

South Dakota State University
**Open PRAIRIE: Open Public Research Access Institutional
Repository and Information Exchange**

Agricultural Experiment Station Circulars

SDSU Agricultural Experiment Station

7-1998

South Dakota Agricultural Farmland Market Trends: 1991-1998

Larry Janssen

South Dakota State University, larry.janssen@sdstate.edu

Burton Pflueger

South Dakota State University, burton.pflueger@sdstate.edu

Follow this and additional works at: http://openprairie.sdstate.edu/agexperimentsta_circ

Recommended Citation

Janssen, Larry and Pflueger, Burton, "South Dakota Agricultural Farmland Market Trends: 1991-1998" (1998). *Agricultural Experiment Station Circulars*. Paper 318.

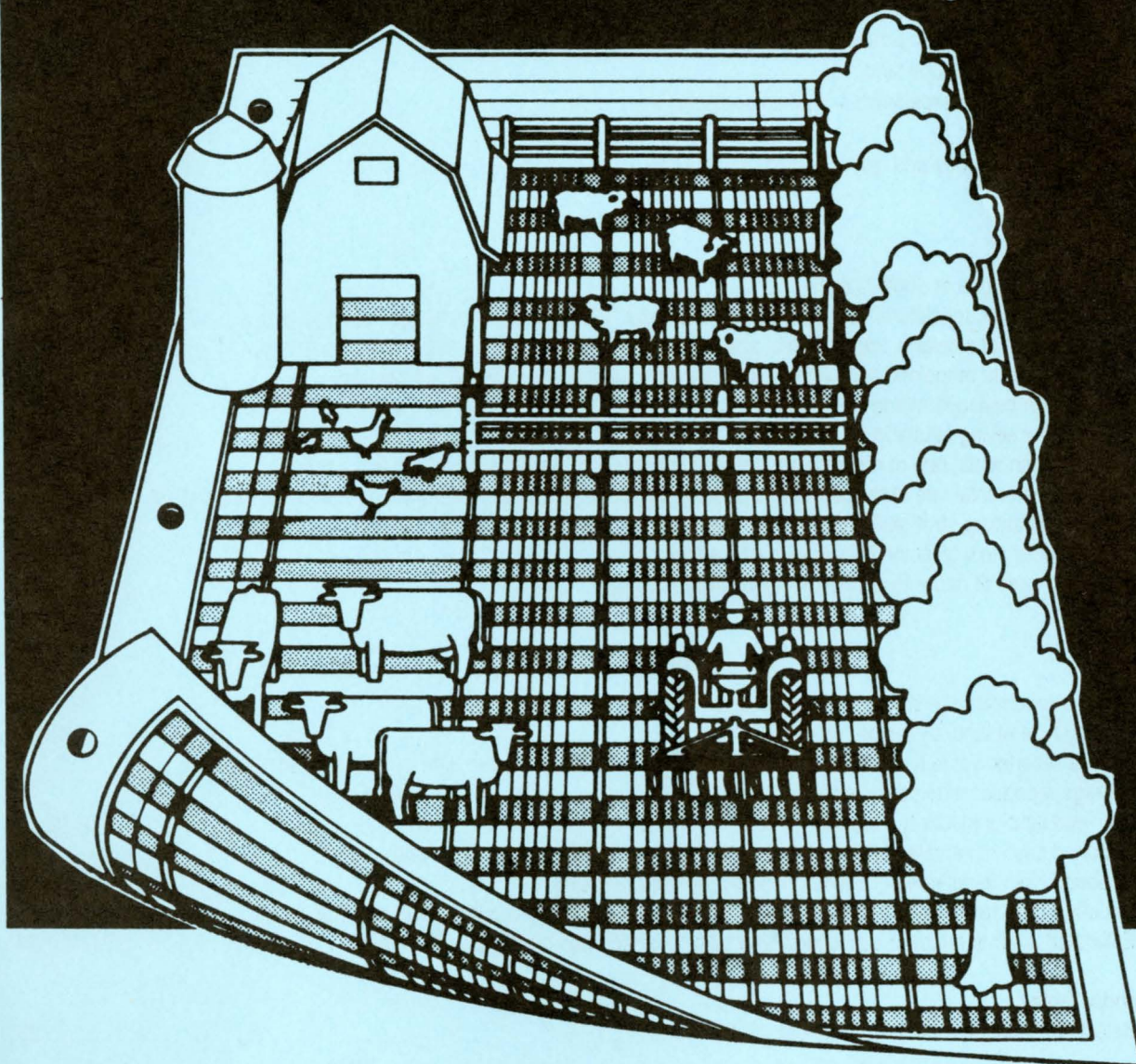
http://openprairie.sdstate.edu/agexperimentsta_circ/318

This Circular is brought to you for free and open access by the SDSU Agricultural Experiment Station at Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. It has been accepted for inclusion in Agricultural Experiment Station Circulars by an authorized administrator of Open PRAIRIE: Open Public Research Access Institutional Repository and Information Exchange. For more information, please contact michael.biondo@sdstate.edu.

C-262

South Dakota Agricultural Farmland Market Trends 1991 - 1998

Results from the 1998 SDSU
South Dakota Farm Real Estate Survey



C 262, South Dakota Agricultural Land Market Trends, 1991 - 1998

Contents

Summary	3
1998 South Dakota agricultural land values and value changes	5
Land values and value changes by type of land and region	8
Cropland values	8
Hayland values	9
Pasture and rangeland values	10
Irrigated land values	10
Variation in land values by land productivity and county clusters	10
Major reasons for purchase and sale of farmland	13
1998 cash rental rates of agricultural land	14
Cash rental rates: cropland, hayland, and irrigated land	14
Cash rental rates: rangeland and pastureland	16
Respondents' assessment of factors influencing land value changes	19
Rates of return to agricultural land	20
Agricultural land market expectations, past and prospective	21
References	22
Appendix, survey methods and respondent characteristics	23

Figures

1. Agricultural regions of South Dakota	5
2. Average value of agricultural land, February 1, 1998 and 1997, and percent change from one year ago	6
3. Average value of cropland, irrigated land, and hayland, by region, February 1998, dollars per acre	9
4. Average value of rangeland and tame pasture, by region, February 1998, dollars per acre	9
5. Reasons for buying farmland	14
6. Reasons for selling farmland	14
7. Average cash rental rate of nonirrigated cropland and hayland, by region, 1998, dollars per acre	17
8. Average cash rental rate of rangeland and pastureland, by region, 1998, dollars per acre and dollars per AUM	17
9. Factors influencing farm real estate market values	20
10. Respondents' view of factor influence on land value	20
11. Estimated rates of return to agricultural land, state and region, 1998	22

Tables

1. Average reported value and annual percentage change in value of agricultural land by type of land by region, 1991-1998	6, 7
1A. Average reported value and annual percentage change in value of irrigated land by region, 1991-1998	8
2. Average reported value per acre of agricultural land by region, county clusters, type of land, and land productivity, February 1, 1998	11, 12, 13
3. Reported cash rental rates of agricultural land by type of land by region, 1991-1998	15
3A. Reported cash rental rates of irrigated land by region, 1991-1998	16
4. Reported cash rental rates of agricultural land by region and county clusters, 1998 and 1997 rates	17, 18, 19
5. Estimated rates of return to agricultural land by type of land and by region, 1991-1998	21

Appendix Table

1. Selected characteristics of respondents, 1998	23
--	----

**C 262
June 1998**

**South Dakota
Agricultural Land Market Trends
1991 - 1998**

Results from the 1998 SDSU South Dakota Farm Real Estate Survey

**Dr. Larry Janssen and Dr. Burton Pflueger
Economics Department
South Dakota State University
Brookings, South Dakota**

Foreword

Agricultural land values and cash rental rates in South Dakota, by region and by state, are the primary topics of this report, which is written for farmers and ranchers, landowners, agricultural professionals (lenders, rural appraisers, professional farm managers, Extension agents, and educators), and policy makers interested in agricultural land market trends. This report contains the results of the 1998 SDSU South Dakota Farm Real Estate Market Survey, the eighth annual SDSU survey developed to estimate agricultural land values and cash rental rates by land use in different regions of South Dakota.

We wish to thank our reviewers for their constructive comments on an earlier draft of this report. The reviewers are Dr. Richard Shane, Department Head, and Dr. Don Peterson, Extension farm management specialist, of the SDSU Economics Department and Mary Brashier, Agricultural Communications Department, SDSU.

Laura Longwood, undergraduate assistant and Ag Economics major at SDSU, conducted many of the tasks associated with survey data collection, editing, data entry, and preparation of tables found in this report. We wish to thank Economics secretarial staff for developing and maintaining mailing lists and for editing the tables and charts included in this report.

General funding for this project is from the SDSU Agricultural Experiment Station project H - 127: Economic analyses of agricultural land markets and land management practices in South Dakota.

Finally, we wish to thank all of the 262 respondents (lenders, appraisers, and Extension agents) who participated in the 1998 South Dakota Farm Real Estate Market Survey. Most of these people have also participated in one or more past annual land market surveys. Without their responses this report would not be possible.

Larry Janssen
Burton Pflueger



Published in accordance with an act passed in 1881 by the 14th Legislative Assembly, Dakota Territory, establishing the Dakota Agricultural College and with the act of re-organization passed in 1887 by the 17th Legislative Assembly, which established the Agricultural Experiment Station at South Dakota State University. SDSU is an Affirmative Action/Equal Opportunity Employer (Male/Female) and offers all benefits, services, education, and employment opportunities without regard for ancestry, age, race, citizenship, color, creed, religion, gender, disability, national origin, sexual preference, or Vietnam Era veteran status.

C 262: 900 printed by Agricultural Experiment Station at \$1.20 each. AX 145. July 1998

South Dakota Agricultural Land Market Trends 1991 - 1998

Results from the 1998 SDSU South Dakota Farm Real Estate Survey

Dr. Larry Janssen and Dr. Burton Pflueger¹

SUMMARY

The 1998 SDSU Farm Real Estate Market Survey reports current agricultural land values and cash rental rates by land use in different regions of South Dakota and compares them with earlier years. Key findings are highlighted.

- **The most recent annual change (1997 to 1998) in agricultural land values of 10.0% is the highest annual percentage increase in the 1990s.**

Cropland and forage land values increased at similar rates. Annual increases of 9 - 11% occurred for agricultural land values in the southwest and north-central regions, while annual increases of 15 - 16% occurred in the central, south-central, and southeast regions.

- **South Dakota agricultural land values increased more than the rate of general price inflation from 1991 to 1998.**

Agricultural land values have increased 43% over this 7-year period, considerably above the general inflation rate of 18.2% over the same period. Rangeland values increased at a greater percentage rate than cropland values during most of the period, with statewide increases of 53% for rangeland and 39% for nonirrigated cropland.

- **A combination of economic factors were offered by respondents as the major reasons for land value increases.**

Interest in farm expansion, investor interest in rural land purchases, financial strength of owners, favorable interest rates, and availability of credit were viewed by respondents as the top five economic factors influencing land value increases. Very good crop yields and the impacts of federal CRP and farm programs also contributed.

- **Agricultural land values differ greatly by region and land use.**

In each region, per-acre values are highest for irrigated land, followed in descending order by nonirrigated cropland, hayland or tame pasture, and native rangeland. For each land use, per-acre land values are highest in the southeast and lowest in western South Dakota.

The average value of nonirrigated agricultural land (as of February 1, 1998) in South Dakota is \$319 per acre, varying from \$766 in the southeast to \$115 in the northwest.

Average nonirrigated cropland values range from \$903 in the southeast to \$434 in the central region and \$200 per acre in the northwest. Average cropland values exceed \$1000 per acre in several counties of eastern South Dakota.

Average rangeland varied from \$408 per acre in the southeast to \$98 per acre in the northwest.

¹ Professors, Department of Economics, South Dakota State University. Dr. Janssen has teaching and research responsibilities in agricultural policy, agricultural finance, and farmland markets. Dr. Pflueger is Extension farm financial management specialist.

Within each region, land productivity and land use account for substantial differences in per-acre values.

- **Average cash rental rates per acre also differ greatly by region and land use.**

Average rental rates are highest in the south-east and east-central regions and lowest in western South Dakota. In each region, cash rental rates are highest for cropland and lowest for pasture and rangeland.

For example, average cash rental rates in 1998 for nonirrigated cropland are above \$80 per acre in a few counties of eastern South Dakota and only \$18 - 19 per acre in western South Dakota.

Average rangeland rental rates are \$24.40 and \$28.10 per acre in the east-central and southeast regions compared to an average of \$6.70 to \$7.30 per acre in western South Dakota.

- **Cash rental rates per acre increased considerably from 1991 to 1998.**

During this period, average cash rental rates for cropland increased more than 30% in north-central, southeast, central, and northwest South Dakota and 16% to 20% in the southwest, south-central, and northeast regions of South Dakota. Rangeland rental rates increased an average \$2.00 to \$2.30 per acre (+38% to +52%) in western South Dakota and increased \$8.90 per acre (+46%) in the southeast.

- **Cash rental rates increased in most regions during the past year, with strongest increases shown for cropland.**

For example, from 1997 to 1998, average cash rental rates for cropland increased between \$5.80 and \$7.80 per acre in the east-central and southeast region while cash rental rates for hayland in these regions increased \$3.70 to \$5.30. The average dollar amount of increases in cash rental rates were generally lower in the central and western regions of South Dakota. Very good crop yields, federal farm programs, and CRP payment rates were contributing factors.

Rangeland rental rates increased in most regions while rates per AUM (Animal Unit Month) held steady or increased in all regions. Average rangeland rental rates in 1998 vary across regions from \$15 to \$19.80 per AUM.

- **Current average net rates of return on agricultural land in South Dakota are much lower than farmland mortgage interest rates of 7.5% to 10%.**

Respondents' estimates of net rates of return to farmland in their localities at current land values, were 5.1% for all-ag land, 6.0% for nonirrigated cropland, and 4.4% for rangeland. This implies relatively large downpayments are necessary before land purchases can cash flow from net returns. Continued caution in farm real estate debt financing is essential. □

South Dakota

Agricultural Land Market Trends

1991 - 1998

The 1998 SDSU Farm Real Estate Market Survey is the eighth annual survey of agricultural land values and cash rental rates by land use (cropland, rangeland, tame pastureland, hayland, and irrigated land) in different regions of South Dakota. Publication of survey findings is a response to numerous requests for detailed information on farmland markets in South Dakota.

The 1998 estimates are based on reports from 262 respondents who are agricultural lenders, rural appraisers, assessors, realtors, professional farm managers, and Extension agricultural agents. All are familiar with farmland market trends in their localities.

The survey, mailed in February and March 1998, requested information on cash rental rates and agricultural land values as of February 1, 1998. Response rates, respondent characteristics, and estimation procedures are given in Appendix I. Results are presented in a format similar to that of previous years' surveys (see Janssen and Pflueger, 1991 - 1997). Current year findings are also compared to those of earlier years.

This report is an overview. It may or may not reflect actual land values or cash rental rates unique to specific localities or specific properties. Use this information as a general reference and rely on local sources for more specific details.

County data on whole farm, cropland, and pasture rents and values are provided by the South Dakota Agricultural Statistics Service (SDASS) in their report: South Dakota 1998 County Level Land Rents and Values.² The SDASS report is based on a telephone survey of South Dakota farm/ranch producers and is the fifth annual survey of county level land rents and values.

² The SDASS report on county level land rents and values can be obtained from their Sioux Falls office. Their phone number is 605-330-4235 and their mailing address is: South Dakota Agricultural Statistics Service, P.O. Box 5068, Sioux Falls SD 57117-5068.

1998 South Dakota agricultural land values and value changes

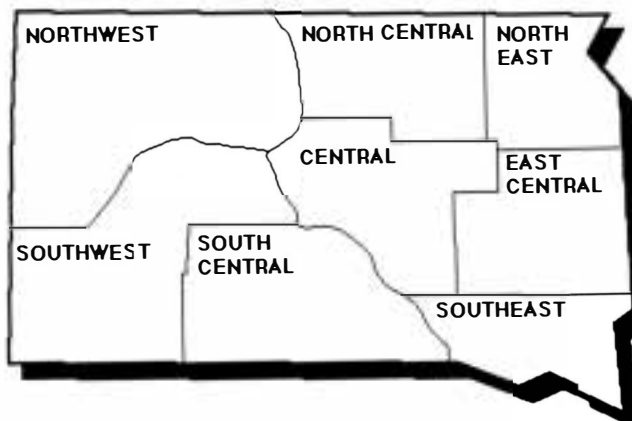
Respondents to the 1998 South Dakota Farm Real Estate Market Survey estimated the per-acre value of nonirrigated cropland, hayland, rangeland, tame pastureland, and irrigated land in their counties and the percent change in value from one year earlier. Responses for nonirrigated land uses are grouped into eight agricultural regions (Fig 1). The six regions in eastern and central South Dakota correspond with USDA Crop Reporting Districts.

Due to few irrigated land reports in several regions, responses for irrigated land values and rental rates are regrouped into six regions: western, central/south-central, north-central, northeast, east-central, and southeast.

Average value per acre and percent change in value were obtained for each agricultural land use in each region. Regional and statewide all-land (nonirrigated land) value estimates are weighted averages based on the relative amount and value of each nonirrigated agricultural land use in each region of South Dakota (Appendix I).

From 1991 to 1998, South Dakota agricultural land values increased considerably more than the rate of gen-

Fig 1. Agricultural regions of South Dakota.



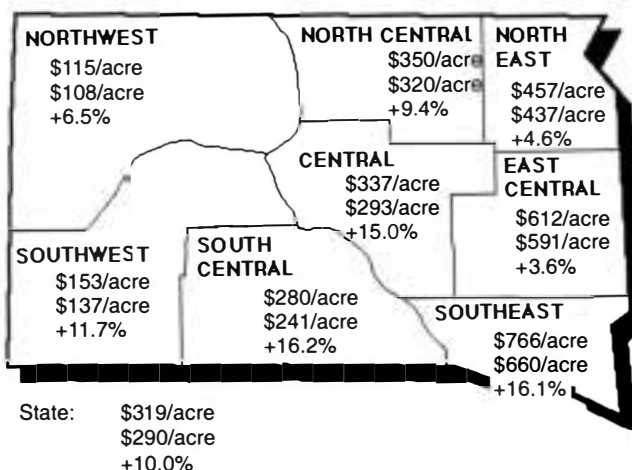
eral price inflation. As of February 1998, the South Dakota all-land average value was \$319 per acre, an estimated 10% increase from one year earlier and 43% above February 1991 estimates (Fig 2 and Table 1). The most recent 2 years (1996 - 1998) recorded the highest annual percentage changes in ag land value in the 1990s.

By contrast, the personal consumption expenditures price index (GNP - PCE deflator) rose 18.2% over the same period.

Regional differences in all-agricultural land values are primarily related to major differences in (1) agricultural land productivity among regions, (2) per-acre values of cropland and rangeland in each region, and (3) the proportion of cropland and rangeland in each region. Native range is dominant in western South Dakota, while most agricultural land in eastern South Dakota is nonirrigated cropland.

All-land average values are highest in eastern South Dakota, with per-acre values ranging from \$766 in the southeast to \$612 in the east-central and \$457 in the northeast region. These three eastern regions contain the

Fig 2. Average value of South Dakota agricultural land, February 1, 1998 and 1997, and percent change from one year ago.



Regional and statewide average values of agricultural land are the weighted averages of dollar value per acre and percent change by proportion of acres of each nonirrigated land use by region.

Top: Average per-acre value—February 1, 1998
 Middle: Average per-acre value—February 1, 1997
 Bottom: Annual percent change in per-acre land value

Source: 1998 South Dakota Farm Real Estate Market Survey, SDSU.

Table 1. Average reported value and annual percentage change in value of South Dakota agricultural land by type of land by region, 1991-1998.

Type of Land	South-east	East-Central	North-east	North-Central	Central	South-Central	South-west	North-west	STATE
All Agricultural Land (nonirrigated)									
	<i>dollars per acre</i>								
Average value, 1998	766	612	457	350	337	280	153	115	319
Average value, 1997	660	591	437	320	293	241	137	108	290
Average value, 1996	636	522	419	291	288	217	124	112	273
Average value, 1995	627	475	424	277	257	222	129	100	262
Average value, 1994	567	497	393	293	255	191	112	94	250
Average value, 1993	548	498	399	254	233	199	111	90	241
Average value, 1992	519	474	368	259	223	186	104	89	231
Average value, 1991	526	466	362	227	225	177	97	84	223
Average annual % change 98/91	5.5%	4.0%	3.4%	6.4%	5.9%	6.8%	6.7%	4.6%	5.2%
Annual % change 98/97	16.1%	3.6%	4.6%	9.4%	15.0%	16.2%	11.7%	6.5%	10.0%
Nonirrigated Cropland									
	<i>dollars per acre</i>								
Average value, 1998	903	728	564	452	434	399	241	200	536
Average value, 1997	777	699	535	412	386	348	217	188	488
Average value, 1996	751	613	514	372	371	317	214	191	456
Average value, 1995	732	555	522	353	332	326	237	185	439
Average value, 1994	661	590	488	382	331	289	218	169	429
Average value, 1993	655	595	497	326	305	302	197	163	415
Average value, 1992	616	574	460	342	300	287	196	167	402
Average value, 1991	623	554	450	294	300	272	185	153	386
Average annual % change 98/91	5.4%	4.0%	3.3%	6.3%	5.4%	5.6%	3.8%	3.8%	4.9%
Annual % change 98/97	16.2%	4.1%	5.4%	9.7%	12.4%	14.7%	11.1%	6.4%	9.8%

most productive land in South Dakota. Cropland and hayland, 70% to 74% of farmland acres, are dominant in these regions.

Agricultural land values in central and western regions of South Dakota are much lower than in eastern South Dakota. The average value per acre ranges from \$280 in the south-central region to \$337 and \$350, respectively, in the central and north-central regions. Cropland and hayland account for a majority of farmland acres in the central and north-central regions, while

rangeland and pasture are 69% of agricultural acres in the south-central region.

Lowest average values of agricultural land are found in the northwest (\$115 per acre) and southwest regions (\$153 per acre). More than 80% of privately owned agricultural acres in the western regions are in native rangeland and pasture.

Regional changes in agricultural land values this past year (early 1997 to early 1998) were related to impacts of CRP and federal farm programs, economic

Table 1 continued. Average reported value and annual percentage change in value of South Dakota agricultural land by type of land by region, 1991-1998.

Type of Land	South-east	East-Central	North-east	North-Central	Central	South-Central	South-west	North-west	STATE
Rangeland (native)	<i>dollars per acre</i>								
Average value, 1998	408	346	274	226	256	231	130	98	167
Average value, 1997	364	354	268	204	214	197	116	92	151
Average value, 1996	336	311	250	194	214	177	100	97	143
Average value, 1995	354	303	247	184	197	180	101	83	136
Average value, 1994	319	283	228	184	190	149	85	80	125
Average value, 1993	283	276	232	169	175	157	89	76	122
Average value, 1992	271	267	209	163	159	145	80	74	114
Average value, 1991	268	271	205	147	163	137	74	69	109
Average annual % change 98/91	6.2%	3.6%	4.2%	6.3%	6.7%	7.7%	8.4%	5.1%	6.3%
Annual % change 98/97	12.1%	-2.3%	2.2%	10.8%	19.6%	17.3%	12.1%	6.5%	10.6%
Pasture (tame, improved)	<i>dollars per acre</i>								
Average value, 1998	461	406	297	264	302	272	161	120	299
Average value, 1997	416	373	299	236	265	222	138	114	271
Average value, 1996	379	358	279	231	258	188	127	115	256
Average value, 1995	385	346	262	218	214	214	117	102	237
Average value, 1994	371	335	251	200	224	194	109	93	227
Average value, 1993	326	333	249	194	194	193	104	98	216
Average value, 1992	328	306	257	194	190	176	100	88	210
Average value, 1991	315	325	252	170	199	163	92	94	206
Average annual % change 98/91	5.6%	3.2%	2.4%	6.5%	6.1%	7.6%	8.3%	3.6%	5.6%
Annual % change 98/97	10.8%	8.8%	-0.7%	11.9%	14.0%	22.5%	16.7%	5.3%	10.3%
Hayland	<i>dollars per acre</i>								
Average value, 1998	668	504	330	265	295	291	178	149	303
Average value, 1997	553	507	316	262	253	258	169	150	280
Average value, 1996	568	451	314	219	273	232	156	146	267
Average value, 1995	562	365	336	213	229	230	164	145	254
Average value, 1994	489	409	279	235	237	204	137	124	240
Average value, 1993	435	398	275	188	205	204	140	121	223
Average value, 1992	416	336	237	179	197	193	135	119	207
Average value, 1991	461	358	252	169	190	197	126	122	211
Average annual % change 98/91	5.4%	5.0%	3.9%	6.6%	6.5%	5.7%	5.1%	2.9%	5.3%
Annual % change 98/97	20.8%	-0.6%	4.4%	1.1%	16.6%	12.8%	5.3%	-0.7%	8.2%

Source: 1998 and earlier South Dakota Farm Real Estate Market Surveys

conditions in the crop and cow-calf sectors, and some investor interest in rural land purchases. Also, the impact of several years of wet weather in the northeast and east-central regions probably contributed to the lowest percentage rates of increase in land values among South Dakota regions.

The major difference in regional land value trends, compared to past years in this decade, is the report of double digit land value increases in many regions.

Annual increases of 15 - 16% were calculated for February 1997 to February 1998 for all-agricultural land in the central, south-central, and southeast regions, while annual increases of 11.7% and 9.4% were calculated for all-agricultural land in the southwest and north-central regions. Rangeland, pastureland, and cropland values each increased by 10% or more in most regions.

Seven-year (1991 - 1998) trends in agricultural land values show increases above the rate of price inflation in all regions. During this period, the average annual rate of price inflation has been +2.4% for a total increase of +18.2%.

Highest rates of land value increases during this period were in the southwest, south-central, central, and north-central regions. Average annual increases varied from +5.9% to 6.8% and total land value increased 50%

to 58%. The lowest rate of increase was in the northeast region with an average annual increase of 3.4% and total agricultural land value increase of 26.2% (Table 1).

Land values and value changes by type of land and region

In each region, per-acre values are highest for irrigated land followed by nonirrigated cropland, hayland or tame pasture, and native rangeland. For each nonirrigated land use, per-acre land values are highest in the south-east and east-central regions and lowest in the northwest and southwest regions (Tables 1 and 1A, Figs 3 and 4).

These regional differences in land values by land use have remained consistent over time and are closely related to climate patterns, crop / forage yields, and soil productivity differences across the state.

Cropland values

The weighted average value of South Dakota's nonirrigated cropland (as of February 1998) is \$536, a 9.8% increase from 1997 and the highest annual percentage change in the 1990s (Table 1). This is directly related to the combination of near-record crop yields, favor-

Table 1a. Average reported value and annual percentage change in value of South Dakota irrigated land by region, 1991-1998.^a

Type of Land	South-east	Central	North-east	Central	South-Central	Western	STATE
Irrigated Land							
	<i>dollars per acre</i>						
Average value, 1998	1245	950	686	676	549	508	752
High Productivity	1498	1116	783	763	549	745	—
Low Productivity	1005	838	628	628	549	360	—
Average value, 1997	1217	769	736	600	502	469	707
Average value, 1996	1083	714	662	504	460	453	642
Average value, 1995	1144	740	793	535	475	411	664
Average value, 1994	1043	790	683	568	520	433	655
Average value, 1993	979	765	583	547	506	491	640
Average value, 1992	985	844	641	450	470	451	622
Average value, 1991	942	665	563	433	460	419	580
Average annual % change 98/91	4.1%	5.2%	2.9%	6.6%	2.6%	2.8%	3.8%
Annual % change 98/97	2.3%	23.5%	-6.8%	12.7%	9.4%	8.3%	6.4%

^a The reliability of reported irrigated land values is lower than the reliability of nonirrigated land value reports. Less than one third of respondents are familiar with and able to provide information on irrigated land values.

Source: 1998 and earlier South Dakota Farm Real Estate Market Surveys

able wheat and soybean prices, and the 1996 farm program which provided producers with fixed transition payments, regardless of market price levels, and considerably higher than projected deficiency payments.³

There is considerable regional variation in cropland value changes. For example, substantial increases of 9.7% to 16.2% in cropland values are reported for 1998 in the north-central, central, southwest, south-central, and southeast regions, compared to cropland value increases of 4.1% to 6.4% in the other regions.

From 1991 to 1998, South Dakota cropland values increased above the rate of price inflation in all regions with a statewide average annual increase of 4.8% and a total 8-year increase of 38.9%.

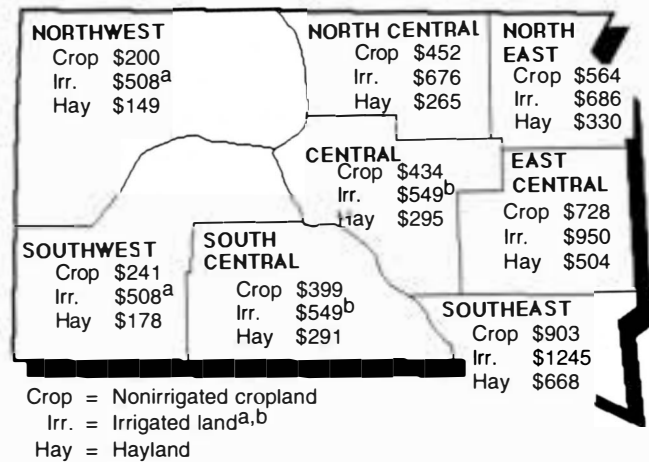
The southeast region has the highest average cropland values (\$903 per acre), followed by cropland in the east-central and northeast regions (Fig 3 and Table 1). These three eastern regions contain nearly 45% of South Dakota's cropland, and major crops are corn, soybeans, wheat, and other small grains.

Wheat, other small grains, and soybeans are the predominant crops in the central regions of South Dakota. Average cropland values in the north-central (\$452 per acre) are higher than in the central (\$434) or south-central (\$399) regions. Lowest average cropland values, \$200 and \$241 per acre, are found in the northwest and southwest regions, respectively. Dominant cropland uses are spring wheat in the northwest and winter wheat in the southwest. Average per-acre values of cropland in the northwest region are about 22% of those in the southeast (Table 1).

Hayland values

South Dakota hayland values averaged \$303 per acre as of February 1998, a 5.3% increase from one year earlier and a 32.7% increase from 1991. Strong annual increases in hayland values above 12% are reported in the south-central, central, and southeast regions with minimal changes reported in the east-central, north-central, and northwest regions. From 1991 to 1998, hayland value increases in all regions were above the rate of

Fig 3. Average value of South Dakota cropland, irrigated land, and hayland, by region, February 1998, dollars per acre.

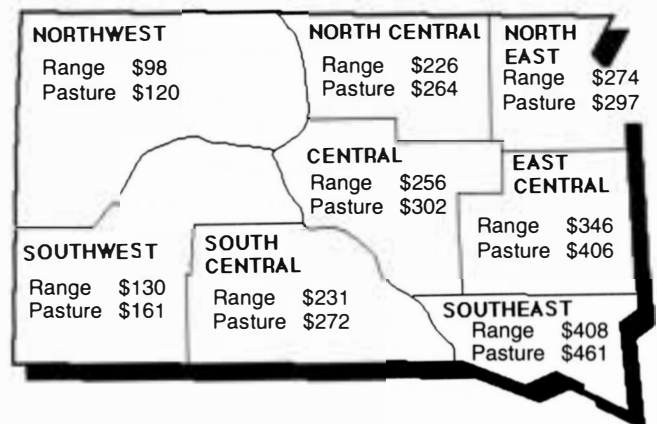


^aIrrigated land values shown for the northwest and southwest regions are based on the average value reported for gravity irrigated land in both western areas.

^bIrrigated land values shown for the central and south-central regions are based on the average value reported in both regions.

Source: 1998 South Dakota Farm Real Estate Market Survey.

Fig 4. Average value of South Dakota rangeland and tame pasture, by region, February 1998, dollars per acre.



Source: 1998 South Dakota Farm Real Estate Market Survey.

³ The 1996 Federal Ag Improvement and Reform Act (FAIR) changed federal commodity income support from deficiency payments, which varied inversely with program crop prices, to a fixed, declining schedule of production flexibility payments for 7 years. The 1996 farm bill breaks the link between farm

program payment amount, and good/poor market prices. Production flexibility payments received in 1996 and 1997 were considerably above deficiency payments that would have been received under previous farm program rules. However, production flexibility payments in 1998 and 1999 are lower than in the previous 2 years and declines in feed grains and wheat prices will lead to reduced impact of commodity programs on cropland prices.

price inflation, with the strongest increases reported in the north-central and central regions (Table 1).

Per-acre hayland values follow the same regional patterns as cropland values, highest in the southeast (\$608 per acre) and lowest in the northwest (\$149). Alfalfa hay and other tame hay are the most common hays harvested in eastern South Dakota, while native hay is more common in central and western South Dakota. Respondents from the southeast and east-central regions primarily reported alfalfa hayland values, while those in all other regions tended to report all-hayland values.

Pasture and rangeland values

In February 1998, the weighted average value of South Dakota native rangeland was \$167 per acre, while the average value of tame pasture was \$299 (Table 1 and Fig 4). Native rangeland is much more concentrated in the western and central regions of South Dakota, while tame pasture is concentrated in the eastern regions.

The statewide average change in value from February 1997 to February 1998 was +10.6% for rangeland and +10.3% for tame pastureland. According to the survey reports, rangeland and pastureland values increased more than 10% in the southeast, north-central, central, south-central, and southwest regions. Minimal changes in rangeland values occurred in the east-central and northeast regions.

From 1991 to 1998, statewide rangeland values increased 53% statewide while tame pastureland values increased 45% statewide. The highest percentage increases (above 66%) in rangeland and tame pasture values occurred in the south-central and southwest regions. The smallest percentage increases were in east-central and northeast regions.

Rangeland average values are highest in the southeast (\$408 per acre) and lowest in the northwest (\$98). In the central regions of South Dakota, average rangeland values cluster from \$226 to \$256 per acre, compared to \$274 in the northeast (Table 1 and Fig 4). Across regions, average rangeland values vary between 80% and 92% of the average value of tame pastureland.

Depending on specific region, the average per-acre value of nonirrigated cropland is 1.7 to 2.2 times the average value of native rangeland. In all regions, per-acre average hayland and tame pasture values are considerably lower than nonirrigated cropland values and somewhat higher than native rangeland values.

Irrigated land values

Irrigated land value reports are consolidated into six regions (Table 1A and Fig 3). The very few reports from the central and south-central regions make it necessary to combine these two regions. Northwest and southwest regions are combined into a western region because almost all their irrigated land reports are for gravity-irrigated cropland in counties adjacent to the Black Hills. In all other regions, the value of irrigated land was reported for center pivot irrigation systems, excluding the value of the center pivot.

We continue to caution readers that irrigated land value data are less reliable than data for other agricultural land uses. Irrigated land is not common (less than 1% of total acres) in most regions, and there are few sales of irrigated tracts. Consequently, only 27% of all respondents were familiar with and able to provide information on irrigated land values.

Based on only 70 responses, irrigated land value increases were reported in all except the northeast region. Statewide average irrigated land values are \$752 per acre, a 6.4% decrease from a year earlier and 30% above 1991 reported values.

Regional average irrigated land values are above the statewide average in the southeast (\$1245 per acre) and east-central (\$950) and northeast (\$736) regions. In central and western South Dakota, irrigated land values average \$508 to \$549 per acre (Table 1A and Fig 3).

Variation in land values by land productivity and county clusters

Considerable variation in land value exists within each region and for each agricultural land use. In this section, we report February 1998 per-acre values of average quality, high-productivity, and low-productivity land by agricultural land use by region and county clusters within several regions (Table 2).

A county cluster is a group of counties within the same region that have similar agricultural land use and value characteristics. Three county clusters are identified in each of the following regions: southeast, east-central, northeast, north-central, and central.

Land values are not reported by county clusters in regions west of the Missouri River because there are too

few reports from any county groupings. This survey is not designed to reflect the substantially higher nonirrigated land values near the Black Hills.

Substantial variation in per-acre land value occurs by land productivity for each land use in each region. For example, 1998 cropland values in the southeast region range from an average of \$648 per acre for low-productivity cropland to \$1198 per acre for high-productivity cropland. In the northwest region, at the other extreme, the average value of low (high) productivity cropland values is \$152 (\$249) per acre.

Relative value of high- to low-productivity cropland is greatest in the most crop-intensive regions of South Dakota. For example, the average value of high-productivity cropland is 75% to 100% higher than the average value of low-productivity cropland in eastern and north-central regions where cropland is the dominant land use.

In the other regions of central and western South Dakota, average value of high-productivity cropland is only 45% to 70% above the average value of low-productivity cropland (Table 2).

Rangeland values in the southeast region vary from \$238 per acre for lower-productivity land to \$501 for higher productivity land. In the northwest region at the other extreme the average value of low (high) productivity rangeland is \$76 (\$122) per acre.

The average value of high-productivity rangeland varies from 43% to 53% above the average value of low-productivity rangeland across the eastern and central regions of South Dakota and is 60% or greater in the western regions where rangeland predominates (Table 2).

Average values of nonirrigated cropland exceed \$1000 per acre in two county clusters in eastern South Dakota: Minnehaha-Moody (\$1091 per acre) and Clay-Lincoln-Turner-Union (\$1195). This is the second con-

Table 2. Average reported value per acre of agricultural land by South Dakota region, county clusters, type of land, and land productivity, February 1, 1998.

Agricultural Land Type and Productivity	Southeast				East-Central			Sanborn
	All	Clay Lincoln Turner Union	Bon Homme Hutchinson Yankton	Charles Mix Douglas	All	Minnehaha Moody	Brookings Lake McCook	Davison Hanson Kingsbury Miner
<i>dollars per acre</i>								
Nonirrigated Cropland								
Average	903	1195	772	546	728	1091	648	480
High Productivity	1198	1578	1065	690	944	1425	855	594
Low Productivity	648	847	558	395	538	757	514	369
Rangeland (native)								
Average	408	505	392	328	346	411	340	313
High Productivity	501	662	444	402	407	522	387	362
Low Productivity	328	423	302	261	282	325	275	262
Pastureland (tame, improved)								
Average	461	593	435	345	406	563	371	341
High Productivity	546	710	500	419	476	672	445	386
Low Productivity	385	515	358	275	328	428	314	282
Hayland								
Average	668	1000	561	353	504	785	425	370
High Productivity	843	1290	690	422	610	1030	485	424
Low Productivity	482	658	448	280	390	590	338	294

Irrigation land values are not reported in this table, due to insufficient number of reports in most county clusters

Source: 1998 South Dakota Farm Real Estate Market Survey, SDSU

secutive year during the 1990s that the average value of nonirrigated cropland exceeds \$1000 in any county cluster. For comparison purposes, 1991 average values of nonirrigated cropland in these clusters were \$809 and \$811 per acre, respectively.

Average land values are considerably lower in the other county clusters of the southeast and east-central regions. For example, the per-acre value of average-quality nonirrigated cropland is \$648 to \$772 per acre, respectively, in the Brookings-Lake-McCook and Bon Homme-Hutchinson-Yankton clusters, and only \$480 to \$546 per acre in the western clusters of these two regions. Similar patterns of per-acre values occur for other land uses (Table 2).

Value increases for all land uses were strong in all southeast county clusters and in the Minnehaha-Moody cluster, while modest increases were reported in the other clusters of the east-central region.

In the northeast region, average nonirrigated cropland and hayland values in the Grant-Roberts cluster are slightly higher than values reported in the Codington-Deuel-Hamlin county cluster, and considerably more than values reported in the Clark-Day-Marshall cluster.

However, rangeland and tame pastureland values were considerably higher in the Codington-Deuel-Hamlin cluster than in the other two northeast county clusters. Cropland and hayland values increased more than pasture and rangeland values in all of the northeast clusters.

In the north-central region, average land values in Brown and Spink counties are much higher than found in other counties. Most land in Brown and Spink counties is located in the James River valley and is more productive than most other land in the north-central region. As an example, nonirrigated cropland values average \$599 per acre in the Brown-Spink cluster and only \$322 per acre in the Edmund-Faulk-McPherson cluster and \$367 per acre in the Campbell-Potter-Walworth cluster. During the past 2 years (1996 to 1998), cropland and hayland value increases have been moderate to strong in all county clusters, while pasture and rangeland values have not changed much. During the past year, land value increases were strong for all land uses in the Campbell-Potter-Walworth clusters.

In the central region, per-acre values of cropland are highest in the Hughes-Sully cluster, while per-acre values of forage land uses are highest in the Aurora-

Table 2 continued. Average reported value per acre of agricultural land by South Dakota region, county clusters, type of land, and land productivity, February 1, 1998.

<i>Northeast</i>		<i>North-Central</i>						
<i>Agricultural Land</i>		<i>Codington</i>		<i>Clark</i>		<i>Brown</i>	<i>Edmunds</i>	<i>Campbell</i>
<i>Type and Productivity</i>	<i>All</i>	<i>Deuel</i> <i>Hamlin</i>	<i>Grant</i> <i>Roberts</i>	<i>Day</i> <i>Marshall</i>	<i>All</i>	<i>Spink</i>	<i>Faulk</i> <i>McPherson</i>	<i>Potter</i> <i>Walworth</i>
<i>dollars per acre</i>								
Nonirrigated Cropland								
Average	564	622	640	445	452	599	322	367
High Productivity	735	763	832	617	641	938	381	467
Low Productivity	395	429	445	321	319	382	270	279
Rangeland (native)								
Average	274	298	262	272	226	263	220	185
High Productivity	309	325	293	314	272	333	257	212
Low Productivity	216	251	212	199	178	209	185	136
Pastureland (tame,improved)								
Average	297	342	271	299	264	307	239	207
High Productivity	336	370	317	336	315	375	280	237
Low Productivity	237	280	293	212	210	248	197	151
Hayland								
Average	330	351	386	270	265	315	241	214
High Productivity	386	404	436	334	305	369	270	245
Low Productivity	240	271	275	191	196	216	204	160

Beadle-Jerauld cluster. Annual land value increases were moderate to strong for all land uses in all county clusters of the central region.

For regions west of the Missouri River, average land values for each land use are highest in the south-central region and are lowest in the northwest. From 1997 to 1998, strong increases in land values were reported for all nonirrigated ag land uses in the south-central and southwest regions while only moderately increasing in the northwest.

Major reasons for purchase and sale of farmland

Respondents were asked to provide major reasons why buyers were purchasing and sellers were selling farmland in their localities. During the 8 years the SDSU Farm Real Estate Market Survey has been conducted, the most commonly cited reasons for purchase and sale have not changed. However, the relative importance of some key factors has changed.

Farm expansion continues as the most popular reason (40% of responses) given for purchasing farmland.

Investment potential of farmland, location of the land tract, and hunting/ recreation demand were the next three most common reasons (Fig 5). Additional reasons include lower interest rates, purchasing land from the landlord, and entry into farming. During the past several years, more respondents are citing investment purposes and hunting/recreation purposes as major reasons for purchasing farmland.

Retirement from farming remains the most common reason (42% of responses) given for selling farmland (Fig 6). Favorable market conditions for selling, settling estates, and financial reasons were next. Additional reasons for selling farmland include cash flow pressure and low profitability. Recent changes in federal capital gains tax laws were also cited as a major reason for some owners to sell farmland.

During the past several years, the proportion of respondents citing favorable market conditions has increased considerably, while cash flow pressures and financial reasons are cited less frequently.

Table 2 continued. Average reported value per acre of agricultural land by South Dakota region, county clusters, type of land, and land productivity, February 1, 1998.

		Central			South-Central	South-west	North-west
		Aurora Beadle Jerauld	Buffalo Brule Hand Hyde	Hughes Sully			
Agricultural Land Type and Productivity	All				All	All	All
dollars per acre							
Nonirrigated Cropland							
Average	434	436	421	450	399	241	200
High Productivity	502	501	490	519	526	282	249
Low Productivity	334	344	319	342	310	193	152
Rangeland (native)							
Average	256	303	274	185	231	130	98
High Productivity	292	389	318	212	277	161	122
Low Productivity	200	237	211	146	183	89	76
Pastureland (tame,improved)							
Average	302	316	302	277	272	161	120
High Productivity	352	358	349	346	325	186	137
Low Productivity	244	254	238	235	227	117	94
Hayland							
Average	295	334	307	213	292	178	149
High Productivity	344	378	361	260	336	201	178
Low Productivity	223	265	225	154	213	137	115

Fig 5. Reasons for buying farmland.

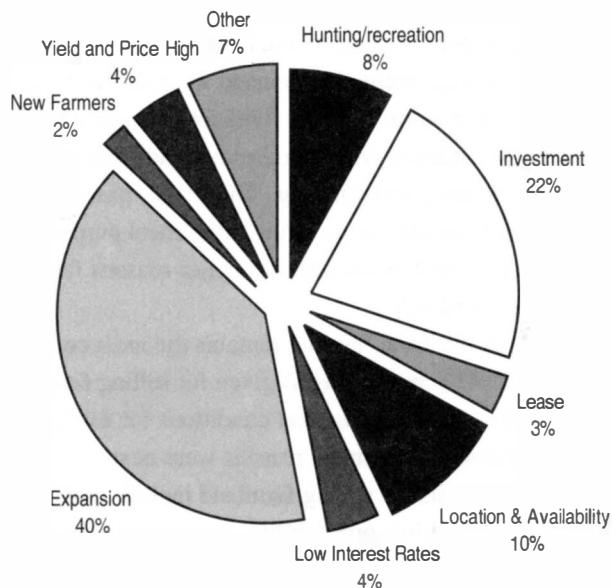
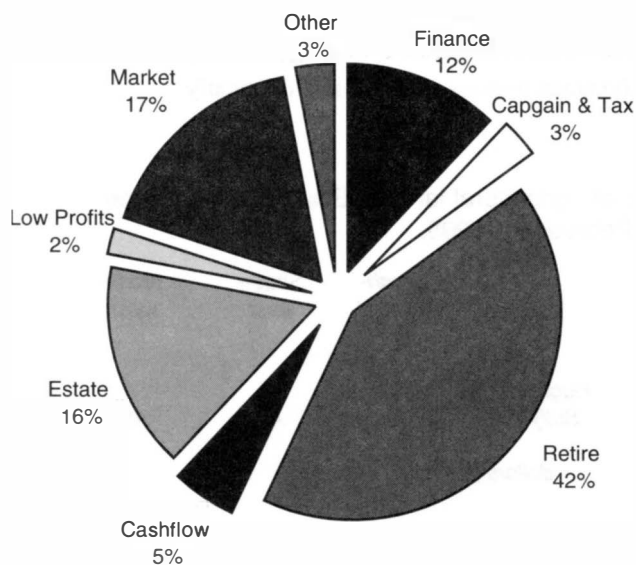


Fig 6. Reasons for selling farmland.



1998 cash rental rates of agricultural land

The cash rental market provides important information on returns to agricultural land. Nearly three fourths of South Dakota's farmland renters and three fifths of agricultural landlords are involved in one or more cash leases for ag land. A majority of cash leases are annual renewable agreements (South Dakota 1992 Census of Agriculture; Peterson and Jansen, 1988).

Respondents were asked about average cash rental rates per acre for nonirrigated cropland, irrigated land, and hayland in their localities. Cash rental rates for pasture/rangeland were provided on a per-acre basis and, if possible, on a per AUM (Animal Unit Month) basis. Respondents were also asked to report cash rental rates for high-productivity and low-productivity land by different land uses. Cash rental rates by land use by region are summarized in Tables 3 and 3A and Figs 7 and 8. The information is summarized by region and county cluster in Table 4.

Cash rental rates differ greatly by region and land use. For nonirrigated land uses, cash rental rates per acre are highest in the southeast and east-central regions and lowest in northwest and southwest South Dakota. In every region, cash rental rates are highest for cropland and lowest for rangeland and pasture (Table 3, Figs 7 and 8).

Cash rental rates: cropland, hayland, and irrigated land

Average cash rental rates in 1998 for nonirrigated cropland vary from \$17.90 (\$19.00) per acre in the northwest (southwest) region to \$55 in the east-central region and \$65.20 in southeastern South Dakota (Fig 7 and Table 3). Average cash rental rates are highest (\$81.90) in the Clay-Lincoln-Turner-Union (CLTU) county cluster and next highest (\$77) in the Minnehaha-Moody cluster. Typical cash rental rates for high-productivity cropland exceed \$105 per acre in the CLTU and Minnehaha-Moody clusters (Table 4).

Within each region and county cluster, cash rental rate averages for low-productivity cropland are considerably lower than cash rental rates for high-productivity cropland. For example, reported average cash rent for nonirrigated cropland in the east-central region is \$38.70 per acre for lower-productivity cropland and \$76.30 for higher-productivity cropland. In the southwest region, lower-productivity cropland cash rents for \$14.80 and higher-productivity cropland rents for an average \$24.40 (Table 4).

Hayland cash rental rates in 1998 vary from nearly \$14 per acre in western South Dakota to an average \$51.40 in the southeast region. Average cash rental rates for alfalfa hayland are \$70.10 in the CLTU cluster and \$64.70 in the Minnehaha-Moody cluster. Some hayland

Table 3. Reported cash rental rates of South Dakota agricultural land by type of land by region, 1991-1998.

<i>Type of Land</i>	<i>South-east</i>	<i>East - Central</i>	<i>North-east</i>	<i>North-Central</i>	<i>Central</i>	<i>South-Central</i>	<i>South-west</i>	<i>North-west</i>
<i>dollars per acre</i>								
Nonirrigated Cropland								
Average 1998 rate	65.20	55.00	45.30	34.70	30.90	25.90	19.00	17.90
High Productivity	87.60	76.30	62.10	49.30	41.80	37.30	24.40	22.90
Low Productivity	47.80	38.70	30.30	22.40	22.40	18.40	14.80	12.80
Average 1997 rate	57.40	49.20	44.70	32.70	29.30	23.60	19.10	19.30
Average 1996 rate	54.70	45.30	41.50	28.70	26.30	21.60	17.00	16.00
Average 1995 rate	52.50	42.10	40.40	27.60	25.10	21.00	17.60	15.90
Average 1994 rate	51.90	45.10	40.30	29.80	25.00	22.10	17.60	14.90
Average 1993 rate	51.80	47.10	40.30	26.60	24.20	22.80	16.60	14.60
Average 1992 rate	48.00	45.70	39.70	25.50	22.70	21.40	17.70	15.10
Average 1991 rate	49.30	43.20	38.50	24.50	23.20	22.20	15.90	13.50
Hayland								
Average 1998 rate	51.40	40.50	24.60	19.40	20.90	18.90	14.20	13.60
High Productivity	67.30	53.10	32.80	26.20	26.00	25.60	18.23	17.20
Low Productivity	37.00	28.30	17.60	13.10	15.60	14.00	10.80	9.20
Average 1997 rate	46.10	36.80	28.20	18.70	19.90	16.70	14.90	14.60
Average 1996 rate	41.50	32.30	26.00	17.00	18.60	15.20	12.60	11.20
Average 1995 rate	43.80	28.20	25.30	16.70	16.10	14.90	11.10	11.10
Average 1994 rate	39.50	31.40	23.60	17.00	17.80	15.50	11.90	11.30
Average 1993 rate	35.60	32.10	22.00	14.70	16.40	16.00	11.30	9.50
Average 1992 rate	33.30	25.90	20.00	14.20	15.60	15.60	11.40	12.10
Average 1991 rate	38.50	30.90	22.30	14.20	15.70	14.80	12.10	10.40
Pasture/Rangeland								
Average 1998 rate	28.10	24.40	19.40	16.40	17.50	14.90	7.30	6.70
High Productivity	36.20	32.10	24.90	20.90	22.20	19.20	9.00	9.00
Low Productivity	20.20	17.30	14.10	12.20	13.10	10.00	4.70	4.30
Average 1997 rate	25.70	23.60	19.50	15.20	16.80	13.00	6.60	6.80
Average 1996 rate	21.20	22.10	18.80	14.70	16.30	12.00	5.60	6.10
Average 1995 rate	21.90	21.60	18.60	14.90	14.80	11.20	6.10	6.30
Average 1994 rate	20.30	20.90	18.60	13.40	16.30	11.20	5.40	5.60
Average 1993 rate	20.30	20.10	17.00	12.70	15.20	10.10	5.60	5.10
Average 1992 rate	18.00	19.60	16.50	12.00	13.50	9.50	5.30	4.90
Average 1991 rate	19.20	18.60	16.30	12.50	13.80	9.90	5.30	4.40
<i>dollars per Animal Unit Month</i>								
Average 1998 rate	16.00	19.00	17.70	15.00	19.80	19.10	16.10	16.30
High Productivity	19.60	24.00	18.00	18.30	24.30	23.80	18.60	19.60
Low Productivity	12.60	13.50	14.00	11.90	15.80	14.10	12.20	12.60
Average 1997 rate	17.60	18.00	16.20	13.40	17.00	17.30	15.90	16.10
Average 1996 rate	17.50	16.70	15.60	14.70	16.30	16.60	16.40	16.20
Average 1995 rate	17.30	16.70	13.60	15.00	16.10	16.80	16.40	15.50
Average 1994 rate	15.40	15.00	15.60	14.80	16.50	17.00	15.60	16.50
Average 1993 rate	15.60	13.90	14.25	13.25	14.90	16.40	15.40	14.50
Average 1992 rate	15.40	14.50	12.50	13.10	15.50	15.90	14.00	15.00
Average 1991 rate	13.70	15.90	15.50	12.80	14.80	15.20	14.30	13.00

Source: South Dakota Farm real Estate Market Surveys, SDSU, 1998 and earlier year reports.

cash leases exceed \$90 per acre in several of these eastern counties where a commercial alfalfa hay market has developed.

As with cropland, there are considerable differences in average cash rental rates of low-productivity and high-productivity hayland. In most regions (except the southeast and east-central regions) the lower cash rental rates for hayland are based on reports for native hayland and less productive tame hayland, while the higher rates are often quoted for good quality alfalfa hayland.

From 1997 to 1998, average cash rental rates for cropland increased from \$5.80 to \$7.80 per acre in the east-central and southeast regions, compared to +\$1.60 to \$2.60 per acre in the central regions of South Dakota. Cropland cash rental rates appeared to be steady to slightly declining in western South Dakota. Average cash rental rates for hayland increased between \$3.70 to \$5.30 per acre in the east-central and southeast regions and +\$0.70 to \$2.20 per acre in the central regions of South Dakota. However, hayland cash rental rates declined in the northeast, southwest, and northwest (Table 3).

From 1991 to 1998, average reported cash rental rates for cropland increased in all regions. Average cash rental rates for cropland increased between 16% and

20% in the southwest, south-central, and northeast regions to +42% in the north-central region. The average dollar amount of cropland cash rental rates increased from \$3 to \$5 per acre in the south-central and western regions to +\$15.90 in the southeast region.

Similar trends occurred for hayland cash rental rates. From 1991 to 1998, average cash rental rates for hayland increased in all regions. Hayland rental rates per acre increased the least (+\$2.10) in the southwest and increased the most (+\$12.90) in the southeast.

Cash rental rates for center pivot irrigated land in the central and eastern regions of South Dakota vary from an average of \$44.30 per acre in the central and south-central regions to \$99.30 in the southeast (Table 3A and Fig 7). Average cash rental rates for gravity-irrigated land in western South Dakota is \$39.00.

Cash rental rates: rangeland and pastureland

More than three eighths of South Dakota's 26.6 million acres of rangeland and pastureland acres are leased to farmers and ranchers. Several million acres of rangeland in western and central South Dakota are controlled by federal, state, or tribal agencies and are leased to ranchers using cash leases or grazing permits. However, a majority of leased rangeland and almost all leased pas-

Table 3a. Reported cash rental rates of South Dakota irrigated land by region, 1991-1998.^a

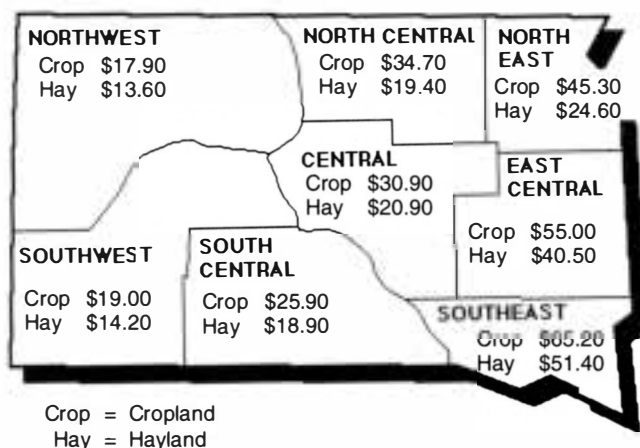
Type of Land	South-east	East-Central	North-east	North-Central	Central/ South-Central	Western
Irrigated land						
Average 1998 rate	99.30	76.10	63.80	70.00	44.30	39.00
High Productivity	121.10	92.20	75.60	89.10	55.00	60.80
Low Productivity	79.30	64.20	53.10	53.60	34.10	26.00
Average 1997 rate	100.20	72.20	63.00	59.30	46.40	42.00
Average 1996 rate	85.40	61.90	68.70	46.40	43.90	33.80
Average 1995 rate	89.50	68.00	76.70	65.40	45.80	44.00
Average 1994 rate	91.90	71.70	66.00	53.80	48.50	***
Average 1993 rate	87.20	68.60	60.00	57.80	53.40	44.00
Average 1992 rate	65.20	70.00	69.20	58.50	49.80	47.50
Average 1991 rate	82.70	69.00	59.00	***	***	37.50

*** Insufficient number of reports

* Cash rental rates reported for irrigated land are less reliable than cash rental rates reported for nonirrigated land. Only 27% of respondents were familiar with and able to furnish information on irrigated land values.

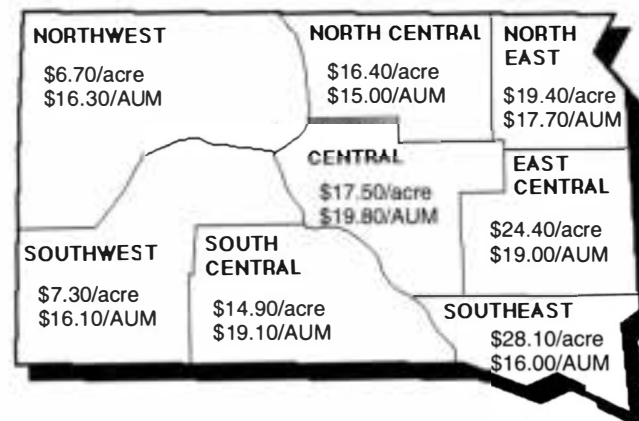
Source: South Dakota Farm Real Estate Market Surveys, SDSU, 1998 and earlier year reports.

Fig 7. Average cash rental rate of South Dakota nonirrigated cropland and hayland, by region, 1998, dollars per acre.



Source: 1998 South Dakota Farm Real Estate Market Survey, SDSU.

Fig 8. Average cash rental rate of South Dakota rangeland and pastureland by region, 1998, dollars per acre and dollars per AUM.



Source: 1998 South Dakota Farm Real Estate Market Survey, SDSU.

Table 4. Reported cash rental rates of South Dakota agricultural land by region and county clusters, 1998 and 1997 rates.

	Southeast				East-Central			
	All	Clay Lincoln Turner Union	Bon Homme Hutchinson Yankton	Charles Mix Douglas	All	Minnehaha Moody	Brookings Lake McCook	Sanborn Davison Hanson Kingsbury Miner
<i>dollars per acre</i>								
Nonirrigated Cropland								
Average 1998 rate	65.20	81.90	56.70	39.40	55.00	77.00	51.80	38.90
High Productivity	87.60	108.50	76.10	56.70	76.30	106.00	72.20	54.20
Low Productivity	47.80	63.70	37.10	26.10	38.70	54.30	37.20	26.90
Average 1997 rate	57.40	75.30	52.40	36.70	49.20	67.30	50.10	36.80
Hayland								
Average 1998 rate	51.40	70.10	47.00	27.10	40.50	64.70	35.30	28.60
High Productivity	67.30	92.10	63.60	33.90	53.10	86.90	45.70	35.30
Low Productivity	37.00	52.90	29.00	20.40	28.30	46.70	25.70	18.40
Average 1997 rate	46.10	70.80	47.50	27.00	36.80	58.10	36.00	26.10
Pasture/Rangeland								
Average 1998 rate	28.10	33.60	25.10	22.40	24.40	27.60	23.90	22.40
High Productivity	36.20	44.00	33.00	27.70	32.10	36.60	30.80	29.10
Low Productivity	20.20	24.60	17.00	15.40	17.30	20.90	16.80	15.70
Average 1997 rate	25.70	32.20	23.90	19.70	23.60	27.10	23.40	22.00

Irrigated cropland rental rates per acre and rangeland rental rates per AUM are not reported in this table, due to insufficient number of reports in most county clusters.

Source: South Dakota Farm Real Estate Market Surveys, SDSU, 1997 and 1998.

ture are cash rentals from private landlords (Cole *et al.* 1992). Respondents were asked to report 1998 cash rental rates per acre and per-AUM⁴ on privately owned rangeland and pastureland in their localities.

Average cash rental rates per acre reflect regional differences in productivity and carrying capacity of pasture and rangeland tracts. Average cash rental rates vary from \$6.70 to \$7.30 in western South Dakota to \$28.10 in east-central and southeast South Dakota. The ranges of typical cash rental rates for low-productivity and high-productivity rangeland vary from \$4.30 to \$9.00 in the northwest region and from \$20.20 to \$36.20 in the southeast (Fig 8 and Table 3).

Rangeland rates per AUM in 1998 are fairly uniform across South Dakota, averaging \$15 per AUM in the north-central region to \$19.80 per AUM in the east-central region.

⁴ Animal Unit Month (AUM) is defined as the amount of forage required to maintain a mature cow with calf for 30 days. An AUM is somewhat of a "generic" value and should be about equal across regions. Therefore, private cash lease rates quoted on a per AUM basis should be roughly equivalent in different areas of the state unless there are major differences in forage availability, forage quality, and demand for leased rangeland.

From 1991 to 1998, average cash rental rates per acre of rangeland increased in all regions of South Dakota, with amount of increase varying from \$2.00 per acre in western South Dakota to +\$8.90 in the southeast. During this same period, average cash rental rates per AUM also increased in all regions. Average increases exceeding \$3.50 per AUM occurred in the south-central and central regions.

From 1997 to 1998, cash rental rates per acre of rangeland increased in most regions, with the largest increases in the southeast (+\$2.40 per acre), and south-central (+\$1.90) regions. Rental rates per AUM held steady or increased in most regions.

Respondents' perceptions of percentage changes in cash rental rates from 1997 to 1998 are generally consistent with the dollar value changes reported. More respondents (70% of total) reported increased cropland cash rents than reported increased hay, range, or pasture cash rents (53% of total). Also, their perceptions of percentage increases in cropland cash rental rates were considerably higher than their perceptions of percentage increases in forage land rental rates. Respondents in western South Dakota reported minimal changes in cash rental rates, while strong percentage increases in cash

Table 4 continued. Reported cash rental rates of South Dakota agricultural land by region and county clusters, 1998 and 1997 rates.

	Northeast			Clark		North-Central		
	Codington	Deuel	Grant	Day	Marshall	Brown	Edmunds	Campbell
	Hamlin	Roberts				Spink	Faulk	Potter
	All					All	McPherson	Walworth
	dollars per acre							
Nonirrigated Cropland								
Average 1998 rate	45.30	50.90	50.20	36.70	34.70	44.20	25.30	28.90
High Productivity	62.10	65.40	68.30	53.80	49.30	64.30	36.60	38.30
Low Productivity	30.30	35.00	33.30	24.30	22.40	27.60	16.30	19.90
Average 1997 rate	44.70	46.80	49.60	34.90	32.70	42.70	27.20	27.30
Hayland								
Average 1998 rate	24.60	27.40	26.70	21.20	19.40	22.60	18.10	16.00
High Productivity	32.80	32.90	36.10	30.00	26.20	30.50	22.90	23.11
Low Productivity	17.60	20.70	17.80	15.50	13.10	14.60	12.90	11.20
Average 1997 rate	28.20	28.90	32.00	22.60	18.70	20.90	17.50	18.00
Pasture/Rangeland								
Average 1998 rate	19.40	20.00	19.00	20.00	16.40	18.50	15.10	14.10
High Productivity	24.90	26.30	25.00	23.90	20.90	23.90	19.80	16.80
Low Productivity	14.10	15.60	13.60	13.60	12.20	14.10	11.10	10.00
Average 1997 rate	19.50	20.10	18.60	19.70	15.20	17.40	15.30	11.30

rental rates were reported in the southeast and in the central regions of South Dakota.

Respondents' assessment of factors influencing land value changes

Respondents were asked to rate the relative importance of different forces on agricultural land value trends in their locality. (The scale of measurement was from 1 [strongly negative] to 5 [strongly positive] with a value of 3 representing "no impact.") The rankings are presented in Figs 9 and 10.

Interest in farm expansion was ranked as the strongest positive force influencing land values in most regions. Continued consolidation of land parcels into larger farm units remains the key demand factor, with active farmers being the principal buyers in most local land markets.

Surprisingly, respondents ranked nonfarm investor interest as second in their assessment of positive influ-

ences on land values. This was cited as the most important factor in the central, south-central, and southwest regions.

We are surprised at the strength of this factor, but this result is consistent with our findings from past surveys indicating greater amount of nonfarm investor interest and activity in local land markets. Also, South Dakota farmland values in the 1990s have been increasing substantially above the rate of price inflation, which may lead to increasing investor interest.

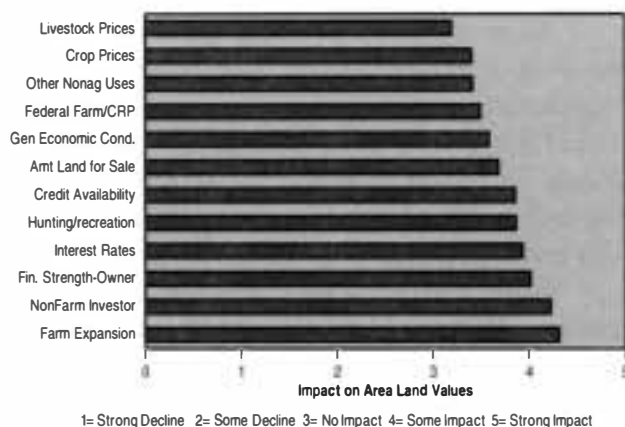
Financial and credit factors (financial strength of landowners, interest rates, and availability of credit) were cited as the next three most important positive influences on land market values. Respondents in eastern and central regions were more likely to cite these factors as positive influences. Solid financial strength of most current landowners permits continued buying interest for farm expansion and reduces the incidence of financially distressed sales.

Several other factors had some positive effect on land value increases. Hunting/recreational demand was among the top three factors influencing rapid increases

Table 4 continued. Reported cash rental rates of South Dakota agricultural land by region and county clusters, 1998 and 1997 rates.

	Central				South-Central	South-west	North-west
		Aurora Beadle Jerauld	Buffalo Brule Hand Hyde	Hughes Sully	All	All	All
<i>dollars per acre</i>							
Nonirrigated Cropland							
Average 1998 rate	30.90	32.80	29.40	30.80	25.90	19.00	17.90
High Productivity	41.80	45.40	41.60	38.40	37.30	24.40	22.90
Low Productivity	22.40	25.00	20.00	22.60	18.40	14.80	12.80
Average 1997 rate	29.30	33.00	27.20	28.90	23.60	19.10	19.30
Hayland							
Average 1998 rate	20.90	23.70	22.00	15.20	18.90	14.20	13.60
High Productivity	26.00	28.70	28.20	18.50	25.60	18.20	17.20
Low Productivity	15.60	17.60	16.00	12.20	14.00	10.80	9.20
Average 1997 rate	19.90	24.10	19.70	15.20	16.70	14.90	14.60
Pasture/Rangeland							
Average 1998 rate	17.50	20.90	17.80	13.20	14.90	7.30	6.70
High Productivity	22.20	26.60	22.90	16.30	19.20	9.00	9.00
Low Productivity	13.10	15.80	13.00	10.10	10.00	4.70	4.30
Average 1997 rate	16.80	21.60	17.20	12.20	13.00	6.60	6.80

Fig 9. Factors affecting farm real estate market values.



in land values in the central, south-central, and southwest regions but was of lesser importance in other regions.

General economic conditions in the locality were a moderately positive influence in eastern and central South Dakota but a somewhat negative influence in western South Dakota.

Federal farm and CRP programs were viewed as important positive influences by respondents in the east-central and northeast regions and as less important in other regions.

Most respondents indicated recent crop prices and livestock prices as having minimal impact or mildly positive impact on land values in their localities. However, more respondents viewed crop and livestock prices as a negative influence on land values than any other factor.

Many respondents commented that current commodity prices could not sustain recent increases in land values, especially if recent near-record yields in many localities reverted to long-term average yield levels.

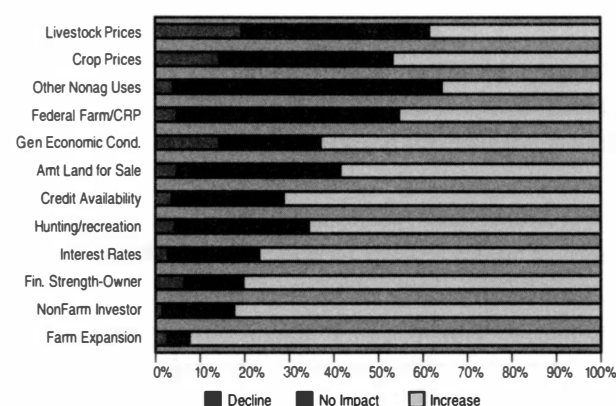
In summary, most respondents have an optimistic view of economic conditions in the agricultural land market in early 1998.

Rates of return to agricultural land

Two approaches are used to obtain information on current rates of return to agricultural land.

First, gross rent-to-value ratios (gross cash rent as a percent of land value) were calculated from respon-

Fig 10. Respondents' view of factor influence on land value.



dents' reported cash rental rates and estimated value of leased land. This is a measure of the **gross rate of return** obtained by landlords **before** deduction of property taxes and other landlord expenses. For most respondents, the estimated gross rate of return varies from 5.9% to 10% for cropland, from 5% to 11.4% for hayland, and from 4.6% to 9% for rangeland.⁵

The statewide average gross rate of return (rent-to-value ratio) is 7.9% for nonirrigated cropland, 7.7% for hayland, and 6.7% for rangeland (Table 5). From 1991 to 1998, there were minimal changes in gross rent-to-value ratios for cropland and declines in rent-to-value ratios for forage land uses.

Next, respondents were asked to estimate the current **net rate of return** (percent) that landowners in their locality could expect given current land values.

Appraisers refer to the current annual net rate of return as the market-derived capitalization rate, which is widely used in the income approach to farmland appraisal. The net rate of return is a return to agricultural land ownership **after** deducting property taxes, real estate maintenance, and other ownership expenses.

Average 1998 net rates of return were highest (6.0%) for nonirrigated cropland and lowest (4.4%) for rangeland. Most respondents reported net rates of return ranging from 2.5% to 9.5% for cropland, 2% to 9.5% for hayland, and 2% to 8% for rangeland.

⁵ The range of reported net rates of return and calculated rent-to-value ratios is shown for the middle 90% of responses for each land use. This represents the practical range of reported net and gross rates of return.

The statewide average estimated net rate of return in 1998 on all-agricultural land is 5.1%, lower than the 8 year average (1991 - 1998) net rate of return of 5.5%. Net rates of return in 1997 and 1998 were slightly lower than the 8-year average net rate of return for rangeland, pasture, and hayland (Table 5 and Fig 11).

During the 1991 - 1998 period, the difference between **gross** and **net** rates of return to agricultural land ownership has averaged 1.9 percentage points and varies from 1.5 percentage points to 2.3 percentage points across different regions and land uses (Table 5). Most of the difference between gross returns and net returns is caused by property tax levies.

The current average net rate of return of 5.1% on all-agricultural land in South Dakota is much lower than farmland mortgage interest rates of 7.5% to 10%. This implies that relatively large downpayment requirements are necessary before farmland purchases can be expected

to cash flow from net returns. Continued caution in real estate debt financing is necessary in today's economic environment for production agriculture.

Agricultural land market expectations, past and prospective

In each survey, respondents were asked to estimate the percentage change in land values during the previous year and to forecast percentage changes in land values for the following year.

During the past year, respondents' estimated percentage increases in land values averaged 6.7% for cropland, 5.8% for hayland, and 6.1% for pasture/rangeland. More than four fifths of respondents indicated increasing land values.

Table 5. Estimated rates of return to South Dakota agricultural land by type of land and by region, 1991-1998.

Type of land-statewide ^a	1998	1997	1996	Average 1991-98	1998	1997	1996	Average 1991-98
	GROSS rate of return (%) ^b				NET rate of return (%) ^c			
All agricultural land	7.1	7.3	7.1	7.4	5.1	5.2	5.1	5.5
Nonirrigated cropland	7.9	8.1	7.9	8.0	6	6.3	6.4	6.2
Rangeland and pastureland	6.5	6.6	6.4	6.9	4.4	4.4	4.2	5.3
Hayland	7.7	8.1	7.7	8.0	5.3	5.5	5.2	5.6
Region ^d	GROSS rate of return (%)				NET rate of return (%)			
	1998	1997	1996	Average 1991-98	1998	1997	1996	Average 1991-98
Southeast	7.1	7.2	7.2	7.5	5.9	5.9	6.0	6.0
East-Central	7.9	7.4	7.4	7.6	5.5	5.4	5.4	5.6
Northeast	8.0	8.1	8.1	8.1	6.0	6.3	6.0	6.1
North-Central	7.5	8.1	8.1	8.1	6.0	6.3	6.0	6.1
Central	7.2	7.7	7.5	7.8	5.3	5.7	5.1	5.5
South-Central	6.5	6.6	6.7	6.9	5.4	5.3	4.6	5.4
Southwest	6.2	6.3	6.1	6.7	3.8	4.1	3.8	4.6
Northwest	7.1	7.3	6.6	7.2	4.3	4.4	4.8	5.2

^a State level GROSS and NET rate of return estimates are calculated by weighting regional estimates by proportion of acres of each land use by region.

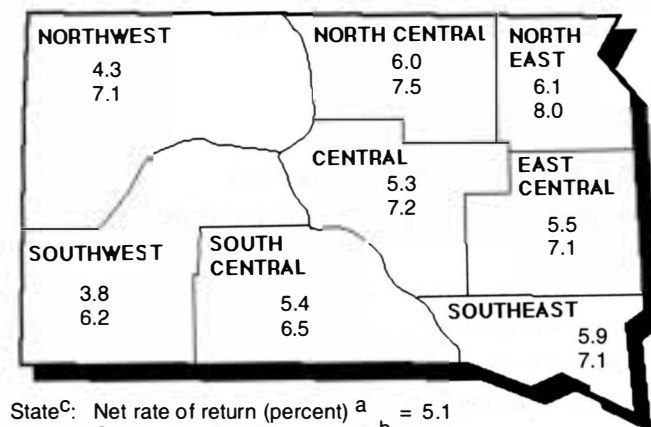
^b GROSS rate of return (percent) is calculated by dividing the average gross cash rental rate by reported value of rental land.

^c NET rate return is the reporter's estimate of the percentage rate of return to ownership given current land values. Appraisers often refer to this measure as the market capitalization rate.

^d Regional level GROSS and NET rate of return estimates are calculated by weighting rate of return estimates for each land use by proportion of the region agricultural acres in each land use. The 1998 regional and statewide GROSS and NET rates of return to all agricultural land are also reported in Figure 11.

Source: 1998 South Dakota Farm Real Estate Survey, SDSU

Fig 11. Estimated rates of return to agricultural land, state and region, 1998.



State^c: Net rate of return (percent)^a = 5.1
Gross rate of return (percent)^b = 7.1

^a The net rate of return is the reporter's estimate of the percent rate of return to ownership (after payment of property taxes) given current land values. Appraisers often refer to it as the market capitalization rate.

^b The gross rate of return is calculated by dividing reporter's average gross cash rental rate by his/her reported land values and converting it to a percentage measure.

^c See Table 5 for further details on estimated rates of return by region

Source: 1998 South Dakota Farm Real Estate Market Survey, SDSU.

In general, respondents' perceptions of percentage changes in land values were similar to or lower than the percentage changes calculated from "actual" dollar values. However, respondents' perceptions of land value increases during 1997 were the highest in the 1990s and are consistent with the highest percentage change in "actual" land values reported this past year (Table 1).

Nearly three fourths of respondents expect increases in cropland values, and about three fifths expect increases in forage land (hay, pasture, or native range) values during 1998. This is a higher percentage of respondents than in the previous 7 years of surveys. Most other respondents expect no change in land values, and only 3% expect declines in land values during 1998.

More than half of respondents expect land value increases during 1998 of 1 - 5%, while an eighth of respondents expect land value increases exceeding 5%. The average (mean) expected increase in land values during 1998 varies from 3% for hayland to 3.8% for cropland with expectations of increasing land values in all regions.

References

- Cole, John, Larry Janssen, Martin Beutler. 1992. Rangeland leasing markets in South Dakota. SDAES Bull 716. Brookings: SSDSU.
- Janssen, Larry and Burton Pflueger. 1991. South Dakota farm real estate values and rental rates: 1991. Econ res rpt 91-3. Brookings: SDSU.
- Janssen, Larry and Burton Pflueger. 1992. South Dakota farm real estate values and rental rates: 1992. Econ res rpt 92-1. Brookings: SDSU.
- Janssen, Larry and Burton Pflueger. 1993. South Dakota agricultural land values, cash rental rates, and cropshare rental practices: 1993. SDAES Circ 156. Brookings: SDSU.
- Janssen, Larry; Karen Brovold Burton Pflueger. 1994. South Dakota agricultural land values and cash rental rates: 1994. SDAES Circ 257. Brookings: SDSU.
- Janssen, Larry, Laurel Venhuizen, Burton Pflueger. 1995. South Dakota agricultural land values and cash rental rates: 1995. SDAES Circ 258. Brookings: SDSU.
- Janssen, Larry, Burton Pflueger, Rebecca Woodland. 1996. South Dakota agricultural land market trends: 1991 - 1996. SDAES Circ 259. Brookings: SDSU.
- Janssen, Larry and Burton Pflueger. 1997. South Dakota farmland market trends: 1991 - 1998. SDAES Circ 260. Brookings: SDSU.
- Peterson, Scott R. and Larry Janssen. 1988. Farmland leasing in South Dakota. SDAES Bull 704. Brookings: SDSU.
- South Dakota Ag Statistics Service. 1998. South Dakota 1998 county level land rents and values. Sioux Falls.
- U.S. Dept of Commerce. 1992 census of agriculture, South Dakota 1(41).

Appendix I

Survey Methods and Respondent Characteristics

The primary purpose of the 1998 South Dakota Farm Real Estate Market Survey was to obtain regional and statewide information on: (1) 1998 per-acre agricultural land values by land use and land productivity, and (2) 1998 cash rental rates by agricultural land use and land productivity.

Copies of this survey were mailed to potential respondents about February 12 with a follow-up mailing on March 5. Potential respondents were persons employed in one of the following occupations: (1) agricultural lenders (senior agricultural loan officers of commercial banks, Farm Service Agency, or Farm Credit Banks), (2) Cooperative Extension Service agricultural agents and farm management field staff, and (3) licensed appraisers. Some appraisers were primarily realtors, assessors, or professional farm managers.

The total response rate was 52% of 580 persons contacted. The usable survey response rate was 45%. This was the highest total and usable response rate over the past 8 years.

The distribution of 262 respondents by location and reported occupation is shown in Appendix Table 1. Nearly 56% of Extension agents, 48% of agricultural lenders, and 37% of licensed appraisers contacted provided usable responses.

Almost half (49%) of the respondents were from the eastern regions of South Dakota, 33% were from the three regions of central South Dakota, and 18% were from western South Dakota. Most respondents were able to supply land value and cash rental rate information for nonirrigated cropland, rangeland, and hayland in their localities. However, only 32% of respondents provided data on irrigated land values, 27% provided data

on irrigated land cash rental rates, and 24% provided data on rangeland AUM rental rates.

Regional average land values by land use are simple average (mean) values of usable responses. All-agricultural land values, statewide and regional, and statewide average land values by land use are weighted by the relative number of acres in each agricultural land use.

This approach has important implications in the derivation of statewide average land values and regional all-land values. For example, the three eastern regions of South Dakota with the highest average land values have nearly 45% of the state's cropland acres, 26% of all-agricultural land acres, and only 9% of rangeland acres. Thus, the relative importance of various regions on statewide agricultural land values varies greatly by land use.

We believe a weighted average approach to statewide land values is preferable to a simple average (mean) of all responses. Our approach increases the relative importance of western South Dakota land values in the final computations and results in lower statewide average land values.

The weighting factors used to develop statewide average land values are based on estimates of agricultural land use for privately owned nonirrigated farmland in South Dakota. It excludes agricultural land (mostly rangeland) leased from tribal or federal agencies, which primarily occurs in the western and central regions of the state. Irrigated land is also excluded from regional and statewide all-land values. The land-use weighting factors were developed from county-level data in the 1992 South Dakota Census of Agriculture and other sources.

Appendix Table 1. Selected characteristics of respondents, 1998.

Number of respondents = 262

Respondents:

<i>Reporting location</i>	<i>N</i>	<i>%</i>
Southeast	45	17.2%
East-Central	51	19.5%
Northeast	32	12.2%
North-Central	35	13.4%
Central	30	11.5%
South-Central	22	8.4%
Southwest	19	7.3%
Northwest	28	10.7%
Total	262	100.0%

<i>Primary Occupation</i>	<i>N</i>	<i>%</i>
Banker/loan officer	150	57.3%
Appraiser/realtor	73	27.9%
Extension agents	39	14.9%
Total	262	100.0%

Response rates:

<i>Land values</i>	<i>N</i>	<i>%</i>
Nonirrigated cropland	250	95.4%
Irrigated cropland	84	32.1%
Hayland	217	82.8%
Rangeland (native)	230	87.8%
Pastureland (tame)	191	72.9%

<i>Cash Rental Rates</i>	<i>N</i>	<i>%</i>
Nonirrigated cropland	242	92.4%
Irrigated cropland	70	26.7%
Hayland	203	77.5%
Rangeland (native)	220	84.0%
Pastureland (tame)	63	24.0%

Source: 1998 South Dakota Farm Real Estate Market Survey