central 1/	South-east	South Dakota
	number of respondents								
Has Manager Attended Futures Seminar during last 3 years?									
More than Once	1	15	6	1	7	9	1	8	48
Ony Once	1	2	4	2	5	4	7	5	30
No.	3	4	6	2	3	11	3	9	41
Total No. of Responses	5	21	16	5	15	24	11	22	119
Has any Employee Attended Futures Seminar during last 3 years?									
More than Once	0	7	1	0	5	4	0	3	20
Ony Once	1	4	2	2	5	4	6	0	24
No.	4	10	13	3	5	16	5	19	75
Total No. of Responses	5	21	16	5	15	24	11	22	119
Does Elevator Have an Access to Marketing Data Network?									
Yes	5	21	16	5	14	24	11	21	117
No	0	0	1	0	1	0	0	1	3
Total No. of Responses	5	21	17	5	15	24	11	22	120
Does Elevator Subscribe to a Printed Market Information Service?									
Yes	2	17	9	4	9	16	4	10	71
No	3	4	8	1	6	8	7	12	49
Total No. of Responses	5	21	17	5	15	24	11	22	120
	percent								
Has Manager Attended Futures Seminar during last 3 years?									
More than Once	20%	71%	38%	20%	47%	38%	9%	36%	40%
Ony Once	20%	10%	25%	40%	33%	17%	64%	23%	25%
No.	60%	19%	38%	40%	20%	46%	27%	41%	34%
Total No. of Responses	100%	100%	100%	100%	100%	100%	100%	100%	100%
Has any Employee Attended Futures Seminar during last 3 years?									
More than Once	0%	33%	6%	0%	33%	17%	0%	14%	17%
Ony Once	20%	19%	13%	40%	33%	17%	55%	0%	20%
No.	80%	48%	81%	60%	33%	67%	45%	86%	63%
Total No. of Responses	100%	100%	100%	100%	100%	100%	100%	100%	100%
Does Elevator Have an Access to Marketing Data Network?									
Yes	100%	100%	94%	100%	93%	100%	100%	95%	98%
No	0%	0%	6%	0%	7%	0%	0%	5%	3%
Total No. of Responses	100%	100%	100%	100%	100%	100%	100%	100%	100%
Does Elevator Subscribe to a Printed Market Information Service?									
Yes	40%	81%	53%	80%	60%	67%	36%	45%	59%
No	60%	19%	47%	20%	40%	33%	64%	55%	41%
Total No. of Responses	100%	100%	100%	100%	100%	100%	100%	100%	100%

1/ Includes information for 1 respondent from Southwest region.

Table A.3 The Extent of Elevator Owned Grain Hedging by the Respondents, 1994-95

	Crop Reporting Districts								
	North-west	North Central	North-east	West-central	Central	East Central	South Central 1/	South-east	South Dakota
The Extent to Which the Elevator Owned Grain was Hedged (Using Futures):	number of respondents								
100 %	0	4	2	2	2	2	1	4	17
75-100%	1	8	3	2	7	7	5	3	36
50-75 %	0	0	2	0	1	4	0	3	10
25-50 %	0	0	1	0	1	0	1	1	4
15-25 %	0	0	3	0	0	5	1	0	9
5-15 %	0	0	2	0	0	1	0	2	5
0- 15 %	0	0	0	0	0	2	1	0	3
0 %	4	7	3	1	4	3	2	9	33
Total No. of Responses	5	19	16	5	15	24	11	22	117
The Extent to Which the Elevator Owned Grain was Hedged (Using Options):	number of respondents								
100 %	0	0	0	1	0	0	0	1	2
75-100%	1	1	1	0	0	4	1	0	8
50-75 %	0	0	1	0	0	1	0	0	2
25-50 %	0	0	2	0	0	1	0	0	3
15-25 %	0	2	0	2	5	0	2	2	13
5-15 %	0	1	0	0	0	2	0	2	5
0- 15 %	0	1	2	0	1	0	2	4	10
0 %	4	13	10	2	8	15	5	13	70
Total No. of Responses	5	18	16	5	14	23	10	22	113
The Extent to Which the Elevator Owned Grain was Hedged (Using Futures):	percent								
100 %	0%	21%	13%	40%	13%	8%	9%	18%	15%
75-100%	20%	42%	19%	40%	47%	29%	45%	14%	31%
50-75 %	0%	0%	13%	0%	7%	17%	0%	14%	9%
25-50 %	0%	0%	6%	0%	7%	0%	9%	5%	3%
15-25 %	0%	0%	19%	0%	0%	21%	9%	0%	8%
5-15 %	0%	0%	13%	0%	0%	4%	0%	9%	4%
0- 15 %	0%	0%	0%	0%	0%	8%	9%	0%	3%
0 %	80%	37%	19%	20%	27%	13%	18%	41%	28%
Total No. of Responses	100%	100%	100%	100%	100%	100%	100%	100%	100%
The Extent to Which the Elevator Owned Grain was Hedged (Using Options):	percent								
100 %	0%	0%	0%	20%	0%	0%	0%	5%	2%
75-100%	20%	6%	6%	0%	0%	17%	10%	0%	7%
50-75 %	0%	0%	6%	0%	0%	4%	0%	0%	2%
25-50 %	0%	0%	13%	0%	0%	4%	0%	0%	3%
15-25 %	0%	11%	0%	40%	36%	0%	20%	9%	12%
5-15 %	0%	6%	0%	0%	0%	9%	0%	9%	4%
0- 15 %	0%	6%	13%	0%	7%	0%	20%	18%	9%
0 %	80%	72%	63%	40%	57%	65%	50%	59%	62%
Total No. of Responses	100%	100%	100%	100%	100%	100%	100%	100%	100%

1/ Includes information for 1 respondent from Southwest region.

Appendix B

Estimates of Grain Handled by SD Elevators by Sub-Regions

Table B.1 Distribution of South Dakota Elevators, by Sub-Regions.

Region/ Sub-Region	All Elevators 1/ (numbers)	Responding Elevators (numbers)	Non-Responding Elevators 2/ (numbers)	Other Non-Responding Elevators 3/ (numbers)	Responding Elevators Avg. Capacity (1,000 bu)	Non-Responding Elevators Avg. Capacity (1,000bu)
Northwest	11	5	4	2	343	359
North Central-North 4/	24	9	9	6	840	475
North Central-South 5/	25	12	10	3	485	283
Northeast	56	17	30	9	517	388
West Central-West 6/	5	2	2	1	135	401
West Central-East 7/	7	3	2	2	627	346
Central-West 8/	12	10	1	1	564	941
Central-East 9/	11	5	4	2	608	335
East Central	58	24	24	10	344	445
South Central 10/	17	11	5	1	392	380
South East-West 11/	21	12	6	3	391	629
South East-East 12/	28	10	12	6	456	396
South Dakota	275	120	109	46	471	413

1/ Arrived by adjusting the list of Warehouse liscencees maintained by the South Dakota Public Utilities Commission. In total 40 liscencees were dropped from the list as it was determined that these licencees did not engage in purchase of grain from South Dakota producers.

2/ Elevators which did not respond to the survey and the information on their capacity was avaiable from the South Dakota Public Utility Commission records.

3/ Elevators which did not respond to the survey and the information on their capacity was not available. The capacity for these elevators assumed to be equal to the average for the non-responding elvators in the region with known capacity.

4/ Includes Cambell, Walworth, McPhearson, Edmunds, and Brown counties.

5/ Includes Potter, Faulk, and Spink counties.

6/ Includes Lawrence, Meade, and Pennington counties.

7/ Includes Haakon, Jackson, and Stanley counties.

8/ Includes Sully, Hughes, and Hyde counties.

9/ Includes Hand, Buffalo, Brule, Beadle, Jerauld, and Aurora counties.

10/ Includes estimates for Southwest region.

11/ Includes Douglas, Charles Mix, Hutchinson, and Bon Homme counties.

12/ Includes Turner, Yankton, Clay, Lincoln, and Union counties.

Table B.2 Net Quantities Handled by the Respondents, by Sub-Regions, 1994-95

Region/ Sub-Region	No. of Responding Elevators	Total Capacity (mil bu)	Spring Wheat (mil bu)	Winter Wheat (mil bu)	Oats (mil bu)	Barley (mil bu)	Corn (mil bu)	Soybeans (mil bu)	Sunflower Seeds (mil lb)
Northwest	5	1.72	2.23	0.37	0.18	0.04	0.21	0.01	10.28
North Central-North 1/	9	7.56	8.85	1.06	0.24	0.92	5.58	3.92	73.37
North Central-South 2/	12	5.82	5.35	2.69	0.15	0.54	9.24	3.54	163.80
Northeast	17	8.79	3.79	0.32	0.85	0.38	13.91	6.36	23.26
West Central-West 3/	2	0.27	0.02	1.50	0.07	0.02	0.00	0.00	0.00
West Central-East 4/	3	1.88	0.53	5.37	0.03	0.01	0.44	0.00	19.73
Central-West 5/	10	5.64	2.09	8.15	0.12	0.04	0.92	0.04	92.13
Central-East 6/	5	3.04	0.84	1.28	0.10	0.01	4.62	0.84	55.04
East Central	24	8.26	0.17	0.49	0.61	0.07	17.78	6.88	4.64
South Central 7/	11	4.31	0.30	3.46	0.27	0.02	2.00	0.20	40.07
South East-West 8/	12	4.69	0.37	2.17	0.57	0.07	9.55	6.28	23.75
South East-East 9/	10	4.56	0.00	0.01	1.50	0.00	10.19	5.77	0.00
South Dakota	120	56.53	24.55	26.87	4.68	2.11	74.44	33.83	506.07

1/ Includes Cambell, Walworth, McPhearson, Edmunds, and Brown counties.

2/ Includes Potter, Faulk, and Spink counties.

3/ Includes Lawrence, Meade, and Pennington counties.

4/ Includes Haakon, Jackson, and Stanley counties.

5/ Includes Sully, Hughes, and Hyde counties.

6/ Includes Hand, Buffalo, Brule, Beadle, Jerauld, and Aurora counties.

7/ Includes estimates for Southwest region.

8/ Includes Douglas, Charles Mix, Hutchinson, and Bon Homme counties.

9/ Includes Turner, Yankton, Clay, Lincoln, and Union counties.

Table B.3 Estimated Quantities Handled by SD Elevators, by Sub-Regions, 1994-95

Region/ Sub-Region	No. of All Elevators	Total Capacity (mil bu)	Spring Wheat (mil bu)	Winter Wheat (mil bu)	Oats (mil bu)	Barley (mil bu)	Corn (mil bu)	Soybeans (mil bu)	Sunflower Seeds (mil lb)
Northwest	11	3.87	5.03	0.84	0.41	0.09	0.46	0.02	23.18
North Central-North 1/	24	14.69	17.21	2.05	0.46	1.78	10.84	7.61	142.60
North Central-South 2/	25	9.50	8.74	4.39	0.24	0.88	15.10	5.79	267.49
Northeast	56	23.91	10.30	0.88	2.30	1.03	37.82	17.29	63.26
West Central-West 3/	5	1.47	0.08	8.18	0.35	0.11	0.00	0.00	0.00
West Central-East 4/	7	3.26	0.92	9.33	0.05	0.02	0.76	0.00	34.24
Central-West 5/	12	7.53	2.78	10.87	0.16	0.05	1.23	0.05	122.85
Central-East 6/	11	5.05	1.39	2.13	0.17	0.02	7.68	1.40	91.46
East Central	58	23.39	0.49	1.39	1.73	0.20	50.37	19.50	13.15
South Central 7/	17	6.59	0.46	5.28	0.41	0.02	3.06	0.30	61.27
South East-West 8/	21	10.35	0.82	4.78	1.26	0.15	21.08	13.86	52.43
South East-East 9/	28	11.69	0.00	0.03	3.84	0.00	26.14	14.79	0.00
South Dakota	275	121.30	48.24	50.15	11.39	4.36	174.55	80.61	871.93

1/ Includes Cambell, Walworth, McPhearson, Edmunds, and Brown counties.

2/ Includes Potter, Faulk, and Spink counties.

3/ Includes Lawrence, Meade, and Pennington counties.

4/ Includes Haakon, Jackson, and Stanley counties.

5/ Includes Sully, Hughes, and Hyde counties.

6/ Includes Hand, Buffalo, Brule, Beadle, Jerauld, and Aurora counties.

7/ Includes estimates for Southwest region.

8/ Includes Douglas, Charles Mix, Hutchinson, and Bon Homme counties.

9/ Includes Turner, Yankton, Clay, Lincoln, and Union counties.

Appendix C

The Survey Questionnaire

February 13, 1996

Dear Elevator Manager:

This survey is a part of a research project conducted by the Economics Department, South Dakota State University, titled "An Evaluation of Grain Marketing Systems in South Dakota." The project is funded by the USDA under the Federal-State Marketing Improvement Program, with matching funds from South Dakota's Wheat Commission, Corn Utilization Council, Soybean Council, Oilseed Association, and Agricultural Experiment Station. The project is also supported by the South Dakota Department of Agriculture, and the South Dakota Grain and Feed Association.

The individual firm's information provided in this survey will be kept confidential. Only the aggregate findings of this survey will be released. The aggregate information compiled as a result of this survey will be of real value to those involved in rural economic development and grain marketing improvement.

If your company runs a number of grain elevators and the sales data records are only available at the head office, or if for some other reason you are unable to complete all the survey, please complete the portions of the survey you can. Please mail the completed survey to Grain Marketing Project, Economics Department, Scobey Hall, Box 504 A, South Dakota State University, Brookings, SD 57007-0895, in the enclosed self addressed pre-paid envelope.

At the end of the survey, a drawing will be held to give away three SDSU sweat shirts (one each) to three participants. Please make sure to fill out your entry form attached at the end of this questionnaire.

If you have any questions with respect to the survey please feel free to contact us. We appreciate your cooperation. Thank you.

Sincerely,

Bashir A. Qasmi
Assistant Professor of Economics
Phone (605) 688-4870

Kelly R. McDaniel
Research Assistant
Phone (605) 688-4877

1. Name of your grain elevator? _____

2. Location of your grain elevator? _____

3. What is the storage capacity of your elevator (in 1,000 bushels)? _____

4. Is your elevator on the rail? Yes _____ No _____

5. What is your best estimate of quantities of each type of grain handled by your firm during the last two crop years 1993-94 and 1994-95 (in 1,000 bushels)?

Type of Grain	Quantity during 93-94 (in 1,000 bushels)	Quantity during 94-95 (in 1,000 bushels)
a. Spring Wheat		
b. Winter Wheat		
c. Oats		
d. Barley		
e. Corn		
f. Soybeans		
g. Sunflower		

6. During crop years 1993-94 and 1994-95, What quantities of different grains were purchased by your elevator from other grain dealers? If none of the grain was purchased from other grain dealers during the period, then go to the next question.

Type of Grain	Quantity during 93-94 (in 1,000 bushels)	Quantity during 94-95 (in 1,000 bushels)
a. Spring Wheat		
b. Winter Wheat		
c. Oats		
d. Barley		
e. Corn		
f. Soybeans		
g. Sunflower		

7. For each type of grain sold by your firm, what proportion of sales (during the crop year 1994-95) can be attributed to each of the following types of buyer? (Please note that all entries in a column must add to 100%).

SALES TO	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soy-beans	Sun-flower
	..... as % of 1994-95 sales for each grain						
LOCAL (With in 30 Miles): Farmers as Feed							
Feed Mills							
Ethanol Producers							
Other Grain Processors							
SOUTH DAKOTA (Non-Local): Feed Mill							
Ethanol Producers							
Other Grain Processors							
MINNEAPOLIS AREA: Spot (Cash) Market							
Grain Dealers							
Feed Mills							
Ethanol Producers							
Other Grain Processors							
Terminals							
SIOUX CITY AREA: Feed Mills							
Other Grain Processors							
Terminals							
PORTLAND TERMINALS:							
DULUTH TERMINALS:							
FOREIGN BUYERS:							
OTHERS:							
TOTAL FOR (1994-95)	100%	100%	100%	100%	100%	100%	100%

8. Elevators can purchase grain in a number of ways. During crop year 1994-95 which of the following methods of purchase were offered by your elevator?

a. Cash Purchase _____ b. Delayed Pricing _____

c. Basis Contract _____ d. Hedged to Arrive _____

e. Minimum Price Contract _____ f. Cash Forward Contract _____

Other Methods (Please list):

g. _____ _____ h. _____ _____

9. During crop year 1994-95, what proportion of each type of grain purchased by your elevator can be attributed to each of the methods of purchase listed below? For example: if during the year, cash purchasing, and basis pricing accounted for 90% and 10% of the total spring wheat purchases by your elevator, respectively, then enter 90% and 10% on appropriate lines in the "Spring Wheat" column, and leave the rest of the column blank. Please note that all entries in a column must add to 100%.

METHOD OF GRAIN PURCHASE	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soy-beans	Sun-flower
a. Cash Purchase							
b. Delayed Pricing							
c. Basis Contract							
d. Hedged to Arrive							
e. Minimum Price Contract							
f. Cash Forward Contract							
Others (Please list): g.							
h.							
TOTAL	100%	100%	100%	100%	100%	100%	100%

10. Elevators can sell grain in a number of ways. During crop year 1994-95, what proportion of each type of grain sold by your elevator can be attributed to each of the methods of sale listed below? For example: if during the year, cash sale, and Basis contract accounted for 80% and 20% of the total spring wheat sales by your elevator, respectively, then enter 80% and 20% on appropriate lines in the "Spring Wheat" column, and leave the rest of the column blank. Please note that all entries in a column must add to 100%.

METHOD OF GRAIN SALE	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soy-beans	Sun-flower
a. Cash Sale							
b. Delayed Pricing							
c. Basis Contract							
d. Cash Forward							
Others (Please list): e.							
f.							
TOTAL	100%	100%	100%	100%	100%	100%	100%

11. During the crop year 1994-95, did your elevator ship any grain by rail?

No. _____ Yes. _____ If no please go to the next question.

If yes, please list the quantities (in 1,000 bushels) of each grain shipped by rail to different destinations during crop year 1994-95.

DESTINATIONS:	Spring Wheat	Winter Wheat	Oats	Barley	Corn	Soy-beans	Sun-flower
a. Minneapolis Area							
b. Sioux City Area							
c. Portland Area							
d. Duluth Area							
Others (Please List) e.							
f.							

12. Has the Manager of your elevator attended a seminar or a short course on grain price risk management through commodity futures during the last three years?

Yes more than once _____ Yes only once _____ No _____

13. Has any employee (other than Manager) from your elevator attended a seminar or a short course on grain price risk management through commodity futures during the last three years?

Yes more than once _____ Yes only once _____ No _____

14. During the crop year 1994-95, did your elevator hedge any elevator owned grain using commodity futures contracts?

Yes _____ No _____

If Yes, what percentage of the elevator's grain was hedged using the commodity futures?

100% _____ 75-100% _____ 50-75% _____ 25-50% _____

15-25% _____ 5-15% _____ Less than 5% _____

If No, what are the most important two reasons for not hedging the grain using the commodity futures?

1. _____

2. _____

15. During the crop year 1994-95, did your elevator protect any elevator owned grain using options on commodity futures contracts?

Yes _____ No _____

If Yes, what percentage of the elevator's grain was protected using commodity future options?

100% _____ 75-100% _____ 50-75% _____ 25-50% _____

15-25% _____ 5-15% _____ Less than 5% _____

If No, what are the most important two reasons for not using commodity future options to protect elevator owned grain from price decline?

1. _____

2. _____

16. Does your elevator have access to a grain marketing data network service (Like DTN?

Yes _____ No _____

17. Does your elevator subscribe to any printed grain market information service?

Yes _____ No _____

18. What are the two most pressing problems faced by the grain elevators in the area of transportation?

1. _____

2. _____

19. What are the two most pressing problems faced by the grain elevators in the area of grain quality and grading?

1. _____

2. _____

20. How many years have you been the manager of this elevator? _____

21. How many years of experience do you have as a grain elevator manager? _____

22. How many years of experience do you have in the grain business? _____

23. What was the last year of school you completed? (Please check one)

Some High School _____ Graduated from High School _____

Some College or Technical School _____ Graduated from College _____

24. Would you like to receive a summary of survey results?

Yes _____ No _____

If yes, please print your name and address.

NAME: _____

ADDRESS: _____

End of questionnaire. Please return the completed survey to the Grain Marketing Project, Economics Department, Scobey Hall. Box 504A, South Dakota State University, Brookings, SD 57007-0895, in the enclosed self addressed envelope.

We really appreciate your cooperation and time. ***Thank you!***

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Bashir A. Qasmi & Kelly McDaniel
June 1997

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