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## Rural Life Census Data Center Newsletter: South Dakota Farm Number and Size Trends

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# RURAL LIFE CENSUS DATA CENTER NEWSLETTER



## South Dakota Farm Number and Size Trends

Jake Cummings, W. Trevor Brooks, Donna Hess, and Diane Kayongo-Male  
Rural Sociology Department

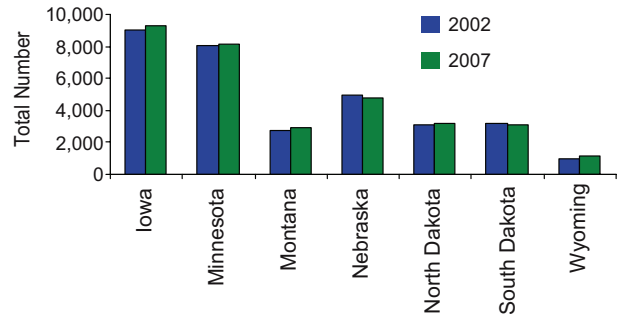
If you have ever wondered about changes in the number of farms in your state or county, the latest U.S. Census of Agriculture can help answer your questions. New Census of Agriculture information is both interesting and useful. Census of Agriculture data can be used to analyze farm trends, inform agricultural policy, and direct farm spending (2007 Census of Agriculture).

### CENSUS OF AGRICULTURE DESCRIPTION

The Census of Agriculture began gathering agricultural data in 1840 (2007 Census of Agriculture). Currently, the Census of Agriculture is conducted every 5 years, during years ending in a "2" or a "7." The U.S. Department of Agriculture (USDA) mailed 3.2 million packets in Dec. 2007 to addresses identified by the National Agricultural Statistics Service (NASS), using available public records, as known or possible farms. According to the 2007 Census of Agriculture, a farm is defined as any establishment that sells, or could sell, \$1,000 worth of agricultural products a year (also see McCurry 2009). Officials estimate that the initial mailing and follow-up efforts resulted in 85.2% of respondents completing and returning their surveys (2007 Census of Agriculture).

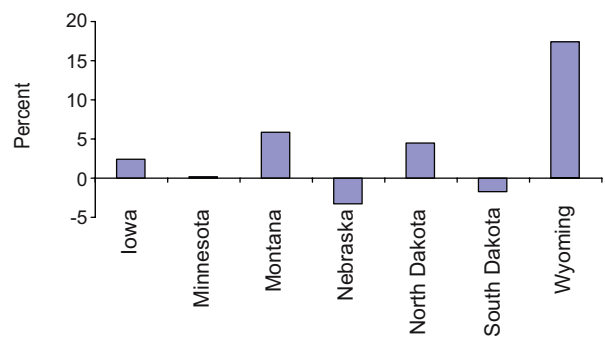
### STATE COMPARISONS

In 2007, South Dakota had 31,169 farms, which was a 1.8% decline from the 31,736 farms in 2002. Of the surrounding states, only Montana and Wyoming had fewer farms, while only Nebraska lost a higher percentage of farms (see figs. 1 and 2). Nationwide, South Dakota was one of only 11 states to lose farms. In fact, from 2002 to 2007, Nebraska, Oregon, and South Dakota were the only states west of the Mississippi River to have declining farm numbers (2007 Census of Agriculture).



Source: U.S. Census of Agriculture

Figure 1. Total number of farms in South Dakota and surrounding states (2002 and 2007)

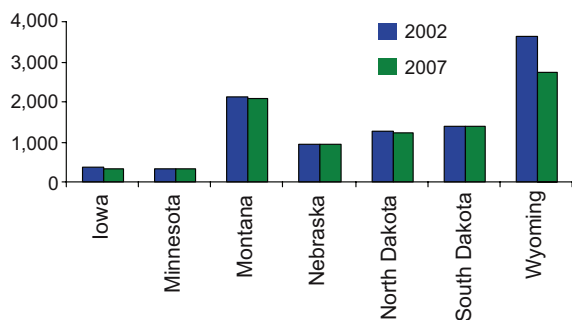


Source: U.S. Census of Agriculture

Figure 2. Percent change in the total number of farms for South Dakota and surrounding states (2002-2007)

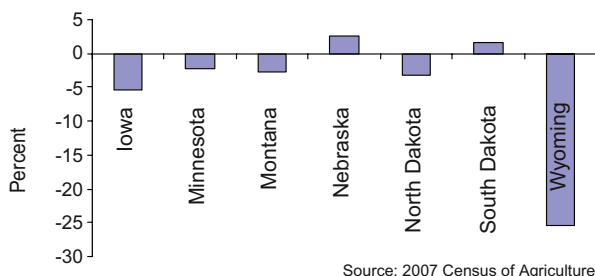
Despite declines in farm numbers and overall farm acreage, South Dakota farms, on average, still managed to grow in size. In 2007, South Dakota's average farm size was 1,401 acres, a 1.5% gain from 1,380 acres in 2002. Nebraska was the only surrounding state in which the average farm size also grew, from 930 to 953 acres

(see figs. 3 and 4). With the exception of Minnesota, figure 4, “Percent Change in Average Farm Size for South Dakota and Surrounding States,” appears to be almost a mirror image of figure 2, “Percent Change in the Total Number of Farms for South Dakota and Surrounding States”; this suggests a direct relationship between changes in numbers of farms and farm size.



Source: U.S. Census of Agriculture

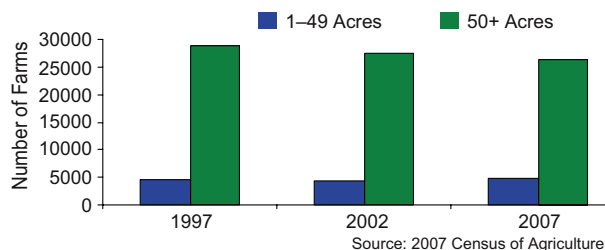
**Figure 3.** Average farm size (acres) in South Dakota and surrounding states (2002 and 2007)



Source: 2007 Census of Agriculture

**Figure 4.** Percent change in average farm size (acres) for South Dakota and surrounding states (2002–2007)

Even though farm size increased in South Dakota, the size of this gain was less than in previous Censuses. The increasing number of small farms may contribute to this farm-size trend. For instance, in South Dakota, the number of farms smaller than 50 acres increased from 4,326 in 2002 to 4,818 in 2007, while the number of larger farms declined from 27,410 in 2002 to 26,351 in 2007 (see fig. 5).



Source: 2007 Census of Agriculture

**Figure 5.** South Dakota farms of 50 acres or less and of 50 acres or more (1997–2007)

### COUNTY COMPARISONS: FARM NUMBERS

County data reveal a strong link between population size and the number of farms. In 2007, both Minnehaha

and Brown counties, South Dakota’s 1st- and 4th-most populous counties, had over 1,000 farms (U.S. Census Bureau). Of the five counties with the most farms, four were located in counties with cities having a population greater than 10,000. Only Roberts County lacks a city larger than 10,000 (see table 1).

**Table 1.** South Dakota counties with most farms in 2007

Rank	County	Number of Farms (2007)
1	Minnehaha	1,194
2	Brown	1,036
3	Brookings	986
4	Roberts	887
5	Meade	879

Source: 2007 Census of Agriculture

From 2002 to 2007, seven South Dakota counties experienced at least a 10% loss in farm numbers (see table 2). Davison, Bon Homme, and Sully counties encountered the greatest percentage loss. Geographically, the James River portion of South Dakota lost the most farms (see map 1). Of the counties the James River runs through (Brown, Beadle, Davison, Hanson, Hutchinson, Sanborn, Spink, and Yankton), only Beadle County gained farms. This trend becomes especially important because many of these James River counties have been identified by the USDA as “farm-dependent counties.” The USDA’s Economic Research Service (ERS) defines farm-dependent counties as those with “either an annual average of 15 percent or more total county earnings derived from farming during 1998–2000 or 15 percent or more of employed residents working in farm occupations in 2000” (U.S. Dept. of Agriculture 2005).

**Table 2.** South Dakota counties with over 10% loss in farms from 2002 to 2007

Rank	County	Farms (2002)	Farms (2007)	% Change
1	Davison	481	406	-15.59
2	Bon Homme	665	563	-15.34
3	Sully	228	195	-14.47
4	Gregory	587	511	-12.95
5	Jerauld	272	239	-12.13
6	Brown	1,155	1,036	-10.30
7	Sanborn	394	354	-10.15

Source: 2007 Census of Agriculture

Conversely, several counties experienced farm losses from 2002 to 2007. For example, 12 South Dakota counties experienced at least a 10% gain in farms. In fact, some grew substantially; Lawrence and Shannon counties both grew by at least 25% (see table 3). Counties west of the Missouri River were more likely to ex-

perience farm growth than those east of the river. Many West River counties contain Indian reservations within their boundaries (see Appendix A). The growth reported in the 2007 Census of Agriculture (2007) is largely due to the increased number of small farms and ranches in the west.

**Table 3.** South Dakota counties with over 10% gain in farms from 2002 to 2007

Rank	County	Farms (2002)	Farms (2007)	% change
1	Lawrence	239	301	25.94
2	Shannon	200	250	25.00
3	Fall River	278	330	18.71
4	Custer	303	359	18.48
5	Hughes	258	305	18.22
6	Buffalo	73	86	17.81
7	Bennett	231	265	14.72
8	Dewey	258	410	14.53
9	Corson	344	392	13.95
10	Harding	223	252	13.00
11	Faulk	265	294	10.94
12	Edmunds	386	425	10.10

Source: 2007 Census of Agriculture

East River farm growth was largely contained in counties along the I-29 corridor, including Brookings, Lake, McCook, Turner, and Lincoln counties. Much of this growth is due to an increase in farms smaller than 50 acres. Given the smaller farm size, many of these farmers probably have off-farm income and may sell agricultural products to earn extra income, a trend explored by Bartlett (1986).

### COUNTY TRENDS: FARM SIZE

In 2007, Harding and Stanley counties had South Dakota's largest average farm size (see table 4). In Harding County, the average farm size was 6,334 acres (2007 Census of Agriculture). The Census of Agriculture (2007) shows that counties in western South Dakota tend to be more reliant on ranching. Therefore, these ranches may require larger acreages than farms that produce only crops.

**Table 4.** South Dakota counties with largest average farm size (acres) in 2007

Rank	County	Average Farm Size
1	Harding	6,334
2	Stanley	5,582
3	Shannon	5,335
4	Ziebach	4,523
5	Perkins	4,234

Source: 2007 Census of Agriculture

In eight South Dakota counties, the average farm size increased by at least 10%. Sully and Potter counties each experienced gains of over 20% (see table 5). Farms in East River counties were more likely to grow than those in West River counties (see map 2). Clark, Clay, and Hanson counties were the only East River counties to experience a farm-size decline of 8% or greater (see Appendix A).

**Table 5.** South Dakota counties with over 10% increase in farm size (acres) from 2002 to 2007

Rank	County	Avg. Farm Size (2002)	Avg. Farm Size (2007)	% change
1	Sully	2,515	3,123	24.17
2	Potter	1,769	2,171	22.72
3	Davison	579	688	18.83
4	Gregory	1,109	1,281	15.51
5	Brule	1,225	1,401	14.37
T-6	Walworth	1,429	1,592	11.41
T-6	Day	754	840	11.41
8	Jerault	1,237	1,375	11.16

Source: 2007 Census of Agriculture

The average farm size declined by at least 10% in nine South Dakota counties. Lawrence, Clay, and Corson counties saw the greatest decline in farm size (see table 6). In general, as a county's farm numbers increased, their average farm size declined. Once again, this may be because the counties that did gain farms tended to see increases in smaller farms

**Table 6.** South Dakota counties with over 10% decrease in farm size (acres) from 2002 to 2007

Rank	County	Avg. Farm Size (2002)	Avg. Farm Size (2007)	% change
1	Lawrence	589	444	-24.62
2	Clay	695	551	-20.72
3	Corson	4,038	3,273	-18.95
4	Fall River	3,533	2,878	-18.54
5	Shannon	6,333	5,335	-15.76
6	Harding	7,507	6,334	-15.63
7	Custer	1,944	1,674	-13.89
8	Ziebach	5,167	4,523	-12.46

Source: 2007 Census of Agriculture

### SUMMARY

Data presented here indicate four points: 1) South Dakota farm numbers have decreased while farm size has increased. 2) A link exists between county populations and farm numbers. 3) The average size of farms in western South Dakota is greater than the average size of farms in eastern South Dakota. 4) The rate of decline in farm numbers has decreased from rates seen in previous years.

## IMPLICATIONS

The Census of Agriculture can be a powerful tool to assess how changes in agriculture have affected farmers nationwide. For instance, a 2007 USDA report (Key and Roberts 2007) used Census of Agriculture data to examine possible connections between production concentration and “commodity payments.” Results suggested that higher amounts of farm subsidies likely contribute to “farm survival and growth” (Key and Roberts 2007). Information such as that presented in this publication can be used at local and national levels to direct policy and ensure that farms remain a viable part of South Dakota’s economy.

For more information on South Dakota’s changing face in agriculture, please contact Jacob Cummings or Mike McCurry at South Dakota State University’s Rural Life/Census Data Center. Cummings and McCurry can be reached at (605) 688-4899 or at [sdsudata@sdstate.edu](mailto:sdsudata@sdstate.edu). The website for the Center is located at <http://sdrurallife.sdstate.edu>.

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### Appendix A. Number of Farms and Farm Sizes for South Dakota and its Counties (2002–2007)

COUNTY	Farms (2007)	Farms (2002)	% Change in Farms	Farm Size (acres) (2007)	Farm Size (acres) (2002)	% Change in Farm Size (acres)
Aurora	379	401	-5.49	962	875	9.94
Beadle	750	728	3.02	1,026	1,112	-7.73
Bennett	265	231	14.72	2,843	3,148	-9.69
Bon Homme	563	665	-15.34	548	518	5.79
Brookings	986	962	2.49	469	435	7.82
Brown	1,036	1,155	-10.30	1,047	1,000	4.70
Brule	370	365	1.37	1,401	1,225	14.37
Buffalo	86	73	17.81	3,629	3,903	-7.02
Butte	584	639	-8.61	1,953	1,976	-1.16
Campbell	318	293	8.53	1,261	1,335	-5.54
Charles Mix	693	755	-8.21	953	975	-2.26
Clark	577	588	-1.87	882	894	-1.34
Clay	484	536	-9.70	551	695	-20.72
Codington	663	694	-4.47	554	557	-0.54
Corson	392	344	13.95	3,273	4,038	-18.95
Custer	359	303	18.48	1,674	1,944	-13.89
Davison	406	481	-15.59	688	579	18.83
Day	675	704	-4.12	840	754	11.41
Deuel	583	583	0.00	544	562	-3.20
Dewey	410	358	14.53	3536	3821	-7.46
Douglas	363	394	-7.87	620	601	3.16
Edmunds	425	386	10.10	1,545	1,516	1.91

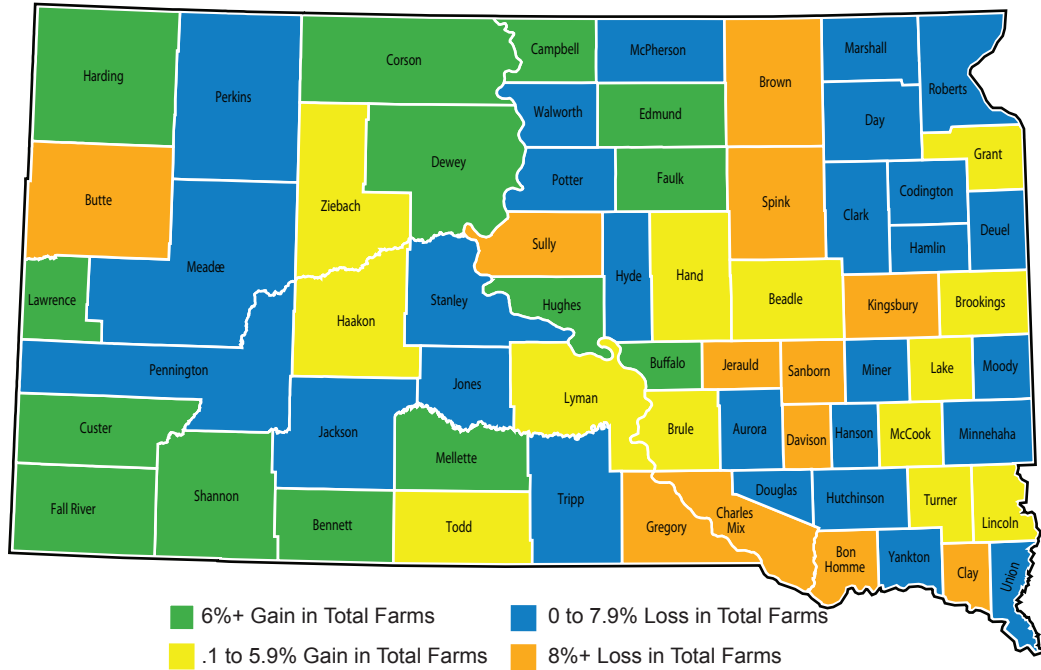
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Appendix A. (continued)

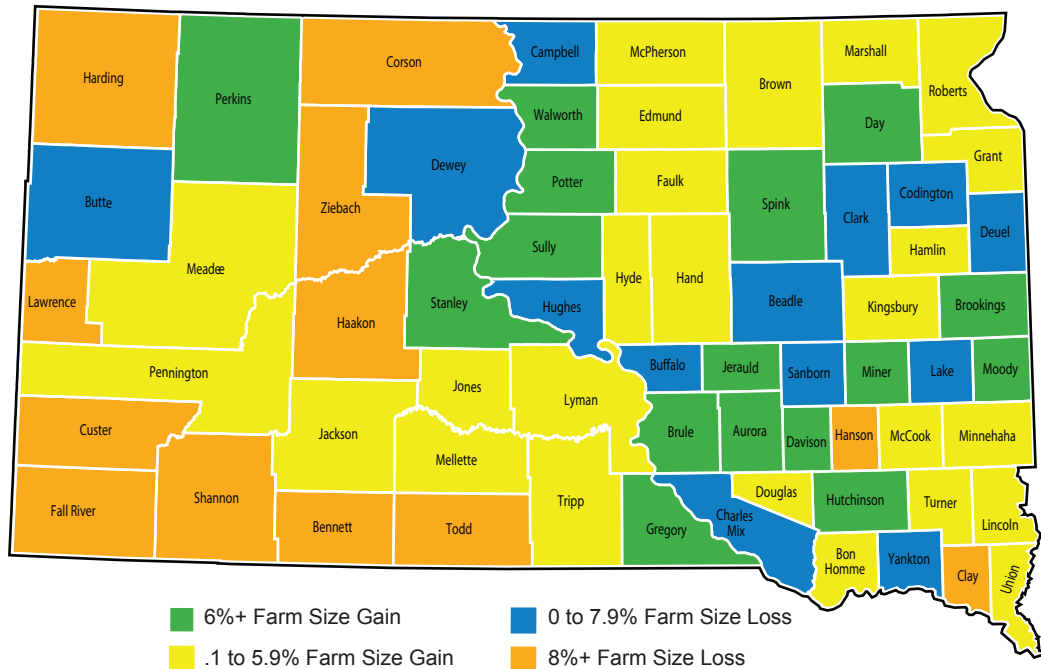
COUNTY	Farms (2007)	Farms (2002)	% Change in Farms	Farm Size (acres) (2007)	Farm Size (acres) (2002)	% Change in Farm Size (acres)
Fall River	330	278	18.71	2,878	3,533	-18.54
Faulk	294	265	10.94	2,091	2,018	3.62
Grant	555	548	1.28	655	639	2.50
Gregory	511	587	-12.95	1,281	1,109	15.51
Haakon	284	268	5.97	4,053	4,558	-11.08
Hamlin	449	451	-0.44	690	681	1.32
Hand	484	480	0.83	1,857	1,809	2.65
Hanson	308	319	-3.45	711	780	-8.85
Harding	252	223	13.00	6,334	7,507	-15.63
Hughes	305	258	18.22	1,348	1,425	-5.40
Hutchinson	723	768	-5.86	705	658	7.14
Hyde	181	187	-3.21	2,657	2,507	5.98
Jackson	297	308	-3.57	3,987	3,866	3.13
Jerauld	239	272	-12.13	1,375	1,237	11.16
Jones	163	163	0.00	3,186	3,169	0.54
Kingsbury	551	599	-8.01	867	866	0.12
Lake	514	513	0.19	613	634	-3.31
Lawrence	301	239	25.94	444	589	-24.62
Lincoln	855	841	1.66	389	368	5.71
Lyman	443	420	5.48	2,204	2,108	4.55
McCook	545	539	1.11	667	640	4.22
McPherson	398	413	-3.63	1,302	1,300	0.15
Marshall	523	529	-1.13	1,021	992	2.92
Meade	879	895	-1.79	2,513	2,490	0.92
Mellette	216	200	8.00	3,379	3,302	2.33
Miner	356	370	-3.78	843	787	7.12
Minnehaha	1,194	1,209	-1.24	353	349	1.15
Moody	556	580	-4.14	528	488	8.20
Pennington	655	696	-5.89	1,809	1,738	4.09
Perkins	432	452	-4.42	4,234	3,942	7.41
Potter	238	256	-7.03	2,171	1,769	22.72
Roberts	887	936	-5.24	668	633	5.53
Sanborn	354	394	-10.15	899	965	-6.84
Shannon	250	200	25.00	5,335	6,333	-15.76
Spink	624	682	-8.50	1,455	1,336	8.91
Stanley	165	166	-0.60	5,582	5,219	6.96
Sully	195	228	-14.47	3,123	2,515	24.17
Todd	258	249	3.61	3,370	3,681	-8.45
Tripp	624	666	-6.31	1,626	1,582	2.78
Turner	722	713	1.26	514	487	5.54
Union	521	522	-0.19	535	530	0.94
Walworth	279	299	-6.69	1,592	1,429	11.41
Yankton	658	690	-4.64	490	496	-1.21
Ziebach	234	227	3.08	4,523	5,167	-12.46
South Dakota	31169	31,736	-1.79	1,401	1,380	1.52



**Map 1. Changes in South Dakota Farm Numbers (2002–2007)**



**Map 2. Changes in South Dakota Farm Sizes (2002–2007)**



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