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## South Dakota Agricultural Land Market Trends: 1991-2005

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South Dakota  
**Agricultural Land  
Market Trends**  
1991–2005

Results from  
THE 2005 SDSU SOUTH DAKOTA FARM REAL ESTATE SURVEY

South Dakota State University  
Agricultural Experiment Station  
U.S. Department of Agriculture

South Dakota

# Agricultural Land Market Trends

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Larry Janssen, Erik Gerlach, and Burton Pflueger

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# Foreword

Agricultural land values and cash rental rates in South Dakota, by region and by state, are the primary topics of this report. Target audiences are farmers and ranchers, landowners, agricultural professionals (lenders, rural appraisers, professional farm managers), and policy makers interested in agricultural land market trends. This report contains the results of the 2005 SDSU South Dakota Farm Real Estate Market Survey, the 15th 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 were Dr. Matt Diersen, Extension economist, and Tonya Hansen, research associate of the SDSU Economics Department, and Mary Brashier, Agricultural Communications Unit, SDSU.

Erik Gerlach, graduate student in economics and co-author, also handled many of the daily tasks during the survey period including survey administration, data input, and updating tables and charts. We also wish to thank Janet Wilson for developing and maintaining the mailing lists and Barbara Dininger for assistance with various survey tasks. Janet Wilson and Barb Dininger are secretaries in the Economics Department.

General funding for this project is from the SDSU Agricultural Experiment Station project H-252: representative farm and agricultural land market analysis in South Dakota.

Finally, we wish to thank all of the 223 respondents who participated in the 2005 South Dakota Farm Real Estate Market Survey. Many have also participated in one or more past annual land market surveys. Without their responses, this report would not be possible.

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# Agricultural Land Market Trends

## 1991–2005

Results from

THE 2005 SDSU SOUTH DAKOTA FARM REAL ESTATE SURVEY

Larry Janssen, Erik Gerlach, and Burton Pflueger<sup>1</sup>

## Summary

The 2005 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 to values from earlier years. Key findings are highlighted below.

- **The most recent annual change (2004 to 2005) in agricultural land values of 20.3% exceeds the 17.1% increase from 2003 to 2004.**

Land value increases during the past 2 years (2003 to 2005) are considerably stronger than the 9-10 % annual rates of increase reported in the 3 previous years (2000 to 2003). From 2004 to 2005, annual rates of increase for cropland values exceeded 20% in the northeast, east-central, central, and southwest regions. Annual rates of increase in rangeland values exceeded 20% in the northeast, central, and southwest regions. The smallest increase for cropland was 5% in the south-central region. The smallest increase for rangeland was 10-11% in the east-central, south-central, and northwest regions.

- **Cash rental rates per acre for cropland and rangeland/pasture increased statewide and in most regions from 2004 to 2005.**

Statewide, cash rental rates increased an average of \$2.10 per acre for cropland and \$1.10 per acre for hayland and rangeland. In general, cash rental rate increases were strongest in those regions where substantial land value increases were also reported.

- **Statewide, cropland and rangeland values per acre have doubled since 1998 and nearly tripled since 1991.**

Increases in agricultural land values were generally supported by increases in cash rental rates, but the extent of support varied by time period. During most of the 1990s, land values increased at slightly higher rates than cash rents. However from 2001 to 2005, land values have increased at more than twice the rate of increase in cash rents. Thus, cash rates of return to farmland declined slowly during the 1990s and more rapidly from 2001 to 2005.

- **Current average rates of return on agricultural land in South Dakota are lower in 2005 than in any previous year since the survey was started in 1991.**

For 2005, the average ratio of gross cash rent to current land value was 5.2% for all agricultural land, 5.7% for

<sup>1</sup> Janssen and Pflueger are professors of economics and Gerlach is a graduate student, Department of Economics, South Dakota State University. Dr. Janssen has teaching and research responsibilities in agricultural finance, farmland markets, and economic development. Dr. Pflueger is Extension farm financial management specialist and also teaches an undergraduate course on agricultural cooperatives. Mr. Gerlach was previously a loan officer with the USDA Farm Service Agency.

nonirrigated cropland, and 4.8% for rangeland. Net rates of return to farmland, given current land values, averaged 3.9% for all agricultural land, 4.5% for nonirrigated cropland, and 3.5% for rangeland.

• **The longer-term trends in land values, cash rental rates, and cash rates of return are closely related to key economic factors including:**

- (1) sharp declines in farm mortgage interest rates from early 2001 to late 2004;
- (2) federal farm program provisions of the 1996 and 2002 farm bills, especially the level of crop subsidies and removal of planting restrictions; and
- (3) general economic conditions of low inflation rates.

From 1991 to 2005, farmland values increased more rapidly than the rate of general price inflation in all regions of South Dakota. Also, cash rental rate increases provided underlying support for increases in land values. These two basic economic factors, along with declining mortgage interest rates, attract interest in farmland purchases by investors and by farmers expanding their operations.

However, gross and net cash rates of return are approaching the lower end of historical rates of return to agricultural land in South Dakota. Farmland investors are currently in market conditions where an increasing proportion of total returns are from expectations of capital appreciation instead of current cash returns. This pattern of declining rates of cash return to land also occurs during the latter stages of land market price booms.

• **Agricultural land values and average cash rental rates differ greatly by region and land use.**

In each region, per-acre values and cash rental rates 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 and cash rental rates are highest in the east-central or southeast region and lowest in western regions of South Dakota.

The average value of nonirrigated agricultural land (as of February 2005) in South Dakota is \$634 per acre. Nonirrigated agricultural land varies from \$1,431 per acre in the east-central to \$208 per acre in the northwest region. Average nonirrigated cropland values vary from \$1,659 per acre in the east-central to \$871 per acre in the central region and \$316 per acre in the northwest region. This is the second year that average cropland values exceed \$1,300 per acre in the east-central and southeast regions.

Average rangeland values vary from \$844 per acre in the southeast to \$185 per acre in the northwest. Within each region, differences in land productivity and land use account for substantial differences in per-acre values.

In 2005, the average value of nonirrigated cropland exceeds \$2000 per acre and average cash rental rates exceed \$100 per acre in two county clusters (Minnehaha-Moody and Clay-Lincoln-Turner Union) in eastern South Dakota. These are the highest average land values and cash rental rates reported during the past 15 years of the SDSU Farm Real Estate Market Survey.

At the regional level, average cash rental rates per acre for cropland in 2005 vary from \$87.20 in the southeast region to \$22.90 in the northwest region. Average rangeland/pasture rental rates vary from \$40-\$41 in the southeast region to \$9.75 in the northwest region.

• **Farm expansion, investment potential, and hunting/recreation are the major reasons for purchasing farmland, while retirement from farming and favorable market conditions are the major reasons for selling farmland.**

Low interest rates, high livestock prices and high crop yields, government programs, and investor interest in farmland are listed as the major positive factors influencing farmland markets.

Drought conditions in portions of South Dakota, low returns, higher input costs, and low grain prices are listed as the main negative factors affecting farmland markets.

# South Dakota Agricultural Land Market Trends

1991-2005

The 2005 SDSU Farm Real Estate Market Survey is the 15th annual survey of agricultural land values and cash rental rates by land use in different regions of South Dakota. We report the results of the survey and include a discussion of factors influencing buyer/seller decisions and positive/negative factors impacting farmland markets. Respondent assessment of the impact of hunting potential on land values and rental rates is included.

Publication of survey findings is a response to numerous requests by farmland owners, renters, appraisers, lenders, potential buyers, and others for detailed information on farmland markets in South Dakota.

The 2005 estimates are based on reports from 223 respondents to the 2005 SDSU survey. Respondents are agricultural lenders, Farm Service Agency officials, rural appraisers, assessors, realtors, professional farm managers, and Extension agricultural educators. All are familiar with farmland market trends in their localities.

Copies of the SDSU survey were mailed in February and March 2005, requesting information on cash rental rates and agricultural land values as of February 2005.

Response rates, respondent characteristics, and estimation procedures are discussed in Appendix I.

Results are presented in a format similar to those published by Janssen and Pflueger from 1991 through 2004. Regional information on land values and cash rents by land use (crop, hay, range, pasture, and irrigated crop/hay)<sup>2</sup> is emphasized in each of these SDSU reports. Current year findings are compared to those of earlier years.

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

County data on cropland and pasture land rents and values are provided by the South Dakota Agricultural Statistics Service (SDASS) in their report: South Dakota 2005 County Level Land Rents and Values.<sup>3</sup> This SDASS report is based on a telephone survey of South Dakota farm/ranch producers and is the 11th annual survey of county level land rents and values. Major trends in per-acre cash rental rates and land values over time are similar in both the SDASS and SDSU surveys.

<sup>2</sup> A major purpose of this survey is to report land values and cash rental rates by major uses of privately owned agricultural land, excluding farm building sites. The major nonirrigated land uses reported are crops, hay, tame pasture, and rangeland. Rangeland is native grass pasture while tame pasture is seeded to introduced grasses. Agricultural land typically used for production of alfalfa hay, other tame hay, or native hay is considered hayland in this report. Cropland is agricultural land typically used for crops other than hay. Since most irrigated land in South Dakota is used for crop or hay production, we report the value and rental rates of irrigated land used for these purposes. These major land uses comprise nearly 98% of privately owned land in farms in South Dakota (Janssen, 1999).

<sup>3</sup> The SDASS report on county level rents and values can be obtained from the Sioux Falls office. The phone number is 605-323-6500 and the mailing address is South Dakota Agricultural Statistics Service, P.O. Box 5068, Sioux Falls SD 57117-5068. The report can also be accessed at <http://www.nass.usda.gov/sd/>



### Changing economic conditions in South Dakota agriculture

Most renters, buyers, and sellers of farmland are local area residents. Consequently, land market participants are influenced by many social, financial, and economic factors in their locality. Many of the influential factors are related to changing economic conditions in agriculture. Land markets tend to reflect these changing economic conditions as land market participants adjust over time to current and prospective conditions.

Land market trends usually lag behind changing conditions in the general and agricultural economies and are strongly influenced by land market participants' expectations of future trends and the availability of debt or equity financing.

Most of the 1990s were characterized by low rates of inflation, declining to stable interest rates, and increasing export markets for grains, oilseeds, livestock, and meat products. The amount of farm debt, including farm real estate debt, gradually increased, and interest expense averaged 9-11% of South Dakota farm production expenses. Net farm income has been very unstable but has trended slightly upward from 1990 to 2003.

Average prices of the principal crops (feed grains, wheat, and soybeans) rebounded considerably in 2002 and 2003 from prices received in the marketing years of 1998 through 2001, which were the lowest average prices recorded in the past 15 to 20 years. By early 2005, crop prices had declined from the 2 previous years. Cattle and calf prices have generally increased since 1996, resulting in improved profit margins.

Farm real estate mortgage interest rates dropped substantially from 2001 through 2003 to their lowest levels in more than 35 years. For example, Farm Credit System mortgage interest rates annually averaged between 7.9% and 10% from 1991-2000 but declined to around 5.4% in 2002 and approached 6.0-7.0% in late 2004. Commercial bank mortgage interest rates were generally higher. Greatly reduced mortgage interest rates and low inflation rates for several years have had major positive impacts on real estate values, including farmland values.

Farmland values became more dependent on government farm program payments, especially from 1999-2001. Federal farm program payments in South Dakota increased from a range of \$230 million to \$268 million annually during the 1995-1997 period to more than \$700 million annually from 1999-2001. These payments increased from 5-6.5% of gross farm income between 1995 and 1997 to more than 14% of gross farm income in South Dakota from 1999 to 2001.

Although federal farm program payments were lower after 2001, market participants generally expect federal

program benefits to continue, when needed by the farm sector, into the indefinite future. A recent USDA-ERS study of farm program impacts estimated that 22% to 24% of cropland values in 2000 in the Northern Plains, which includes South Dakota, are attributed to commodity program payments (Barnard et al. 2001).

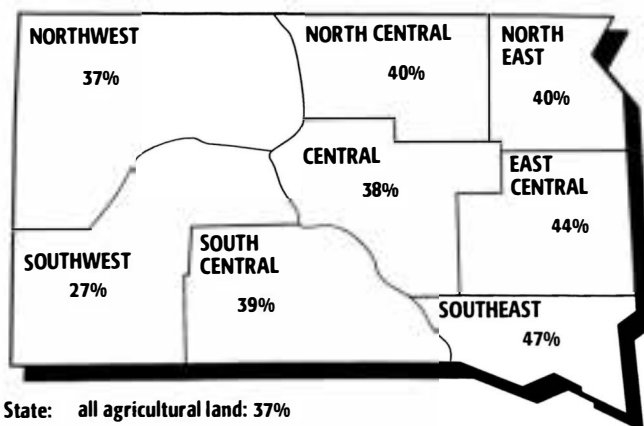
The strong employment base in many South Dakota trade centers provides off-farm employment for increasing numbers of farm families. This permits greater economic stability and opportunities for many persons involved in land market decisions. Many investors, including farmland owners, have received capital gains from sale of stocks, land, or other investments that can be used for purchasing agricultural land for a variety of purposes. Credit has been readily available at greatly reduced interest rates in the past 4 years to help finance land purchases and farm-operating expenses.

Based on data from the 2002 Census of Agriculture, 37% of South Dakota's agricultural land acres are in a cash lease or share lease from private landowners or in a per-acre cash lease from state, tribal, or federal agencies. The proportion of leased agricultural land varies from nearly 47% of farmland acres in the southeast region to only 27% of land in farms and ranches in the southwest region (Fig 1).

### South Dakota agricultural land values, 2005

Respondents to the 2005 South Dakota Farm Real Estate Market Survey estimated the per-acre value of non-irrigated cropland, hayland, rangeland, tame pasture land, and irrigated land in their county 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 Agricultural Statistics Districts. In

**Figure 1. Proportion of South Dakota farmland leased, statewide and regional.**



Source: Estimates from 2002 Census of Agriculture and other studies.

western South Dakota, farmland values and cash rental rates are reported for the northwest and southwest regions. Due to the small number of 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.

The average value per acre and percent change in value was 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 acreage and value of each nonirrigated agricultural land use in each region of South Dakota (Appendix 1).

As of February 2005, the average value of all agricultural land in South Dakota was \$634 per acre, a 20.3% increase in value from one year earlier (Fig 2 and Table 1). This rate of increase is well above the already rapid annual increases of 10% to 14% that occurred from 2001 to 2004 and the longer-term annual rate of increase of 7.7% from 1991 to 2005 (Table 1 and Appendix Table 2). The increase of \$107 per acre during the past year is close to the \$117 increase in per-acre land values from 2002 to 2004. Overall, agricultural land values in South Dakota have doubled since 1998.

Agricultural land values increased in all regions of South Dakota with the strongest percentage increases (>21%) in the northeast, east-central, and southwest regions. The southeast and central regions increased at rates close to the statewide average while the northwest and south-central regions showed the lowest percentage gains of nearly 10%.

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 rangeland is the dominant land use in western South Dakota, while most agricultural land in eastern South Dakota is nonirrigated cropland.

The all-land average values are highest in the eastern regions with per-acre values ranging from \$1,431 in the east-central region to \$1,360 in the southeast region and \$1,041 in the northeast region. This is the first year that all-land average value exceeds \$1,000 per acre in the northeast, compared to the third consecutive year in the southeast region. The per-acre increase in all-land values from 2004 to 2005 varied from \$221 per acre in the southeast to \$252 (\$268) per acre in the northeast (east-central) regions, which is the greatest amount of annual increase in land values over the past 15 years

These three eastern regions contain the most productive land in South Dakota. Cropland and hayland are the

dominant land uses in eastern South Dakota, consisting of more than 70% of agricultural land acres in each eastern region.

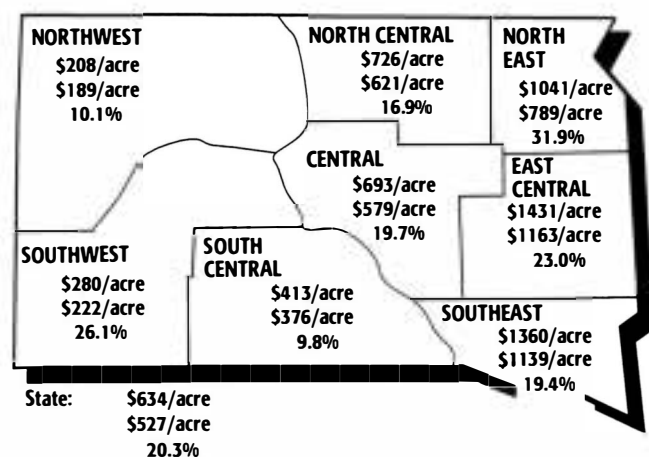
Average per-acre agricultural land values in the north-central and central regions are much higher than corresponding land values in western and south-central South Dakota and considerably lower than average land values in the eastern regions. Average per-acre values were \$726 per acre in the north-central region and \$693 per acre in the central region, which is more than a \$100 per-acre increase from 2004 in both regions. Geographic location and land use differences are closely related to differences in reported value. Crop/hayland comprises 62% of farmland acres in the north-central region, compared to only 52% of farmland acres in the central region.

Agricultural land values are much lower in regions west of the Missouri River than in the eastern and central regions of South Dakota. The average value per acre ranges from \$413 in the south-central region to \$208 per acre in the northwest region, respectively. Rangeland and pasture are the dominant agricultural land uses.

### Land values 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 three eastern regions and lowest in the northwest, southwest, and south-

**Figure 2. Average value of South Dakota agricultural land, February 1, 2005 and 2004, 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, 2005**  
**Middle: Average per-acre value—February 1, 2004**  
**Bottom: Annual percent change in per-acre land value**

Source: 2005 South Dakota Farm Real Estate Market Survey, SDSU.

**Table 1. Average reported value and annual percentage change in value of South Dakota ag land by type of land by region, 2002–2005.**

<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>STATE</i>
<i>dollars per acre</i>									
<b>All agricultural land (nonirrigated)</b>									
Average value, 2005	1360	1431	1041	726	693	413	280	208	634
Average value, 2004	1139	1163	789	621	579	376	222	189	527
Average value, 2003	1009	907	649	543	510	309	199	174	450
Average value, 2002	923	876	567	494	413	313	201	147	410
Annual % change 05/04	19.4%	23.0%	31.9%	16.9%	19.7%	9.8%	26.1%	10.1%	20.3%
<b>Nonirrigated cropland</b>									
Average value, 2005	1556	1659	1255	967	871	568	428	316	1073
Average value, 2004	1315	1346	973	822	705	541	318	294	886
Average value, 2003	1156	1040	793	716	631	443	290	281	744
Average value, 2002	1057	1019	691	665	524	445	311	244	687
Annual % change 05/04	18.3%	23.3%	29.0%	17.6%	23.5%	5.0%	34.6%	7.5%	21.1%
<b>Rangeland (native)</b>									
Average value, 2005	781	844	667	458	552	346	241	185	323
Average value, 2004	684	764	465	396	456	312	196	167	275
Average value, 2003	609	580	389	345	397	257	176	153	239
Average value, 2002	538	543	353	297	325	260	172	127	215
Annual % change 05/04	14.2%	10.5%	43.4%	15.7%	21.1%	10.9%	23.0%	10.8%	17.5%
<b>Pasture (tame, improved)</b>									
Average Value, 2005	937	1018	730	465	610	397	291	227	621
Average value, 2004	754	818	517	424	518	337	217	198	505
Average value, 2003	683	710	448	389	493	294	191	163	452
Average value, 2002	639	607	391	327	345	287	193	156	389
Annual % change 05/04	24.3%	24.4%	41.2%	9.7%	17.8%	17.8%	34.1%	14.6%	23.0%
<b>Hayland</b>									
Average value, 2005	1312	1203	780	515	612	451	324	270	607
Average value, 2004	1008	992	586	432	516	391	265	245	498
Average value, 2003	932	770	488	379	486	310	228	227	431
Average value, 2002	863	770	412	352	375	325	238	204	397
Annual % change 05/04	30.2%	21.3%	33.1%	19.2%	18.6%	15.3%	22.3%	10.2%	21.9%
<i>Type of land</i>	<i>South-east</i>	<i>East-Central</i>	<i>North-east</i>	<i>North-Central</i>	<i>Central/S. Central</i>	<i>Western</i>	<i>STATE</i>		
<i>dollars per acre</i>									
<b>Irrigated land</b>									
Average value, 2005	1974	2097	1566	1017	1190	968	1387		
High productivity	2269	2359	1735	1217	1555	1264	—		
Low productivity	1645	1711	1110	892	1130	721	—		
Average value, 2004	1793	1678	1259	1210	865	782	1183		
Average value, 2003	1629	1085	1034	1032	817	630	1014		
Average value, 2002	1613	1228	935	690	639	568	916		
Annual % change 05/04	10.1%	25.0%	24.4%	-16.0%	37.6%	23.8%	17.2%		

Source: 2005 and earlier South Dakota Farm Real Estate Market Surveys

central regions (Figs 3 and 4; Tables 1). In the north-central and central regions, per-acre values of cropland are higher in the north-central region, while per-acre values of hay, pasture, and rangeland are higher in the central region. These regional differences in land values by land use have largely remained consistent over time and are closely related to climate patterns, soil productivity differences, and crop/forage yield differences across the state.

**Cropland values**

The weighted average value of South Dakota's nonirrigated cropland (as of February 2005) is \$1,073 per acre, a 21.1% increase from 2004. This is the first year that the average value of South Dakota's nonirrigated cropland exceeds \$1,000 per acre. Statewide, per-acre cropland values have doubled since 1998 and have nearly tripled since 1991.

The pattern of cropland value changes from 2004 to 2005 across regions is similar to the pattern for changes in all-land values. Cropland value increases were lowest in the south-central (+5.0%) and northwest (+7.5%) regions and highest (>23%) in the east-central, northeast, central, and southwest regions (Table 1).

The east-central and southeast regions have the highest average cropland values of \$1,659 and \$1,556 per acre, respectively. This is the first year that regional cropland values exceed \$1,500 per acre in any South Dakota region and is also the fourth (fifth) consecutive year that average cropland values exceed \$1,000 per acre in the east-central and southeast regions (Fig 3 and Table 1). These two east-

ern regions contain 30% of South Dakota's cropland. Corn and soybeans are the major crops in most counties of both regions.

Corn, soybeans, wheat, and other small grains are the predominant cropland uses in most counties of the north-east and north-central regions of South Dakota. These two regions contain 34% of South Dakota's cropland acres. Average cropland values of \$1,255 per acre in the northeast region are higher than the average of \$967 per acre in the north-central region. Statewide average cropland values of \$1,073 per acre in 2005 are between the average cropland values reported in these two regions.

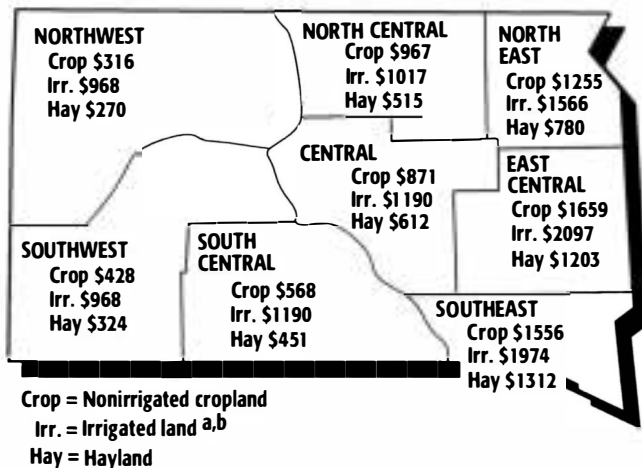
As of February 2005, cropland values averaged \$871 per acre in the central region and \$568 per acre in the south-central region. These two regions contain 20% of the state's cropland acres. Wheat, corn, and grain sorghum are important crops in the south-central region while wheat, corn, soybeans, and sunflowers are the major crops in the central region. During the past 4 years, cropland values in the central region have been increasing more rapidly than cropland values in the south central region.

The lowest cropland values of \$316 and \$428 per acre are found in the northwest and southwest regions, respectively. Wheat is the dominant cropland use in both western regions.

**Hayland values**

South Dakota hayland values averaged \$607 per acre as of February 2005, a 21.9% increase from one year earlier (Table 1). Extremely strong annual increases in hayland

**Figure 3. Average value of South Dakota cropland, irrigated land, and hayland, by region, February 2005, dollars per acre.**

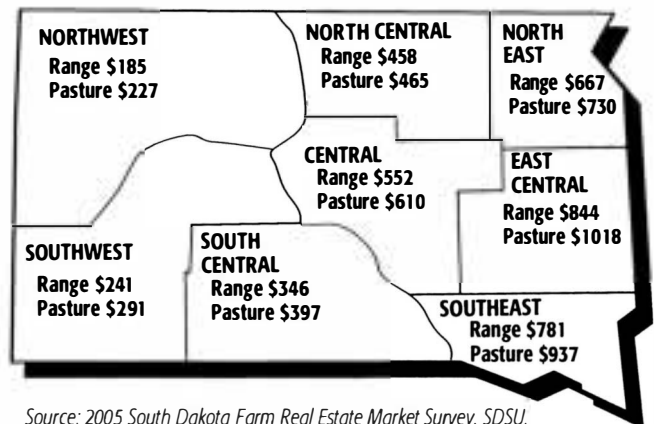


<sup>a</sup> Irrigated land values shown for the northwest and southwest regions are based on the average value reported for gravity irrigated land in both western areas.

<sup>b</sup> Irrigated land values shown for the central and south-central regions are based on the average value reported in both regions.

Source: 2005 South Dakota Farm Real Estate Market Survey, SDSU.

**Figure 4. Average value of South Dakota rangeland and tame pasture, by region, February 2005, dollars per acre.**



Source: 2005 South Dakota Farm Real Estate Market Survey, SDSU.

values (>21%) are reported in all regions of eastern South Dakota and in the southwest. The lowest annual increase (+10.2%) occurred in the northwest region. Statewide, hayland values have doubled since 1998 and nearly tripled from 1991.

Average hayland values are highest (\$1,312 and \$1,203 per acre) in the southeast and east-central regions, respectively. This is the first year that average hayland values are close to \$1,200 per acre in any region of South Dakota. Hayland values are considerably lower (\$780 and \$612 per acre, respectively) in the northeast and central region but remain above the statewide average value of \$607 per acre. In the other four regions, the highest average value of \$515 per acre of hayland is in the north central region and the lowest average value of \$270 per acre occurs in the northwest region (Fig 3 and Table 1). Alfalfa hay is the most common hay in the eastern regions, while native hay is more common in the central and western regions.

### **Pasture and rangeland values**

In February 2005, the value of South Dakota native rangeland averaged \$323 per acre, while the average value of tame pasture was \$621 per acre (Table 1 and Fig 4). Native rangeland is concentrated in the western and central regions of South Dakota, while tame pasture is concentrated in the central and eastern regions.

The statewide average change in rangeland and tame pasture values increased 17.5% and 23.0%, respectively, during the past year (February 2004 to February 2005). This is the fourth consecutive year that double-digit (>10%) increases in both pasture and rangeland values occurred in South Dakota. Based on survey reports, double-digit increases in rangeland and pasture values occurred in all regions, with tremendous increases reported in the northeast region (43.4%). Statewide, pasture and rangeland values have doubled since 1998 and nearly tripled in per-acre value from 1991.

Average rangeland values are highest in the east-central and southeast regions (\$844 and \$781 per acre) and lowest in the southwest and northwest region (\$241 and \$185 per acre). In other regions, average rangeland values vary from \$346 per acre in the south-central region to \$667 per acre in the northeast region (Table 1 and Fig 4). Across most regions, average values of tame pasture vary from 9% to 23% higher than the average value of rangeland.

In the crop-intensive regions of eastern South Dakota and in the north-central region, the average per-acre value of nonirrigated cropland varies from 1.9 to 2.1 times the average value of native rangeland. In the more rangeland intensive central and western regions, the average per-acre value of cropland varies from 1.6 to 1.8 times the average

value of rangeland. In all regions, tame pasture values are between rangeland and hayland values. Also, pasture and hayland values are considerably lower than cropland values in all regions of South Dakota.

Regional variations in rangeland and cropland values are lower than reported for all agricultural land values. In 2005, average per-acre values of cropland and rangeland in the northwest region are between 19% and 24% of per-acre values for the same land uses in the southeast and east-central regions. However, due to the changing proportion of crop/hayland and pasture/rangeland across the state, the average value of all agricultural land in the northwest is only 15% of all agricultural-land values in the southeast and east-central regions (Table 1).

### **Irrigated land values**

Irrigated land value reports are consolidated into six regions (Table 1 and Fig 3). The very few irrigated land reports from the central and south-central regions make it necessary to combine the reports from these two regions. The northwest and southwest regions are combined into a western region because almost all 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 on land values reported 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 land tracts. Consequently, only 37% of all respondents were familiar with and able to provide information on irrigated land values.

Based on 83 responses, irrigated land value increases were reported in most regions. Statewide average irrigated land values are \$1,387 per acre, a 17.2% increase from a year earlier. Regional average irrigated land values are considerably above the statewide average in the eastern regions and considerably below the statewide average in the central and western regions. Irrigated land values vary from an average of \$2,097 and \$1,974 per acre, respectively, in the east-central and southeast regions to \$968 per acre in the western regions (Table 1 and Fig 4).

### **Variation in land values by land productivity and county clusters**

Within each region and for each nonirrigated agricultural land use, there is considerable variation in land values. In this section, we report the February 2005 per-acre values of average quality, high-productivity, and low-productivity land by agricultural land use, region, and county clusters within several regions (Table 2).

**Table 2. Average reported value per acre of agricultural land by South Dakota region, county clusters, type of land, and land productivity, February 1, 2005, 2004, 2003, and 2002.**

<b>Agricultural land type and productivity</b>	<b>Southeast</b>				<b>East-Central</b>			
	<i>All</i>	<i>Clay</i>	<i>Bon Homme</i>	<i>Charles Mix</i>	<i>All</i>	<i>Minnehaha</i>	<i>Brookings</i>	<i>Sanborn</i>
		<i>Lincoln</i>	<i>Hutchinson</i>				<i>Lake</i>	<i>Davison</i>
		<i>Turner</i>	<i>Yankton</i>	<i>Douglas</i>		<i>Moody</i>	<i>McCook</i>	<i>Kingsbury</i>
		<i>dollars per acre</i>				<i>dollars per acre</i>		
								<i>Miner</i>
<b>Nonirrigated cropland</b>								
Average 2005	1556	2021	1283	1042	1659	2196	1665	1307
High productivity	2007	2619	1727	1206	2076	2777	2064	1630
Low productivity	1218	1538	1005	902	1295	1690	1321	1020
Average 2004	1315	1652	1150	937	1346	1822	1207	1088
Average 2003	1156	1544	995	732	1040	1386	1042	896
Average 2002	1057	1363	918	645	1019	1452	1073	741
<b>Rangeland (native)</b>								
Average 2005	781	851	778	686	844	910	810	838
High productivity	943	1021	952	821	998	1049	962	998
Low productivity	655	722	648	570	675	697	609	705
Average 2004	684	785	629	599	764	936	689	706
Average 2003	609	744	576	469	580	567	600	573
Average 2002	538	618	513	460	543	675	550	494
<b>Pastureland (tame, improved)</b>								
Average 2005	937	1108	839	771	1018	1156	936	1007
High productivity	1121	1355	1011	842	1201	1456	1101	1157
Low productivity	804	935	726	680	836	934	757	839
Average 2004	754	820	728	703	818	923	786	796
Average 2003	683	821	637	502	710	**	658	720
Average 2002	639	717	582	529	607	768	629	538
<b>Hayland</b>								
Average 2005	1312	1759	1111	805	1203	1716	1149	904
High productivity	1592	2191	1326	905	1442	2116	1372	1046
Low productivity	1019	1360	851	655	893	1222	839	714
Average 2004	1008	1218	919	717	992	1300	902	855
Average 2003	932	1210	803	593	770	1075	729	668
Average 2002	863	1056	761	571	770	1275	719	575

Source: 2005, 2004, 2003, and 2002 South Dakota Farm Real Estate Market Survey, SDSU.

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

\*\* Insufficient number of reports to make estimates by county cluster.

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 for county clusters in regions west of the Missouri River because there are too few reports for most county groupings. This survey is not designed to reflect the substantially higher land values in or near the Black Hills.

Substantial variation in per-acre land value occurs by degree of land productivity for each land use in each

region. For example, 2005 cropland values in the east-central region vary from an average of \$1,295 per acre for low-productivity cropland to \$2,076 per acre for high-productivity cropland. At the other extreme, the average value of low (high) productivity cropland values is \$258 (\$383) per acre in the northwest region. Across regions, average values of low-productivity cropland were 51% to 70% of the average values of high-productivity cropland.

Rangeland values in the east-central region vary from an average of \$675 per acre for low-productivity rangeland to \$998 per acre for high-productivity rangeland. In the

Table 2. (continued)

Agricultural land type and productivity	Northeast				North-Central			
	All	Codington Deuel Hamlin	Grant Roberts	Clark Day Marshall	All	Brown Spink	Edmund Faulk McPherson	Campbell Potter Walworth
	dollars per acre				dollars per acre			
<b>Nonirrigated cropland</b>								
Average 2005	1255	1308	1349	1104	967	1342	766	683
High productivity	1689	1766	1699	1584	1301	1908	939	868
Low productivity	868	879	905	819	723	971	598	528
Average 2004	973	1059	1054	775	822	1094	552	653
Average 2003	793	879	777	699	716	909	486	541
Average 2002	691	755	709	591	665	918	416	443
<b>Rangeland (native)</b>								
Average 2005	667	654	673	678	458	580	459	292
High productivity	809	815	813	798	556	719	551	341
Low productivity	524	493	546	540	366	449	390	234
Average 2004	465	505	468	403	396	498	341	294
Average 2003	389	429	383	347	345	383	321	263
Average 2002	353	395	338	321	297	348	270	223
<b>Pastureland (tame, improved)</b>								
Average 2005	730	744	720	721	465	605	454	290
High productivity	886	919	870	858	592	798	557	345
Low productivity	599	590	605	604	381	484	371	253
Average 2004	517	516	565	479	424	535	391	267
Average 2003	448	481	431	416	389	442	350	294
Average 2002	391	428	396	354	327	386	293	221
<b>Hayland</b>								
Average 2005	780	809	743	776	515	678	521	326
High productivity	936	1033	834	899	610	809	608	391
Low productivity	583	601	543	593	411	532	441	251
Average 2004	586	654	510	524	432	554	369	306
Average 2003	488	611	455	364	379	422	345	313
Average 2002	412	460	382	340	352	408	324	264

northwest region, at the other extreme, the average value of low (high) productivity rangeland is \$145 (\$238) per-acre. The average value of low-productivity rangeland varies from 51% to 68% of the average value of high-productivity rangeland (Table 2).

In 2005, nonirrigated cropland values averaged more than \$1,000 per acre in ten county clusters, including all nine county clusters in the eastern regions and the Brown-Spink county cluster in the north-central region. As recently as 2003, average cropland values exceeded \$1,000 per acre in only three county clusters.

In 2005, average cropland values were \$2,196 per acre in the Minnehaha-Moody county cluster and \$2,021 per acre in the Clay-Lincoln-Turner-Union (CLTU) county cluster. This is the first time ever that average cropland values exceed \$2,000 per acre in any South Dakota county.

Average cropland values are considerably lower in the other county clusters of the southeast and east-central

regions. For example, cropland values vary from an average of \$1,665 per acre in the Brookings-Lake-McCook county cluster to \$1,042 per acre in the Charles-Mix-Douglas county cluster (Table 2).

Similar patterns occur for other land uses in the east-central and southeast regions. For example, rangeland values vary from an average of \$910 per acre in the Minnehaha-Moody cluster to \$689 per acre in the Brookings-Lake-McCook cluster to \$686 per acre in the Charles Mix-Douglas county cluster. Average hayland values vary from more than \$1,700 per acre in the Minnehaha-Moody and CLTU county clusters to \$805 per acre in the Charles Mix-Douglas county cluster.

In the northeast region, the average values of cropland in 2005 were between \$1,300 and \$1,350 per acre in the Codington-Deuel-Hamlin and Grant-Roberts county clusters and about \$1,100 per acre in the Clark-Day-Marshall county cluster. Average per-acre values of other land uses

Table 2. (continued)

Agricultural land type and productivity	Central				South-Central All	South-west All	North-west All
	All	Aurora Beadle Jerauld	Buffalo Brule Hand Hyde	Hughes Sully			
	<i>dollars per acre</i>				<i>dollars per acre</i>		
<b>Nonirrigated cropland</b>							
Average 2005	871	873	888	846	568	428	316
High productivity	1124	1161	1087	1095	737	494	383
Low productivity	706	756	645	681	441	350	258
Average 2004	705	785	603	710	541	318	294
Average 2003	631	729	569	535	443	290	281
Average 2002	524	566	489	506	445	311	243
<b>Rangeland (native)</b>							
Average 2005	552	608	590	388	346	241	185
High productivity	682	765	709	477	440	308	238
Low productivity	412	482	398	289	289	195	145
Average 2004	456	530	409	384	312	196	167
Average 2003	397	511	353	270	257	176	153
Average 2002	325	418	289	245	260	172	127
<b>Pastureland (tame, improved)</b>							
Average 2005	610	683	606	411	397	291	227
High productivity	769	861	750	547	534	361	278
Low productivity	499	595	456	316	299	233	188
Average 2004	518	586	463	450	337	217	198
Average 2003	493	583	405	**	294	191	163
Average 2002	345	419	329	275	287	193	156
<b>Hayland</b>							
Average 2005	612	674	599	470	451	324	270
High productivity	756	820	760	576	556	383	326
Low productivity	499	567	481	349	351	249	223
Average 2004	516	581	461	433	391	265	245
Average 2003	486	569	446	305	310	228	227
Average 2002	375	420	368	283	325	238	204

were much lower than per-acre cropland values in each county cluster. Per-acre values for each land use were similar across county clusters in the northeast region.

In the north-central region, average land values in Brown and Spink counties are much higher than those found in other counties, especially for cropland. Most cropland in Brown and Spink counties is located in the James River valley and is more productive than other land in this region. As an example, nonirrigated cropland values averaged \$1,342 per acre in the Brown-Spink county cluster, which is nearly double the \$683 per-acre cropland value reported in the Campbell-Potter-Walworth county cluster.

East of the Missouri River, the lowest per-acre values for each agricultural land use are found in the Campbell-Potter-Walworth (CPW) county clusters. For each land use, per-acre land values in the CPW cluster are about one-half of corresponding land values in the Brown-Spink

county cluster and about one-third of cropland or rangeland values in the Minnehaha-Moody county cluster.

In the central region, cropland values were similar in each county cluster and considerably above hayland, pasture, and rangeland values. Rangeland, pasture, and hayland values in the Hughes-Sully county cluster are considerably lower than corresponding land values in the other county clusters. Land values vary from an average of \$388 per acre for rangeland in the Hughes-Sully county cluster to \$888 per acre for cropland in the Buffalo-Brule-Hand-Hyde county cluster.

Strong increases (often greater than 20%) were reported in land values in most county clusters of the central, north-central, and eastern regions of South Dakota. Some weaknesses in land value changes (+5% to -5%) were noted for rangeland and cropland in the CPW county cluster and for rangeland in the Hughes-Sully and Minnehaha-Moody county clusters.



For regions west of the Missouri River, average land values for each land use are highest in the south-central region and lowest in the northwest region. During the past year, land values increased more rapidly (>20%) in the southwest region compared to about 10% in both the south-central and northwest regions. Average land values vary from \$185 per acre for rangeland in the northwest region to \$568 per acre of cropland in the south-central region.

**Major reasons for purchase and sale of farmland**

During each of the 15 years of the SDSU Farm Real Estate Market survey, respondents have been asked to provide major reasons for buying and selling farmland in their locality. Almost 98% of respondents provided one or two reasons in each category. During all of the years this survey has been conducted, the top three or four most commonly cited reasons for purchase or sale have not changed. However, the relative importance of various factors has changed.

Farm expansion (33% of responses) was the most common reason given for purchasing farmland (Fig 5). Twenty-eight percent of respondents cited investment purposes as a major reason; however, it is not clear whether the purchases were solely investments in farming activities. Respondents near urban areas indicated that agricultural land was being secured for future housing and business sites. Farmland potential for fee-based hunting and recreation can also influence investment decisions; 18% of survey participants indicated hunting/recreation was a major reason for purchasing farmland.

Responses indicating investment purposes or hunting/recreation purposes as the major reason(s) for purchasing farmland increased from 23% of 1994 responses to 45% of responses in 2000 and 46% of responses in 2005. Conversely, the proportion of responses indicating farm expansion as the major reason for purchasing farmland declined from 48% of responses in 1994 to 43% of responses in 2000 and 33% of responses in 2005.

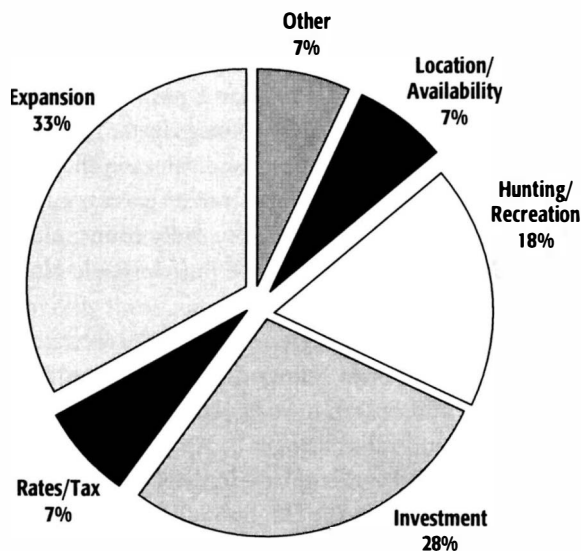
The opportunity to purchase land in advantageous locations or secure land now available for sale that had been previously cash rented made up 7% of responses. Another 7% of respondents indicated farmland was purchased primarily for tax purposes (e.g., 1031 exchanges) or to take advantage of favorable (low) interest rates.

Retirement, estate settlement, and favorable market conditions continue as the three main reasons for selling farmland. Retirement or settlement of an estate was listed by 48% of respondents as reasons for selling farmland. Thirty-five percent of respondents indicated farmland was sold to capitalize on the current high land prices and demand in the land market. Nine percent listed financial/cash flow pressures as the main reasons for selling farmland (Fig 6).

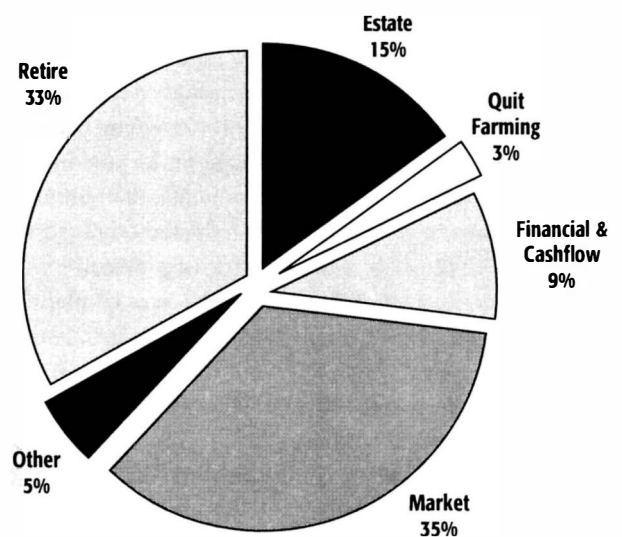
**Cash rental rates of South Dakota agricultural land**

The cash rental market provides important information on returns to agricultural land. Three-fourths of South Dakota farmland renters are involved in one or more cash leases for agricultural land. The majority of farmland leases (57%) are cash leases, and five-eighths of

**Figure 5. Reasons for Buying Farmland**



**Figure 6. Reasons for Selling Farmland**



cash leases are annual renewable agreements (Janssen and Xu, 2003).

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

Cash rental rates differ greatly by region and by 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 and Figure 7).

From 2004 to 2005, statewide cash rental rates increased an average of \$2.10 per acre for cropland and \$1.10 per acre of hayland and rangeland. The average percentage increase in cash rental rates was about 7% for rangeland and 3.5% for hayland and cropland. Average cash rental rates increased for cropland and rangeland in all regions except the south-central. Hayland cash rental rates increased in all regions except in the south-central and southwest regions. In general, cash rental rate increases were greatest in the same regions where the strongest land value increases were also reported.

**2005 cash rental rates: cropland, hay land, and irrigated land**

Average cash rental rates in 2005 for nonirrigated cropland vary from \$22.90 to \$24.90 per acre in the western regions to \$65.70 per acre in the northeast region and \$87.20 per acre in the southeast region (Fig 7 and Table 3). Average cash rental rates for cropland are highest (\$106.70 and \$102.10 per acre, respectively) in the CLTU and Minnehaha-Moody clusters (Table 4).

This is the third year that average cash rental rates exceeded \$100 per acre for high-productivity nonirrigated cropland in both the southeast and east-central regions. Average cash rental rates for high-productivity cropland in the CLTU and Minnehaha-Moody county clusters currently exceed \$135 per acre and have been above \$100 per acre for several years. Cash rental rates for high-productivity cropland currently exceed \$100 per acre in several other

county clusters in the eastern and north-central regions.

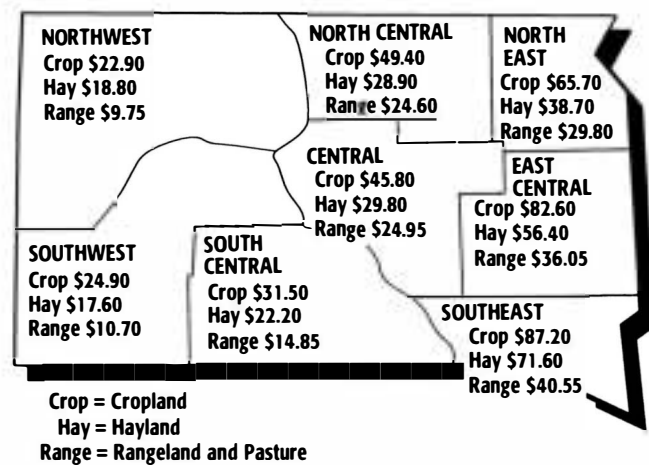
Within each region and county cluster, cash rental rate averages for low-productivity cropland are considerably lower than those reported for high-productivity cropland. For example, reported average cash rent for nonirrigated cropland in the southeast region is \$63.50 per acre for low-productivity cropland and \$118.50 for high-productivity cropland. In the northwest region, the average cash rent for low-productivity cropland is \$16.60 while cash rental rates for high-productivity cropland average \$31.20 (Table 4).

Hayland cash rental rates in 2005 vary from an average of \$17.60 to \$18.80 per acre in western South Dakota and from \$28.90 to \$29.80 per acre in the north-central and central regions, respectively. However, in the three regions of eastern South Dakota, hayland cash rental rates vary from an average of \$38.70 in the northeast to \$71.60 per acre in the southeast region (Table 3 and Fig 7).

In eastern South Dakota, average cash rental rates for hayland vary from \$91.30 in the CLTU cluster to \$57.60 per acre in the Brookings-Lake-McCook cluster to \$31.40 in the Clark-Day-Marshall cluster. For several counties in each eastern region, average cash rental rates for hayland are between \$41 and \$44 per acre (Table 4).

Within each region and county cluster, there are considerable differences in average cash rental rates of low-productivity and high-productivity hayland. For example, the average rental rates for high- and low-productivity

**Figure 7. Average cash rental rate of South Dakota nonirrigated cropland, hayland, and rangeland, by region, 2005, dollars per acre.**



Source: 2005 South Dakota Farm Real Estate Market Survey, SDSU.

<sup>4</sup> 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 geographic areas of the state unless there are major differences in forage availability, forage quality, and demand for leased land.

**Table 3. Reported cash rental rates of South Dakota agricultural land by type of land by region, 2002-2005.**

<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>State</i>
<i>dollars per acre</i>									
<b>Nonirrigated cropland</b>									
Average 2005 rate	87.20	82.6	65.70	49.40	45.80	31.50	24.90	22.90	59.40
High productivity	118.50	114.00	99.70	75.70	64.60	41.10	30.80	31.20	
Low productivity	63.50	59.90	49.10	34.00	33.30	22.50	19.60	16.60	
Average 2004 rate	83.70	78.80	64.50	47.60	43.40	34.10	23.10	21.40	57.30
Average 2003 rate	78.80	74.70	59.50	44.90	40.60	29.20	22.00	21.00	53.70
Average 2002 rate	76.50	69.80	57.50	42.20	35.95	29.40	22.60	20.40	51.10
<b>Hayland</b>									
Average 2005 rate	71.60	56.40	38.70	28.90	29.80	22.20	17.60	18.80	33.80
High productivity	93.60	73.80	51.60	38.50	41.60	27.30	23.90	25.50	
Low productivity	52.20	41.00	29.80	21.40	20.50	16.20	13.50	13.40	
Average 2004 rate	68.50	53.40	36.80	27.10	28.40	24.80	18.50	17.70	32.70
Average 2003 rate	67.20	49.40	34.60	26.20	27.50	19.80	17.80	19.80	31.30
Average 2002 rate	63.70	49.20	31.00	23.40	21.10	20.40	15.50	17.50	28.70
<b>Pasture/rangeland</b>									
Average 2005 rate	40.55	36.05	29.80	24.60	24.95	14.85	10.70	9.75	17.50
High productivity	53.95	50.25	41.70	35.00	35.70	19.40	14.20	13.90	
Low productivity	28.45	26.90	21.90	17.60	17.30	10.90	7.45	6.30	
Average 2004 rate	37.40	35.90	27.20	22.20	23.90	17.30	10.00	7.90	16.40
Average 2003 rate	35.20	32.40	25.30	20.30	23.00	16.40	8.60	7.70	15.30
Average 2002 rate	33.70	32.00	23.70	18.70	19.70	15.60	8.90	7.20	14.50
<i>dollars per Animal Unit Month</i>									
Average 2005 rate	21.45	21.10	23.75	22.40	20.60	23.20	22.30	19.45	
High productivity	25.50	26.80	28.00	29.40	26.15	28.65	30.20	25.05	
Low productivity	16.60	15.00	18.00	17.00	16.30	18.65	17.45	15.35	
Average 2004 rate	21.30	**	**	21.10	24.00	23.60	21.90	19.80	
Average 2003 rate	20.30	**	**	20.40	20.40	21.50	19.90	19.30	
Average 2002 rate	20.70	18.00	17.70	16.30	16.30	21.20	19.10	17.60	
<i>Type of land</i>	<i>South-east</i>	<i>East-Central</i>	<i>North-east</i>	<i>North-Central</i>	<i>Central/S.Central</i>	<i>Western</i>	<i>State</i>		
<i>dollars per acre</i>									
<b>Irrigated land</b>									
Average 2005 rate	118.30	109.30	84.45	80.95	73.10	60.50	84.30		
High productivity	142.20	130.70	124.45	105.00	97.10	76.35			
Low productivity	97.30	85.70	75.55	61.25	59.60	45.00			
Average 2004 rate	118.80	103.80	97.50	75.00	73.20	56.90	83.70		
Average 2003 rate	119.20	98.00	72.60	75.50	**	58.20	76.60		
Average 2002 rate	124.00	98.60	77.40	71.40	52.50	50.20	75.70		

\*\* Insufficient number of reports to make regional estimates

Source: South Dakota Farm real Estate Market Surveys, SDSU, 2005 and earlier year reports

hayland in the CLTU county cluster are \$120.80 and \$66.60 per acre, respectively. In many regions, the lower cash rental rates are reported for native hayland, while the higher rates are quoted for alfalfa or other tame hayland.

Cash rental rates for irrigated land vary from an average of \$60.50 in western South Dakota to \$109.30 in the east-central region and \$118.30 per acre in the southeast region (Table 3).

**2005 cash rental rates: rangeland and pasture**

Nearly three-eighths of South Dakota's 26.2 million acres of rangeland and pasture 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. A majority of leased rangeland and almost all leased pasture are cash rented from private landlords (Cole et al. 1992, Janssen and Xu 2003).

Respondents were asked to report 2005 cash rental rates

per acre and per AUM on privately owned rangeland and pastureland in their locality.

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 \$9.75 to \$10.70 in western South Dakota to \$40.55 per acre in the southeast region. Typical cash rental rates for low-productivity and high-productivity rangeland vary from \$6.30 to \$13.90 in the northwest and from \$28.45 to \$53.95 in the southeast (Fig 7 and Table 3).

In counties east of the Missouri River, average cash rental rates for rangeland and pasture vary from a high of \$48.65 in the CLTU cluster to about \$30 in the Charles Mix-Douglas and Brown-Spink clusters to a low of \$17.10 per-acre in the CPW cluster (Table 4).

Rangeland rates per AUM in 2005 are fairly uniform across South Dakota, averaging between \$19.45 per AUM in the northwest region to \$23.75 per AUM in the northeast region. Rental rates per AUM held steady in most regions after steadily increasing for the previous 4 years.

**Table 4. Reported cash rental rates of South Dakota agricultural land by region and county clusters, 2005, 2004, 2003, and 2002 rates.**

Agricultural land type and productivity	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
	dollars per acre				dollars per acre			
<b>Nonirrigated cropland</b>								
Average 2005 rate	87.20	106.70	76.70	59.10	82.60	102.10	89.10	65.50
High productivity	118.50	140.10	112.60	78.20	114.00	137.60	117.10	96.20
Low productivity	63.50	78.50	56.20	40.50	59.90	76.80	65.50	45.00
Average 2004 rate	83.70	99.30	77.50	58.10	78.80	100.20	80.60	62.50
Average 2003 rate	78.80	95.70	72.10	58.60	74.70	95.00	78.10	63.90
Average 2002 rate	76.50	91.90	69.90	50.20	69.80	88.00	73.90	55.20
<b>Hayland</b>								
Average 2005 rate	71.60	91.30	68.10	43.50	56.40	80.10	57.60	41.70
High productivity	93.60	120.80	87.60	56.80	73.80	101.90	71.10	59.00
Low productivity	52.20	66.60	50.40	30.40	41.00	57.80	42.60	30.30
Average 2004 rate	68.50	81.90	68.20	40.70	53.40	67.10	51.10	46.80
Average 2003 rate	67.20	81.60	62.80	39.60	49.40	63.30	51.40	42.50
Average 2002 rate	63.70	78.20	58.00	38.10	49.20	73.90	45.00	39.30
<b>Pasture/rangeland</b>								
Average 2005 rate	40.55	48.65	38.40	30.50	36.05	42.05	34.70	34.10
High productivity	53.95	64.55	51.50	40.30	50.25	54.90	48.70	49.10
Low productivity	28.45	33.85	26.25	22.65	26.90	28.50	26.85	26.20
Average 2004 rate	37.40	44.70	33.20	30.00	35.90	38.80	35.40	34.80
Average 2003 rate	35.20	42.20	32.00	29.10	32.40	38.00	33.30	30.20
Average 2002 rate	33.70	40.90	31.10	25.80	32.00	33.75	34.00	29.90

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, 2005, 2004, 2003, and 2002

Table 4. (continued)

Agricultural land type and productivity	Northeast				North-Central					
	All	Codington Deuel Hamlin	Grant Roberts	Clark Day Marshall	All	Brown Spink	Edmund Faulk McPherson	Campbell Potter Walworth		
		dollars per acre				dollars per acre				
<b>Nonirrigated cropland</b>										
Average 2005 rate	65.70	71.90	68.40	57.30	49.40	64.80	42.50	38.70		
High Productivity	99.70	114.80	98.30	85.40	75.70	108.60	57.70	56.00		
Low Productivity	49.10	58.40	49.10	39.60	34.00	45.30	28.20	26.80		
Average 2004 rate	64.50	70.80	68.70	54.40	47.60	56.90	38.90	39.10		
Average 2003 rate	59.50	62.30	60.00	51.90	44.90	52.20	36.00	37.40		
Average 2002 rate	57.50	60.40	58.60	52.60	42.20	53.90	32.40	31.70		
<b>Hayland</b>										
Average 2005 rate	38.70	41.40	41.60	31.40	28.90	35.40	28.20	21.20		
High Productivity	51.60	57.10	52.00	42.40	38.50	49.10	35.40	28.80		
Low Productivity	29.80	32.80	31.30	23.50	21.40	26.50	20.90	15.20		
Average 2004 rate	36.80	43.30	29.80	30.70	27.10	31.10	26.10	20.30		
Average 2003 rate	34.60	41.60	34.40	25.10	26.20	30.10	22.80	21.80		
Average 2002 rate	31.00	35.20	32.10	21.00	23.40	26.70	20.70	20.90		
<b>Pasture/rangeland</b>										
Average 2005 rate	29.80	34.05	28.35	26.35	24.60	29.60	25.15	17.10		
High productivity	41.70	49.15	38.15	36.55	35.00	44.95	33.55	23.45		
Low productivity	21.90	25.75	20.00	19.25	17.60	20.90	17.65	13.00		
Average 2004 rate	27.20	29.80	26.90	24.20	22.20	25.60	22.70	15.40		
Average 2003 rate	25.30	27.90	24.10	23.20	20.30	22.50	19.90	15.70		
Average 2002 rate	23.70	26.60	20.60	23.30	18.70	21.50	18.10	15.20		
Agricultural land type and productivity	Central				South-Central			South-west		North-west
	All	Aurora Beadle Jerauld	Buffalo Brule Hand Hyde	Hughes Sully	All	All	All	All	All	
		dollars per acre								dollars per acre
<b>Nonirrigated cropland</b>										
Average 2005 rate	45.80	49.50	41.50	45.00	31.50		24.90		22.90	
High productivity	64.60	67.50	60.10	65.70	41.10		30.80		31.20	
Low productivity	33.30	33.90	27.90	40.00	22.50		19.60		16.60	
Average 2004 rate	43.40	47.10	38.20	44.80	34.10		23.10		21.40	
Average 2003 rate	40.60	46.50	36.30	37.00	29.20		22.00		21.00	
Average 2002 rate	35.95	40.90	33.50	32.00	29.40		22.60		20.40	
<b>Hayland</b>										
Average 2005 rate	29.80	36.50	26.50	17.50	22.20		17.60		18.80	
High productivity	41.60	49.80	37.00	27.60	27.30		23.90		25.50	
Low productivity	20.50	25.40	18.10	11.50	16.20		13.50		13.40	
Average 2004 rate	28.40	31.90	28.40	23.60	24.80		18.50		17.70	
Average 2003 rate	27.50	30.60	28.50	20.10	19.80		17.80		19.80	
Average 2002 rate	21.10	22.50	22.80	*	20.40		15.50		17.50	
<b>Pasture/rangeland</b>										
Average 2005 rate	24.95	29.30	23.80	18.70	14.85		10.70		9.75	
High productivity	35.70	40.45	31.10	29.30	19.40		14.20		13.90	
Low productivity	17.30	19.55	15.05	16.30	10.90		7.45		6.30	
Average 2004 rate	23.90	28.60	22.00	19.10	17.30		9.90		7.90	
Average 2003 rate	23.00	27.60	23.00	15.90	16.40		8.60		7.70	
Average 2002 rate	19.70	23.90	20.30	13.20	15.60		8.90		7.20	

### Rates of return to South Dakota agricultural land

Two approaches (gross rates of return and net rates of return) are used in each annual survey to obtain information on current rates of return to agricultural land.<sup>5</sup>

First, gross rent-to-value ratios (gross cash rent as a percent of land value) are calculated from respondents' reported cash rental rates and estimated values 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.

In 2005, the statewide average gross rate of return (rent-to-value ratio) is 5.7% for nonirrigated cropland and hayland, 4.8% for rangeland, and 5.2% for all agricultural land. This is the first time in the 15 years of this annual land market survey that gross rates of return for each agricultural land use averaged less than 6%.

Regional average rent-to-value ratios in 2005 vary from 4.7% in the southwest to 5.8% in the north-central and northwest region (Table 5).

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 return to agricultural land ownership **after** deducting property taxes, real estate maintenance, and other ownership expenses.<sup>6</sup>

Average net rates of return for 2005 varied from 4.5% for nonirrigated cropland to 3.5% for rangeland and pasture and averaged only 3.9% for all agricultural land. This is the first time during the past 15 years that average net rates of return for all agricultural land were below 4%. Also, average net rates of return in 2005 are below 5.0% for each agricultural land use and for all regions of South Dakota.

Average net rates of return by region in 2005 varied from 3.2% to 3.4% in the western regions to 4.7% in the east-central and 4.5% in the southeast region. The regional differences in rates of return reflect the consistent pattern of cropland rates of return (both gross and net) exceeding rates of return to rangeland in each of the past 15 years.

The projected difference between **gross** and **net** rates of return to agricultural land ownership in 2005 is 1.3

percentage points for all agricultural land and varies somewhat across regions and agricultural land uses (Table 5). Most of the difference between gross returns and net returns is caused by property tax levies.

### Longer-term perspective on farmland value and cash rental rate changes, 1991-2005

Longer-term historical data from annual SDSU surveys of agricultural land values and cash rental rates in South Dakota for 1991-2005 are in Appendix Tables 2 and 3 of this report. Long-term trends in average annual cash rates of return (both gross and net) are shown in Figures 8a and 8b.

Based on 15 years of examining trends in rates of return to agricultural land and trends in land values and cash rental rates by agricultural land use across regions and county clusters, we offer a few key observations.

First, gross rates of return (cash rent to land value ratio) for cropland, rangeland, and all agricultural land declined slowly from 1991-2000 and more rapidly each year from 2001 to 2005. In all 15 years, average rates of return to cropland exceeded average rates of return to rangeland. During the same time period, trends for net rates of return were similar, but more erratic, than trends in gross cash rates of return to land.

Figure 8a. Gross rent to value ratio by land use, 1991-2005.

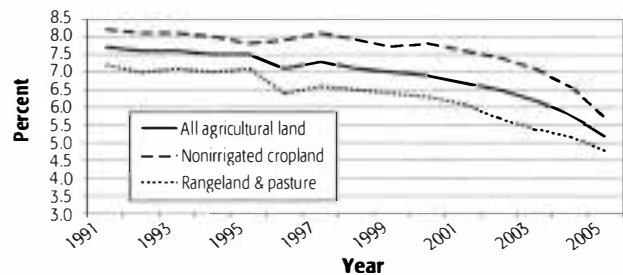


Figure 8b. Net rate of return by land use, 1991-2005.



<sup>5</sup> The range of reported rates of return and calculated rent-to-value ratios is also obtained for the middle 90% of responses for each land use. For most respondents, the estimated gross rate of return (rent-to-value ratio) varies from 3.9% to 8.0% for cropland, from 3.3% to 8.3% for hayland, and 3.1% to 7.5% for rangeland. For most respondents, the reported net rate of return varies from 2% to 7.5% for cropland and hayland and from 1.5% to 7.0% for rangeland. This represents the practical range of reported rates of return and rent-to-value ratios.

<sup>6</sup> The market derived income capitalization rate used by appraisers is equal to net returns to land divided by its current market value. One widely used method of estimating net return to agricultural land is subtracting property taxes, land maintenance expense, and other land ownership expenses from the gross cash rental rate for the same land. In each SDSU farmland market survey, respondents were requested to estimate this net rate of return by land use for agricultural land in their locality.

**Table 5. Estimated rates of return to South Dakota agricultural land by type of land and by region, 1991 - 2005.**

	Average						Average					
	2005	2004	2003	2002	2001	1991-04	2005	2004	2003	2002	2001	1991-04
<b>Type of land-statewide</b>	<b>GROSS rate of return (%)<sup>a</sup></b>						<b>NET rate of return (%)<sup>b,c</sup></b>					
All agricultural land	5.2	5.8	6.2	6.5	6.7	7.0	3.9	4.3	4.5	4.5	4.8	5.1
Nonirrigated cropland	5.7	6.6	7.1	7.4	7.6	7.7	4.5	4.9	5.0	5.2	5.4	5.8
Rangeland and pasture	4.8	5.2	5.4	5.7	6.1	6.4	3.5	3.9	4.1	3.9	4.3	4.6
Hayland	5.7	6.5	7.1	7.2	7.3	7.7	4.0	4.4	4.8	4.7	5.1	5.3
<b>Region<sup>d</sup></b>	<b>GROSS rate of return (%)</b>						<b>NET rate of return (%)</b>					
Southeast	5.5	6.2	6.7	7.1	7.2	7.2	4.5	4.9	4.6	5	5.4	5.6
East-Central	4.9	5.6	6.7	6.7	6.9	7.3	4.7	4.7	4.6	5	5.5	5.4
Northeast	5.1	6.8	7.4	7.6	7.6	7.9	4.3	4.8	5.5	5.5	5.6	5.9
North-Central	5.8	6.2	6.5	7.0	6.5	7.5	4.4	4.6	4.9	5.6	6.1	5.9
Central	4.9	6.0	6.2	6.6	7.5	7.4	4.1	4.4	4.1	4.7	4.6	5.0
South-Central	4.9	6.2	6.0	6.3	6.6	6.7	4.0	4.2	5.1	4.2	4.6	5.0
Southwest	4.7	5.4	5.6	5.7	6.7	6.4	3.2	4.0	4.2	3.4	4.0	4.2
Northwest	5.5	5.2	5.6	5.9	6.1	6.7	3.4	3.7	3.9	3.9	4.0	4.8

<sup>a</sup>GROSS rate of return (percent) is calculated by dividing the average gross cash rental rate by reported value of rental land.

<sup>b</sup>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.

<sup>c</sup>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.

<sup>d</sup>Regional level GROSS and NET rate of return estimates are calculated by weighting the rate of return estimates for each land use by proportion of the region agricultural acres in each land use.

Source: 2005 South Dakota Farm Real Estate Survey, SDSU

Second, increases in agricultural land values from 1991 to 2005 were generally supported by increases in cash rental rates, but the extent of support varied by time period. The declining rates of return from 2000 to 2005 indicate that land values have increased much more rapidly than cash rental rates in this latter period.

For example, South Dakota cropland cash rental rates increased an annual average rate of 5.8% from 1996 to 2001 and from 2001 to 2005. However, cropland values increased at a similar rate to cropland cash rents (+6.6%) from 1996 to 2001 but accelerated to an annual average of 14.3% from 2001 to 2005.

The earlier time period (1996-2001) reflects the major impacts of farm program benefits on both cash rental rates and land values, while the latter time period shows the much greater positive impact of reduced interest rates on land values compared to the impact on cash rental rates. During this latter period, the real estate market (including farmland) has been entering a speculative boom fueled by low interest rates and low rates of general price inflation.

Gross and net cash rates of return are approaching the lower end of historical rates of return to agricultural land in South Dakota. Farmland investors are in market conditions where an increasing proportion of future total returns are from expectations of capital appreciation instead of actual current cash returns. This pattern of declining rates of cash return to land also occurs during the latter stages of land market price booms.

Third, the more rapid increases in cash rental rates and land values since 1996 were directly related to crop

price or government payment benefits that became quickly capitalized into land rents and values. More recent increases in land values from 2001 to present were strongly related to sharp declines in costs of borrowing money and to many investors (including farmers) shifting some funds into real estate from stocks and bonds.

Fourth, regional and county cluster rankings in per-acre land values are very stable for most land uses, reflecting fundamental differences in soil productivity and long-term weather patterns and relatively slow shifts in the economic structure of most counties in South Dakota. The greatest changes in land values are generally occurring near growing urban centers, in localities where commercial (fee) hunting has greatly increased, and in areas shifting from wheat and small grains to corn and soybeans.

Fifth, land values across counties and regions tend to move together over time but not at exactly the same time or at the same pace. A typical pattern is 3 to 4 years of rapid increases in land values followed by one or two years of consolidation (or even declines) before the next surge in land values. The timing of the growth and consolidation phases are not identical across all regions and counties. Thus, a longer-term perspective on land value changes is warranted.

Finally, longer-term trends (1991-2005) in agricultural land values show increases above the rate of price inflation in all regions. The statewide average annual rate of increase for all agricultural land was 7.7% during this period, with regional variation from 6.2% in the south-central to 8.7% in the north-central region (Appendix Table 2). Trends in

land value changes by land use followed similar patterns.

Additional information and numerous charts on longer-term trends in South Dakota agricultural land values and cash rental rates, statewide and regional, can be obtained in a recent electronic publication. *Historical and recent trends in South Dakota's agricultural land market*, which can be accessed at <http://agbiopubs.sdstate.edu/articles/EC918.pdf> (Hamda, Pflueger, and Janssen, 2003)

### Respondents' assessment of factors influencing farmland markets in South Dakota

Respondents were asked to list major positive and negative factors affecting the farm real estate market in their localities. These factors help explain changes in the amount of farmland for sale, sale prices, and rental rates. Ninety-one percent of respondents listed one or two positive reasons and 87% listed one or two negative reasons.

Low interest rates (29% of responses) were cited as the principal positive factor in the farmland market for the third straight year. Improved cattle prices and record yields in corn and soybeans were second (Fig 9.) Government programs and the strong demand for farmland were also listed as positive factors in the market.

Respondents continue to be divided in their assessment of the investment potential of farm real estate. The presence of outside investors and favorable returns to real estate compared to alternative investments were listed as a positive factor in the farm real estate market by 16% of respondents. Another 9% listed the hunting and recreation potential of farmland as a positive factor in the market.

Conversely, 13% of respondents considered investor

and development interest a negative factor in the farm real estate market (Fig 10). Investors, especially those from "outside" a local area, are often associated with increased purchase price and rental costs of farmland. Twelve percent of respondents listed high purchase and rental costs as a negative market factor.

The continuing drought (16% of responses), especially in western parts of South Dakota, was cited as the principal negative factor influencing the farmland market for the third year in a row.

Respondents indicated that lower grain prices, relative to a year ago, were a negative influence on the farmland market (13% of responses). High input costs and low returns to agricultural resources made up another 11% of negative responses.

Recent increases in interest rates and speculation about possible reductions in government programs were also listed as important negative factors. Conversely, 10% of respondents indicated no negative factors were affecting land markets in their localities in 2005, compared to 7% of respondents in 2004.

Hunting/recreation activities have often been cited by respondents as a major factor related to land purchase/sale decisions and as a positive factor affecting rural land markets. For the first time in this survey series, respondents were asked for their assessment of the impact of hunting potential on agricultural land values and cash rental rates in their locality. More than 90% of respondents to the 2005 survey provided responses to the following hunting impact questions:

a. Considering all agricultural land sold in your locality over the past few years, hunting potential influenced the

Figure 9. Postive factors in the farm real estate market.

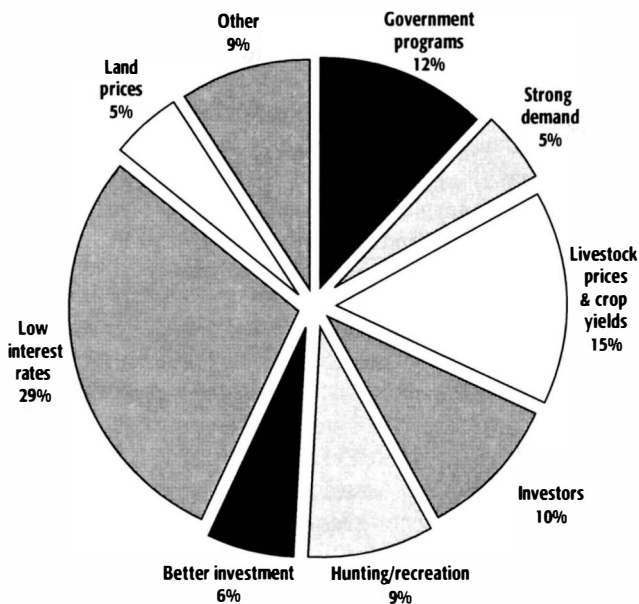
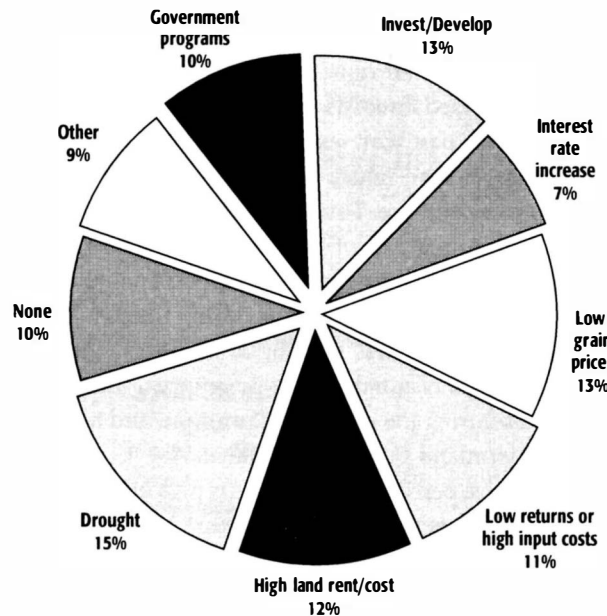


Figure 10. Negative factors in the farm real estate market.





purchase price on what percent of land sold?

b. For those sales where hunting potential has a positive influence on purchase price, the premium paid was \_\_\_\_ % above the price paid for similar land used only for agricultural production?

Most respondents (>90%) indicated that the purchase of some land sold in their locality was influenced by hunting potential. The median was 25% and the mean (average) was 38% of land sales. According to respondents, the sale price of more than 50% of land in the central, south-central, and southwest was influenced by hunting potential. The average premium in price per acre paid for land with hunting potential was projected to be 20-25% above similar land used only for agricultural production. Respondents in the south-central and southwest regions projected higher premium percentages than respondents in other regions.

The rental rate impact questions were separated into the impact of hunting potential on cash rental rates for crop/hayland vs. pasture/rangeland. One-third of respondents indicated that hunting potential had a positive influence on cropland cash rental rates in their locality, but only 23% of respondents indicated that hunting potential influenced pasture/rangeland rental rates in their locality. The proportion of these respondents was much higher in the south-central and southwest regions than in other regions of South Dakota. The median premium in cash rental rates for cropland or rangeland leased for hunting potential was 10% to 15% above land without hunting potential.

### **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. Three-fourths of respondents provided their perception of previous year land value changes, but only half provided forecasts for next year.

During the past year, respondents' estimated percentage increases in land values averaged from 13% to 15%, depending on land use. This was slightly higher than the 12% to 13% annual rate of increases estimated by respondents to the 2004 survey and is the highest annual rate of increase estimated by respondents during the past 15 years. The median increase was 10% for all land uses in both years. Almost all respondents (98%) reported increases in land values during the previous 12 months, and no one indicated farmland values had declined.

Eighty-five percent of respondents providing forecasts expect land values to increase in the next 12 months, while most others expect no change in land values. A few respondents forecast a decline in land values. The median forecast

percentage increase is 5% for each land use, compared to average (mean) forecasted increases varying from 5.8% for hayland to 6.5% for cropland.

In summary, respondents to the 2005 survey remain optimistic about further increases in farmland values and do not expect declines in cash rental rates. However, more respondents, compared to 2004, express concern that the land market is becoming "overheated" as land values in the past 3 years have increased much more rapidly than cash rental rates. Prospective buyers and investors, enamored with low interest rates and perceiving only modest returns from other investments, are investing more heavily in real estate, including farmland. In this speculative market situation, it may take considerable increases in general price inflation and interest rates, and farm price/production declines to take the "steam" out of continued upward pressures on land values.

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\*\* Reference citations for annual SDSU farm real estate survey reports for 1991 through 2002 are not listed above but can be found in the following reports. The annual reports for 1991 and 1992 were published as SDSU Economic Research Reports 91-3 and 92-1. The annual reports from 1993 to 1999 were published as SDAES Circulars 256, 257, 258, 259, 260, 262, 263, 264, 266, and 267. Dr. Janssen and Dr. Pflueger, usually in collaboration with an SDSU economics student, were the co-authors of each annual report.

### APPENDIX I: Survey methods and respondent characteristics

The primary purpose of the 2005 South Dakota Farm Real Estate Market Survey was to obtain regional and statewide information on: (1) 2005 per-acre agricultural land values by land use and land productivity, and (2) 2005 cash rental rates by agricultural land use and land productivity. In addition, we obtained respondents' assessment of positive and negative factors influencing their local farm real estate market and motivations for buyer/seller decisions.

Copies of this survey were mailed to potential respondents on February 10 with a follow-up mailing on March 10. Potential respondents were persons employed in one of the following occupations: (1) agricultural lenders (senior agricultural loan officers of commercial banks or Farm Credit Service), (2) loan officer or county directors of the USDA Farm Service Agency (FSA), (3) Cooperative Extension Service agricultural educators and area farm management specialists, and (4) licensed appraisers and assessors. Some appraisers were also realtors or professional farm managers, while some lenders were also appraisers.

The total response rate was 38% of 640 persons contacted. The usable survey response rate was 35%. The distribution of 223 respondents by location and reported occupation is shown in Appendix Table 1. Sixty-five percent of Farm Service Agency officials, 37% of assessors and licensed appraisers, 33% of Extension educators, and 29% of agricultural lenders contacted provided usable responses.

Three-fifths of respondents are agricultural lenders or FSA officials.

Fifty-six percent of the respondents were from the three eastern regions of South Dakota, 27% were from the three regions of central South Dakota, and 17% were from western South Dakota. Compared to previous surveys, response rates from the south-central region were considerably lower while response rates from the east central region were higher. Most respondents were able to supply land value and cash rental rate information for nonirrigated cropland, rangeland, and hayland in their locality. Nearly 40% of respondents provided information on rangeland AUM rental rates, a substantial boost from previous surveys. However, only 37% of respondents provided data on irrigated land values and 34% provided data on irrigated land cash rental rates.

Regional average land values by land use are simple average (mean) values of usable responses. Statewide average land values by land use are weighted by the relative number of acres in each region in the same land use. All agricultural land values, regional and statewide, are weighted by the proportion of acres in each agricultural land use. Thus all agricultural land values in this report are weighted average values by region and land use. This weighted average approach is analogous to the cost (inventory) approach of estimating farmland values in rural land appraisal.

This approach has important implications in the derivation of statewide average land values and regional

**Appendix Table 1. Selected characteristics of respondents, 2005.**

*Number of respondents = 223*

Respondents:		
Reporting location	N	%
Southeast	46	20.6%
East-Central	48	21.5%
Northeast	31	13.9%
North-Central	24	10.8%
Central	27	12.1%
South-Central	9	4.0%
Southwest	14	6.3%
Northwest	24	10.8%
	223	100.0%

Response rates:		
Land values	N	%
Nonirrigated cropland	209	93.7%
Irrigated cropland	83	37.2%
Hayland	179	80.3%
Rangeland (native)	191	85.7%
Pastureland (tame)	155	69.5%

Primary occupation		
Primary occupation	N	%
Banker/loan officer	98	43.9%
Farm Service Agency	38	17.0%
Assessor	25	11.2%
Appraiser/realtor	40	17.9%
Extension educators	22	9.9%
	223	100.0%

Cash Rental Rates		
Cash Rental Rates	N	%
Nonirrigated cropland	207	92.8%
Irrigated cropland	76	34.1%
Hayland	168	75.3%
Rangeland (acre)	196	87.9%
Rangeland (AUM)	88	39.5%

Source. 2005 South Dakota Farm Real Estate Market Survey

all-land values. For example, the two western regions of South Dakota with the lowest average land values have nearly 61% of the state's rangeland acres, 39% of all agricultural land acres, and only 16% of cropland acres. 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 were based on estimates of agricultural land use for privately owned nonirrigated farmland in South Dakota. It excludes agricultural land (mostly range-

land) leased from tribal or federal agencies, which is mostly located 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 1997 South Dakota Census of Agriculture and other sources (Janssen, 1999).

Regional average rental rates by land use are simple average (mean) values of usable responses. Statewide average cash rental rates for each land use are weighted by: (1) the relative number of acres in each land use, and (2) the proportion of farmland acres leased in each region.

## APPENDIX II: Historical data, 1991-2005

**Appendix Table 2. Average reported value and annual percentage change in value of South Dakota agricultural land by type of land by region, 1991-2005.**

Type of land	South-east	East-Central	North-east	North-Central	Central	South-Central	South-west	North-west	State
	<i>dollars per acre</i>								
<b>All agricultural land (nonirrigated)</b>									
Average value, 2005	1360	1431	1041	726	693	413	280	208	634
Average value, 2004	1139	1163	789	621	579	376	222	189	527
Average value, 2003	1009	907	649	543	510	309	199	174	450
Average value, 2002	923	876	567	494	413	313	201	147	410
Average value, 2001	884	784	526	445	364	284	165	141	373
Average value, 2000	788	675	499	400	343	286	166	128	343
Average value, 1999	735	645	459	374	335	272	164	119	325
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
Av annual % change 05/91	7.0%	8.3%	7.8%	8.7%	8.4%	6.2%	7.9%	6.7%	7.7%
Annual % change 05/04	19.4%	23.0%	31.9%	16.9%	19.7%	9.8%	26.1%	10.1%	20.3%
<b>Nonirrigated cropland</b>									
<i>dollars per acre</i>									
Average value, 2005	1556	1659	1255	967	871	568	428	316	1073
Average value, 2004	1315	1346	973	822	705	541	318	294	886
Average value, 2003	1156	1040	793	716	631	443	290	281	744
Average value, 2002	1057	1019	691	665	524	445	311	244	687
Average value, 2001	1023	911	652	592	456	423	245	223	628
Average value, 2000	910	785	620	520	436	417	248	208	570
Average value, 1999	866	756	565	488	435	402	246	202	543
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
Av annual % change 05/91	6.8%	8.1%	7.6%	8.9%	7.9%	5.4%	6.2%	5.3%	7.6%
Annual % change 05/04	18.3%	23.3%	29.0%	17.6%	23.5%	5.0%	34.6%	7.5%	21.1%

Source: South Dakota Farm Real Estate Market Surveys, SDSU, 2005 and earlier.

Appendix Table 2. (continued)

<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>State</i>
<b>Rangeland (native)</b>	<i>dollars per acre</i>								
Average value, 2005	781	844	667	458	552	346	241	185	323
Average value, 2004	684	764	465	396	456	312	196	167	275
Average value, 2003	609	580	389	345	397	257	176	153	239
Average value, 2002	538	543	353	297	325	260	172	127	215
Average value, 2001	488	478	315	270	284	232	143	124	193
Average value, 2000	456	417	297	253	265	235	143	111	183
Average value, 1999	405	386	276	241	255	220	143	102	173
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
Av annual % change 05/91	7.9%	8.5%	8.8%	8.5%	9.1%	6.8%	8.8%	7.3%	8.1%
Annual % change 05/04	14.2%	10.5%	43.4%	15.7%	21.1%	10.9%	23.0%	10.8%	17.5%
<b>Pasture (tame, improved)</b>	<i>dollars per acre</i>								
Average value, 2005	937	1018	730	465	610	397	291	227	621
Average value, 2004	754	818	517	424	518	337	217	198	505
Average value, 2003	683	710	448	389	493	294	191	163	452
Average value, 2002	639	607	391	327	345	287	193	156	389
Average value, 2001	564	522	342	301	332	258	176	153	350
Average value, 2000	516	481	334	289	303	268	167	144	329
Average value, 1999	453	437	314	266	290	240	161	125	301
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
Av annual % change 05/91	8.1%	8.5%	7.9%	7.5%	8.3%	6.6%	8.6%	6.5%	8.2%
Annual % change 05/04	24.3%	24.4%	41.2%	9.7%	17.8%	17.8%	34.1%	14.6%	23.0%

Appendix Table 2. (continued)

<b>Type of land</b>	<b>South-east</b>	<b>East-Central</b>	<b>North-east</b>	<b>North-Central</b>	<b>Central</b>	<b>South-Central</b>	<b>South-west</b>	<b>North-west</b>	<b>State</b>
<b>Hayland</b>	<i>dollars per acre</i>								
Average value, 2005	1312	1203	780	515	612	451	324	270	607
Average value, 2004	1008	992	586	432	516	391	265	245	498
Average value, 2003	932	770	488	379	486	310	228	227	431
Average value, 2002	863	770	412	352	375	325	238	204	397
Average value, 2001	844	735	359	332	337	281	201	181	364
Average value, 2000	722	577	330	317	310	293	203	175	332
Average value, 1999	619	562	317	278	293	294	194	163	310
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
Av annual % change 05/91	7.8%	9.0%	8.4%	8.3%	8.7%	6.1%	7.0%	5.8%	7.8%
Annual % change 05/04	30.2%	21.3%	33.1%	19.2%	18.6%	15.3%	22.3%	10.2%	21.9%

<b>Type of land</b>	<b>South-east</b>	<b>East-Central</b>	<b>North-east</b>	<b>North-Central</b>	<b>Central/S. Central</b>	<b>Western</b>	<b>State</b>
<b>Irrigated land</b>	<i>dollars per acre</i>						
Average value, 2005	1974	2097	1566	1017	1190	968	1387
Average value, 2004	1793	1678	1259	1210	865	782	1183
Average value, 2003	1629	1085	1034	1032	817	630	1014
Average value, 2002	1613	1228	935	690	639	568	916
Average value, 2001	1425	1069	863	687	630	576	856
Average value, 2000	1358	1036	802	619	593	575	816
Average value, 1999	1351	913	672	625	492	443	736
Average value, 1998	1245	950	686	676	549	508	752
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
Av annual % change 05/91	5.4%	8.5%	7.6%	6.3%	7.0%	6.2%	6.4%
Annual % change 05/04	10.1%	25.0%	24.4%	-16.0%	37.6%	23.8%	17.2%

**Appendix Table 3. Reported cash rental rates of South Dakota agricultural land by type of land by region, 1991-2005.**

<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>State</i>
	<i>dollars per acre</i>								
<b>Nonirrigated cropland</b>									
Average 2005 rate	87.20	82.60	65.70	49.40	45.80	31.50	24.90	22.90	59.40
High productivity	118.50	114.00	99.70	75.70	64.60	41.10	30.80	31.20	
Low productivity	63.50	59.90	49.10	34.00	33.30	22.50	19.60	16.60	
Average 2004 rate	83.70	78.80	64.50	47.60	43.40	34.10	23.10	21.40	57.30
Average 2003 rate	78.80	74.70	59.50	44.90	40.60	29.20	22.00	21.00	53.70
Average 2002 rate	76.50	69.80	57.50	42.20	35.95	29.40	22.60	20.40	51.10
Average 2001 rate	72.95	64.60	52.20	37.80	35.30	27.20	20.10	17.50	47.35
Average 2000 rate	67.50	56.40	49.30	36.20	31.90	30.00	18.70	18.70	44.00
Average 1999 rate	63.20	56.00	46.20	36.00	33.20	27.00	19.50	16.90	42.55
Average 1998 rate	65.20	55.00	45.30	34.70	30.90	25.90	19.00	17.90	42.00
Average 1997 rate	57.40	49.20	44.70	32.70	29.30	23.60	19.10	19.30	39.00
Average 1996 rate	54.70	45.30	41.50	28.70	26.30	21.60	17.00	16.00	35.75
Average 1995 rate	52.50	42.10	40.40	27.60	25.10	21.00	17.60	15.90	34.30
Average 1994 rate	51.90	45.10	40.30	29.80	25.00	22.10	17.60	14.90	35.10
Average 1993 rate	51.80	47.10	40.30	26.60	24.20	22.80	16.60	14.60	34.70
Average 1992 rate	48.00	45.70	39.70	25.50	22.70	21.40	17.70	15.10	33.30
Average 1991 rate	49.30	43.20	38.50	24.50	23.20	22.20	15.90	13.50	32.60
<b>Hayland</b>									
Average 2005 rate	71.60	56.40	38.70	28.90	29.80	22.20	17.60	18.80	33.80
High productivity	93.60	73.80	51.60	38.50	41.60	27.30	23.90	25.50	
Low productivity	52.20	41.00	29.80	21.40	20.50	16.20	13.50	13.40	
Average 2004 rate	68.50	53.40	36.80	27.10	28.40	24.80	18.50	17.70	32.70
Average 2003 rate	67.20	49.40	34.60	26.20	27.50	19.80	17.80	19.80	31.30
Average 2002 rate	63.70	49.20	31.00	23.40	21.10	20.40	15.50	17.50	28.70
Average 2001 rate	61.20	47.60	28.90	21.00	23.30	18.10	15.90	14.70	27.25
Average 2000 rate	57.80	40.10	28.80	20.30	21.10	19.40	15.10	14.30	25.70
Average 1999 rate	48.50	40.10	22.80	20.40	20.60	19.60	14.80	15.40	24.20
Average 1998 rate	51.40	40.50	24.60	19.40	20.90	18.90	14.20	13.60	24.50
Average 1997 rate	46.10	36.80	28.20	18.70	19.90	16.70	14.90	14.60	23.35
Average 1996 rate	41.50	32.30	26.00	17.00	18.60	15.20	12.60	11.20	20.75
Average 1995 rate	43.80	28.20	25.30	16.70	16.10	14.90	11.10	11.10	19.90
Average 1994 rate	39.50	31.40	23.60	17.00	17.80	15.50	11.90	11.30	20.05
Average 1993 rate	35.60	32.10	22.00	14.70	16.40	16.00	11.30	9.50	18.70
Average 1992 rate	33.30	25.90	20.00	14.20	15.60	15.60	11.40	12.10	17.80
Average 1991 rate	38.50	30.90	22.30	14.20	15.70	14.80	12.10	10.40	18.80

Source: South Dakota Farm Real Estate Market Surveys, SDSU, 2005 and earlier.

Appendix Table 3. (continued)

<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>State</i>
<b>Pasture/rangeland</b>	<i>dollars per acre</i>								
Average 2005 rate	40.55	36.05	29.80	24.60	24.95	14.85	10.70	9.75	17.50
Average 2004 rate	37.40	35.90	27.20	22.20	23.90	17.30	10.00	7.90	16.40
Average 2003 rate	35.20	32.40	25.30	20.30	23.00	16.40	8.60	7.70	15.30
Average 2002 rate	33.70	32.00	23.70	18.70	19.70	15.60	8.90	7.20	14.50
Average 2001 rate	30.90	30.40	21.00	17.50	20.80	12.90	8.60	6.60	13.50
Average 2000 rate	31.00	26.80	20.60	17.40	18.50	15.40	8.00	6.80	13.30
Average 1999 rate	26.80	24.80	19.70	16.60	17.80	14.70	7.70	6.20	12.45
Average 1998 rate	28.10	24.40	19.40	16.40	17.50	14.90	7.30	6.70	12.50
Average 1997 rate	25.70	23.60	19.50	15.20	16.80	13.00	6.60	6.80	11.85
Average 1996 rate	21.20	22.10	18.80	14.70	16.30	12.00	5.60	6.10	11.05
Average 1995 rate	21.90	21.60	18.60	14.90	14.80	11.20	6.10	6.30	10.80
Average 1994 rate	20.30	20.90	18.60	13.40	16.30	11.20	5.40	5.60	10.35
Average 1993 rate	20.30	20.10	17.00	12.70	15.20	10.10	5.60	5.10	9.75
Average 1992 rate	18.00	19.60	16.50	12.00	13.50	9.50	5.30	4.90	9.15
Average 1991 rate	19.20	18.60	16.30	12.50	13.80	9.90	5.30	4.40	9.10
<i>dollars per Animal Unit Month</i>									
Average 2005 rate	21.45	21.10	23.75	22.40	20.60	23.20	22.30	19.45	
Average 2004 rate	21.30	**	**	21.10	24.00	23.60	21.90	19.80	
Average 2003 rate	20.30	**	**	20.40	20.40	21.50	19.90	19.30	
Average 2002 rate	20.70	18.00	17.70	16.30	16.30	21.20	19.10	17.60	
Average 2001 rate	20.00	21.00	18.60	16.80	17.40	19.80	17.80	15.75	
Average 2000 rate	18.70	17.90	19.80	15.50	17.40	19.20	16.20	16.70	
Average 1999 rate	18.50	15.80	18.80	15.40	16.30	18.50	16.50	16.40	
Average 1998 rate	16.00	19.00	17.70	15.00	19.80	19.10	16.10	16.30	
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	

<i>Type of land</i>	<i>South-east</i>	<i>East-Central</i>	<i>North-east</i>	<i>North-Central</i>	<i>Central/S.Central</i>	<i>Western</i>	<i>State</i>
<b>Irrigated land</b>	<i>dollars per acre</i>						
Average 2005 rate	118.30	109.30	84.55	80.95	73.10	60.50	84.30
Average 2004 rate	118.80	103.80	97.50	75.00	73.20	56.90	80.50
Average 2003 rate	119.20	98.00	72.60	75.50	***	58.20	76.60
Average 2002 rate	124.00	98.60	77.40	71.40	52.50	50.20	75.70
Average 2001 rate	106.00	84.40	77.00	65.00	67.10	48.00	72.80
Average 2000 rate	104.80	84.00	75.00	61.80	55.60	46.60	68.80
Average 1999 rate	100.00	63.80	69.50	63.80	45.20	40.00	61.80
Average 1998 rate	99.30	76.10	63.80	70.00	44.30	39.00	62.20
Average 1997 rate	100.20	72.20	63.00	59.30	46.40	42.00	62.20
Average 1996 rate	85.40	61.90	68.70	46.40	43.90	33.80	54.30
Average 1995 rate	89.50	68.00	76.70	65.40	45.80	44.00	61.60
Average 1994 rate	91.90	71.70	66.00	53.80	48.50	***	61.00
Average 1993 rate	87.20	68.60	60.00	57.80	53.40	44.00	60.80
Average 1992 rate	65.20	70.00	69.20	58.50	49.80	47.50	56.60
Average 1991 rate	82.70	69.00	59.00	***	***	37.50	***

\*\* Insufficient number of reports to make regional estimates