



Hogs and bumper crops boost farm sales in 1997

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Bumper crops and record low prices in 1999 have put Minnesota's farmers squarely on the front page of newspapers throughout the state. The bottom dropped out of hog prices last winter, and commodity prices are at record lows. Dairy farmers have begun to get some relief, but wheat rust and scab continue to plague Minnesota's wheat growers.

In 1997, farmers also had bumper crops and record yields, and prices for commodities and hogs were higher than today. The *1997 Census of Agriculture* gives a picture of Minnesota's farms two years ago — a year when the agriculturally rich Red River Valley had the worst floods in its history. The

floods adversely affected Polk County and the six other counties in northwestern Minnesota, and market value of farm production in these counties declined even before adjusting for inflation. Farmers in the northwest had much smaller harvests of wheat, sunflowers and potatoes.

Despite the floods, farmers in most areas of Minnesota prospered in 1997. Minnesota's farmers planted a record high number of acres in 1997, 680,000 more than in 1992. Prices for corn, soybeans, wheat, sunflowers, sugar beets and potatoes all were higher in 1997 than in 1992. Production for corn, soybeans, sugar beets, sweet corn and dry beans exceeded the levels of the 1992 agriculture census. Total crop production in 1997 was nearly \$690 million more than in 1992. (Production figures in this report have been adjusted to account for inflation and are expressed in 1997 dollars; crop and livestock prices are not adjusted for inflation.) High production and higher prices led to a banner year for farmers in the southern part of the state.

Livestock production was not as rosy as crop production in 1997. Dairy continued in a protracted decline, while data from 1997 show poultry producers with increased sales despite prices that were stagnant. Hogs had become a far more important agricultural product, and hog prices were high. As a result, total livestock sales were \$156 million more in 1997 than in 1992.

HIGHLIGHTS

- Crop yields for soybeans and corn were at record highs in 1997.
- Prices for corn and soybeans were higher in 1997 than in 1992.
- The number of dairy farmers continued to decline as dairy prices failed to keep pace with inflation.
- Animal production — hogs, cattle, turkeys and chickens — has become more concentrated geographically in Minnesota.
- The effect of the 1997 floods on Minnesota farmers was limited to the Red River Valley.

Clearly, 1997 was not a typical year for agriculture in the Red River Valley. But farmers in other areas of the state were able to prevail even when nature threw them curves. In areas along the upper reaches of the Minnesota River, increases in the market value of production from 1992 to 1997 ranged from 16.6 percent in Big Stone County to 61.9 percent in Renville County. Perhaps more interesting than the effects of the flood on agriculture are the responses of Minnesota's farmers. By

planting more acres in shorter season crops, usually substituting soybeans for corn and wheat, farmers maximized sales despite very difficult weather. And in most counties in Minnesota, farmers had increased yields and higher returns in 1997.

The census of agriculture surveys the nation's farmers every five years and compiles important data on farming. The first agriculture census was conducted in conjunction with the decennial census of

population in 1840. The 1997 census, the most recent, shows a mixed picture of agriculture in Minnesota with some areas of the state reaching all-time record high values in production while other areas experienced declines in the market value of sales.

Agriculture is an important part of Minnesota's economy. Although the number of people employed directly in agricultural production is small, providing goods and services for

Minnesota's farmers, marketing and transporting farm products and processing Minnesota's agricultural products all employ large numbers of Minnesotans. Upswings and downturns in agriculture have wide-ranging effects throughout Minnesota's economy.

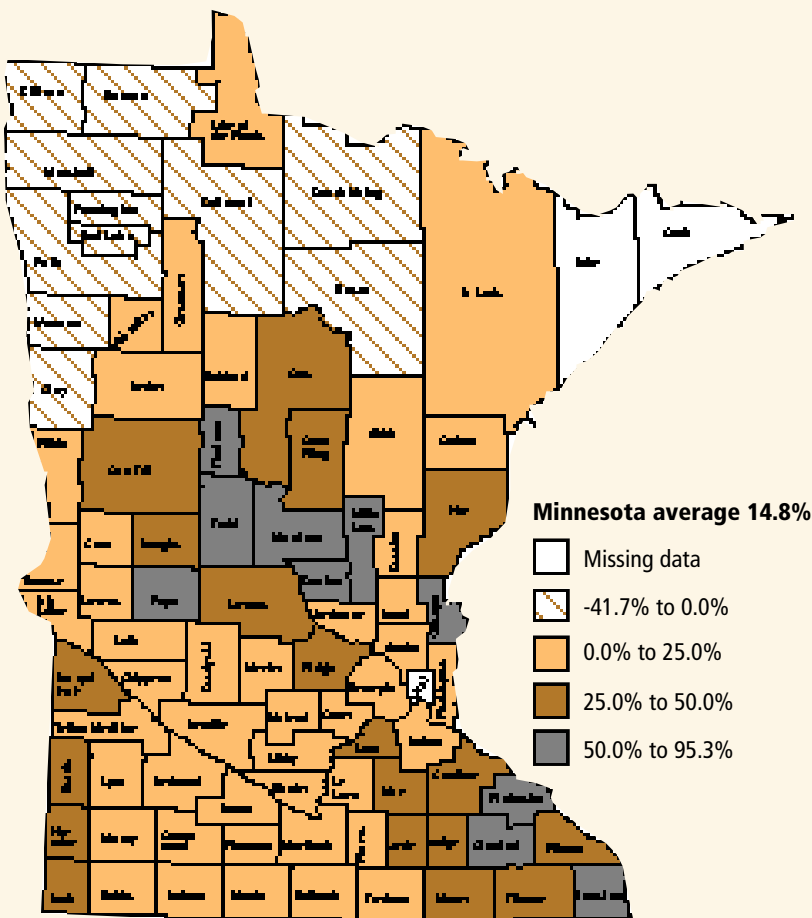
Hogs dominate livestock story over last few years

Hog production has grown dramatically in Minnesota, moving the state from fourth in 1992 to third in 1997. Martin, Blue Earth, and Renville counties ranked, respectively, eighth, 12th and 23rd nationally in hogs and pigs sold. Fifteen other counties ranked in the top 100 counties nationally, three more than in 1992. Only Jackson and Nobles counties ranked lower in 1997 than in 1992.

Sales of hogs and pigs accounted for 17.5 percent of all agricultural products sold in 1997, an increase of 5 percent over 1992. In many counties, sales of hogs and pigs more than doubled. Pipestone County ranked 29th in Minnesota in sales of hogs and pigs in 1992 but was sixth in 1997 as sales rose from \$14.1 million to \$57.7 million. Martin and Blue Earth counties ranked first and second, respectively, in 1992 and 1997, with sales in both counties growing two-and-a-half times over the five-year period.

Sales of hogs and pigs have become geographically more concentrated in south central and southwestern Minnesota. In 1997, fewer counties produced half of all hog sales in Minnesota: 11 counties

Crop sales per acre for most Minnesota farmers were higher in 1997 than in 1992



Note: The data has been adjusted for inflation using 1997 dollars.
Source: Census of Agriculture at the U.S. Department of Agriculture

accounted for 51 percent of all sales in 1997 compared to 19 with 52 percent in 1992.

The average price for hogs rose 10.4 percent from \$42.80 per hundredweight in 1992 to \$54.30 in 1997. Increased production together with a better sales price led to significantly higher incomes for hog producers. Hog production became a more important sector in Minnesota agriculture over the five-year period. In 1998, however, hog prices fell dramatically to an annual average price of \$35.50. In fact, during the year prices dipped below \$9. Many farmers tempered the impact of this drop by selling hogs on contract. The long-term effects of this price drop will be seen over the next few months. Some analysts think that hog production has reached a saturation point, and competi-

tion remains high from other states, such as North Carolina and Oklahoma.

Dairy and cattle sales continue to slide

The inventory of dairy and beef cattle declined 5.8 percent for both 5-year periods, 1987 to 1992 and 1992 to 1997. As a result, Minnesota had 300,000 fewer cattle and calves in 1997 than in 1987. The dairy industry continued to weaken in the 1992-1997 period with sales of dairy products falling 12.6 percent, following a 16.2 percent drop from 1987 to 1992. Sales of cattle were 23 percent lower in 1997 than in 1992 following an 8 percent decline in the previous five-year period.

Like hog production, dairy production has become more concentrated over the last 10 years. The number of counties with more than 10,000 milk cows fell from 23 in 1987 to 19 in 1992 to 16 in 1997. Dairy has become concentrated in Stearns, Todd, Morrison and Otter Tail counties in the central part of Minnesota and in Goodhue, Wabasha and Winona counties in the southeast. Only the three southeastern counties had increases in the number of milk cows between 1992 and 1997. These three counties plus Le Sueur, Pipestone and Nicollet were the only counties with more than 10,000 milk cows that had increased sales of dairy products.

The number of dairy farms continued to plummet from 1992 to 1997. Minnesota had 3,777 fewer farms with milk cows in 1997, or a drop of

nearly 40 percent. The biggest declines were in Stearns, Todd and Otter Tail counties, which together lost a total of 642 dairy farms. At the same time, the number of milk cows on the remaining farms has significantly increased. Farms averaged more than 56 milk cows in 1997, about 11 more than in 1992.

Prices for fluid milk decreased 11.3 percent from 1992 to 1997. In 1996, a hundredweight of fluid milk brought \$14.73 (inflation adjusted 1997 dollars), a slight rise over 1992, but the price in 1997 dropped to \$13.31. (In August 1999, milk prices rose sharply to \$17.10, an increase of \$2.59 over the previous month.) However, by increasing milk production per cow as well as the number of cows, farmers in southeastern Minnesota were able to see gains in sales of dairy products. Average sales per cow in Winona County were \$268 more than in Stearns County.

Poultry production continues to grow

Minnesota ranked second nationally in the number of turkeys sold in 1997 (following North Carolina), 10th in the number of laying hens (20 weeks or older) and 10th in total poultry and poultry products sold. Sales of poultry products rose 5.4 percent from 1992 to 1997.

Poultry production has always been geographically concentrated. To reduce shipping costs — both trucking and loss of birds during shipment — poultry production is located near processing facilities. In each of the three

most recent agriculture censuses, the top five counties accounted for 42 to 44 percent of all sales. However, the counties that ranked first through fifth have changed over that 10-year period; Kandiyohi, Stearns and Morrison counties have always been the top three poultry-producing counties. Meeker County, which was sixth in poultry sales in 1987, rose to fifth in 1992 and fourth in 1997 with only \$4,000 less in sales than Morrison County. Renville County's poultry production increased from \$9.1 million in 1987 to \$35.1 million in 1997, moving Renville from 18th to sixth place. Sibley County was fourth in 1992 (ninth in 1987), but 1997 data for Sibley County was suppressed. (Data is suppressed when the number of producers is very small and releasing the data would permit identification of individual farmers.) Becker County was fifth in 1997; it had dropped from fourth in 1987 to eighth in 1992.

Turkey production appears to be concentrated in central Minnesota, but data for 50 percent of all turkey sales (and 49 counties) was suppressed in the 1997 census. Published data indicates that the leading counties in the number of turkeys sold are Kandiyohi, Meeker, Sibley, Wadena and Morrison. But data has been suppressed for other large producers, including Stearns, Otter Tail, Todd and Swift counties. Data on the total number of turkeys (turkey inventory) indicates that Stearns and Todd counties rank third and fifth, respectively; but this data, too, is suppressed for Otter Tail and Swift counties.

Dairy cow production in 1997

Leading dairy counties	Sales per milk cow
Minnesota	\$2,019.12
Winona	\$2,327.64
Olmsted	\$2,198.91
Wabasha	\$2,188.59
Goodhue	\$2,122.62
Houston	\$2,107.95
Carver	\$2,094.19
Stearns	\$2,059.34
Wright	\$2,058.89
Sibley	\$2,028.47
Todd	\$2,002.39
Benton	\$1,994.86
Douglas	\$1,990.47
Otter Tail	\$1,983.19
McLeod	\$1,960.83
Fillmore	\$1,941.12
Morrison	\$1,901.22

Source: Census of Agriculture at the U.S. Department of Agriculture

Turkey prices have not kept pace with inflation. In 1997, turkeys sold for 39 cents a pound, actually an inflation-adjusted loss of 1 cent per pound from the 1992 price of 35 cents. Turkey prices fell from 46 cents in 1996, the highest since 1988 and the only year the price has been above 40 cents.

Nearly 88 percent of all broilers (chickens raised for meat) sold in Minnesota are raised in three counties: Morrison, Stearns and Benton. Of the 28.5 million broilers sold in 1997, 24.9 million were raised in these counties. Benton, the third largest producer, produces more than nine times as many broilers as Cottonwood

County, which is fourth. Broilers sold for an average of 37.5 cents a pound in 1997, up from 31 cents in 1992.

Eggs sold for 9 cents more a dozen in 1997 than in 1992. Egg prices were at 56 cents in 1996, the highest price since 1988, and fell to 53 cents in 1997. The agriculture census does not collect information about egg production, only the number of laying hens and sales of poultry and poultry products. Data on laying hens, like data on turkey production, is severely limited by disclosure suppression. In 1997, data for only 28 counties was published, accounting for less than 9 percent of all laying hens in the state.

Crop production strong despite flood

The value of crops sold in 1997 was up nearly 20 percent over 1992. But for this five-year period, both wheat and corn prices peaked in 1995, and soybean prices were highest in 1996. Prices for wheat and soybeans were highest in 1988.

Minnesota farmers harvested 4.2 percent more acres in 1997 than in 1992, with most of the growth coming in production of corn and soybeans. Prices for corn, wheat and soybeans were higher in 1997 than in 1992, with the biggest increase seen in corn prices. Consequently, despite the Red River Valley's problems with flooding and a continuing battle with wheat rust and scab, increases in crop production value exceeded the rate of inflation.

Corn, wheat and soybeans made up more than three-fourths of Minnesota crop sales — 78 percent in 1997. Prices for these commodities can fluctuate markedly from year to

year. Between 1988 and 1997, the average price for a bushel of corn ranged from a low of \$1.90 in 1992 to a high of \$3.14 in 1995. Wheat prices went from \$2.53 in 1990 to \$4.71 in 1995, while soybean prices varied from \$5.35 in 1992 to \$7.30 in 1988.

In a market where prices can vary widely, farmers are able to achieve higher crop sales by improving yields, increasing the number of acres and planting more acres of higher-priced crops. Minnesota's farmers used all three means in 1997 and saw yields per acre statewide increase 16.3 percent, or more than \$25 per acre, for all crops. The biggest gains were in southeastern and north central counties, while the Red River Valley had the largest declines in sales per acre.

Corn farmers had an excellent year in 1997. Yields were up, prices were relatively good (although not as high as in 1995), and overall sales rose 30.1 percent. Both the number of acres planted in corn and the yield per acre grew between

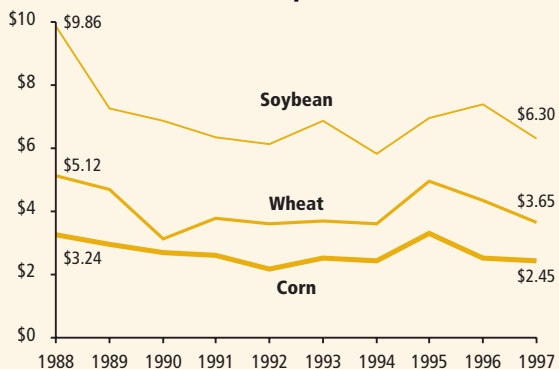
Commodity crop prices in 1992 and 1997

	1992 price	1997 price	Inflation-adjusted percentage change
Corn	\$1.90	\$2.45	+12.2%
Wheat	\$3.15	\$3.65	+ 0.8%
Soybeans	\$5.35	\$6.30	+ 2.4%

Note: The 1992 prices have not been adjusted for inflation.
Source: National Agricultural Statistical Service at the U.S. Department of Agriculture

Commodity prices fail to keep pace with inflation

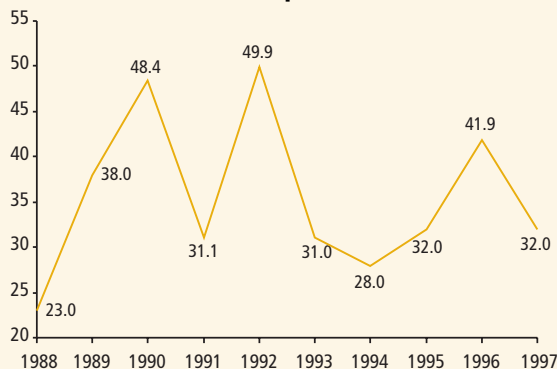
Dollars per bushel



Note: All prices have been adjusted for inflation to 1997 dollars.
Source: National Agricultural Statistical Service at the U.S. Department of Agriculture

Wheat yields show overall decline in 1990s

Bushels per acre



Source: National Agricultural Statistical Service at the U.S. Department of Agriculture

1992 and 1997. Since 1987, farmers have increased acreage planted in corn by 1.5 million acres. Yields in 1997 were 6.5 bushels per acre higher than in 1987. Higher corn sales accounted for much of the increase in crop sales per acre in southern Minnesota, where corn is the dominant crop.

Wheat farmers fared poorly in 1997. Prices were only marginally higher than in 1992, and wheat acreage was down more than 8 percent. Yields dropped from more than 48 bushels per acre in 1992 to just

over 30 in 1997. The floods in the Red River Valley together with disease meant that wheat farmers continued to struggle. Overall, wheat sales in 1997 were down 38 percent from 1992. Wheat farmers have been forced to find other crops to make up for the decreased production.

Although 1997 was a very poor year for wheat, wheat farmers had a bumper crop in 1992. As a result, the picture of wheat production drawn by the agriculture census is extremely stark. While it

would be tempting to assume that declines in wheat production and sales were attributable to flooding in 1997, agriculture statistics produced by the National Agricultural Statistical Service indicate that 1997 is a continuation of a long-term slide in wheat. The highest wheat production in Minnesota was 142.4 million bushels in 1985, with yields of 53.1 bushels per acre.

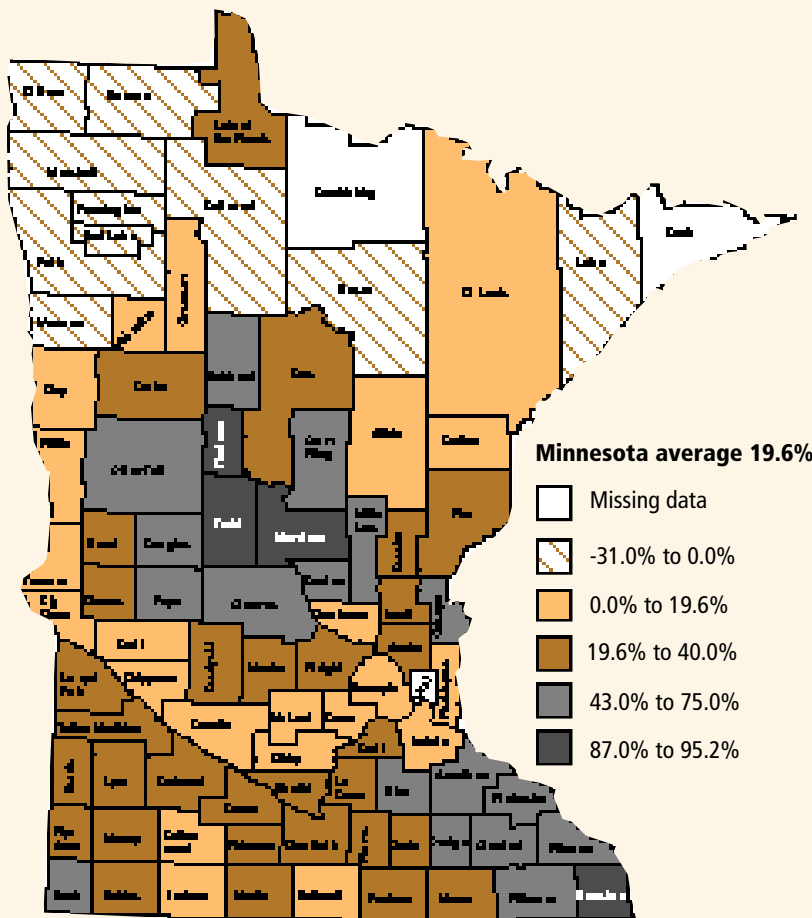
Since 1985, high yields of 48.4 bushels per acre in 1990, 49.9 in 1992 and 41.9 in 1996

stand out in a decade when yields ranged in the low to mid-30s and averaged only 35.5 bushels per acre.

Soybean production reached a record high in 1997 as farmers planted more acres and realized higher yields. Production in 1997 was more than 11 percent higher than the previous peak in 1995. Both sales and production were much higher in 1997 as soybeans rose from 28 percent of total crop sales in Minnesota in 1992 to 34 percent in 1997. Soybean prices were somewhat higher in 1997 than in 1992, but the gains seen in soybean sales came primarily from higher yields and increased acreage. Yields in 1997 were 37.9 bushels per acre, or six bushels more than in 1992. Farmers planted over a million more acres in soybeans in 1997 than they did in 1992, and 12.5 percent of those added acres were in Polk and Norman counties in the Red River Valley. Soybeans can be planted later than wheat and other small grains, and in 1997 after planting was delayed by flooding in the Red River Valley, soybeans offered these farmers an alternative crop for fields that were wet most of the spring.

Other cash crops in Minnesota include sunflowers, sugar beets, potatoes, sweet corn, green peas and dry edible beans. Sunflower production in 1997 was less than half that in 1992. Most of the sunflowers in Minnesota are produced in the northwestern counties (85 percent in 1997). The floods diminished yields and acreage. Prices for sunflowers ranged from \$14.10 per bushel in 1993

Crop sales for most Minnesota farmers were higher in 1997 than in 1992



Note: The data has been adjusted for inflation.
Source: Census of Agriculture at the U.S. Department of Agriculture

to \$9.57 in 1991, averaging \$12.40 in 1997.

While sunflower acreage and yield were down in 1997, sugar beets were not as adversely affected. Both acreage and production increased about 23 percent from 1992 to 1997. Sugar beets are less geographically concentrated than sunflowers. Polk and Clay counties are the leading sugar beet producers, but Renville and Chippewa counties in west central Minnesota were third and seventh, respectively. Yield per acre was

down in most sugar beet producing counties but rose in Marshall, Kittson, Polk, Clay and Becker counties in the Red River Valley. Yields in west central Minnesota were down by as much as three tons an acre (Renville County). Sugar beet prices were \$47.10 in 1996 (the latest year for which data is available), over \$9 per hundredweight more than in 1995.

Minnesota farmers harvested more potatoes in 1997 on fewer acres than in 1992. In many counties in northwestern

Minnesota, potato acreage was less than half the 1992 level. But yields were higher in counties outside the Red River Valley; yields in northwestern Minnesota were varied — much improved in some counties and lower in others in 1997 compared with 1992.

Acreage planted in sweet corn was about the same in 1997 as in 1992, while acres of green peas were 11 percent lower. Overall sales of vegetables, sweet corn and melons were up by almost 22 percent from 1992. Most of these crops are grown

in southern Minnesota. Dry edible beans, on the other hand, are grown primarily in northwestern Minnesota. Acreage in dry beans increased 73 percent from 1992 to 1997. The total acreage planted in dry beans is less than 1 percent of all harvested cropland in the state. However, new processing plants for beans in Crookston and East Grand Forks and problems with growing wheat may have encouraged farmers in this area to plant dry beans to replace wheat as a cash crop.

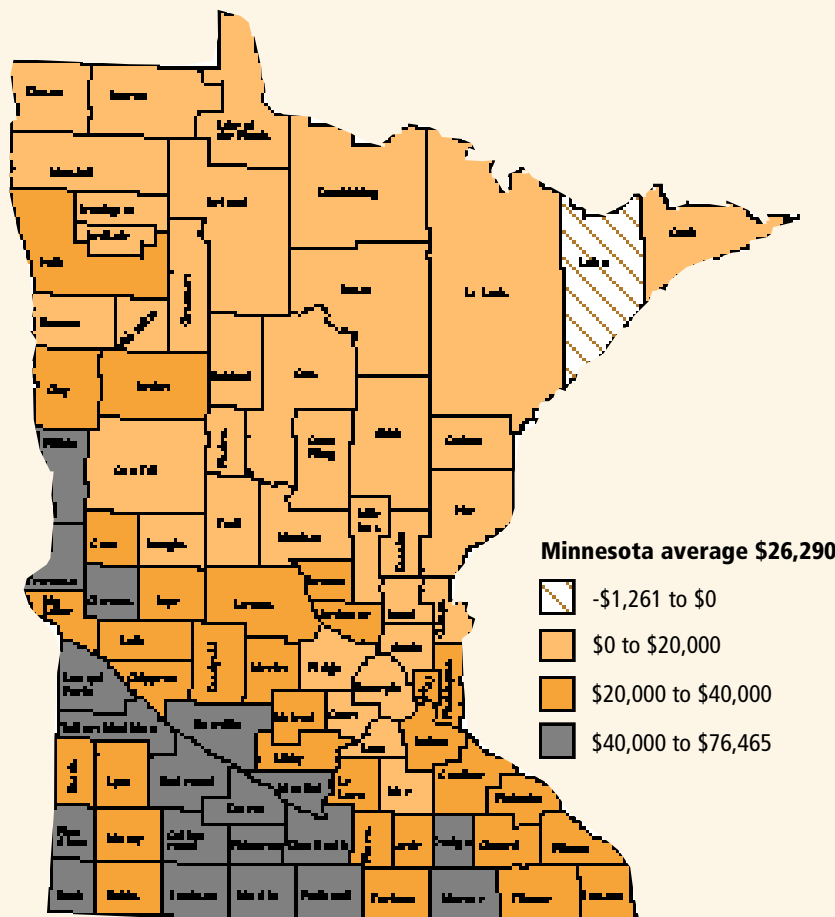
Prices for most of these crops were higher in 1996 than in 1997, but green peas had an all-time high price in 1997 at \$364 per ton. Overall, prices were highest for sunflowers, potatoes and dry edible beans in 1988, for sugar beets in 1990 and for sweet corn in 1989 and 1996.

Cash returns

The market value of agricultural products rose significantly in counties in west central Minnesota — nearly doubling in Pipestone County. Factors in this robust growth include increased hog production and very strong corn and soybean production and markets.

While market value grew astronomically in some counties, expenses incurred in production tempered net cash returns. (Only state-level data on cash returns is published; no county level data is available.) Net returns averaged \$25,015 per farm in 1997, almost \$3,000 more than the U.S. average and an increase of 34 percent over 1992. For farms with sales of \$10,000 or more in 1997, the average net return

Farmers in south central Minnesota realized greatest gains in 1997



Note: Average per farm in 1997
Source: Census of Agriculture at the U.S. Department of Agriculture

was \$40,468, while farms with sales less than \$10,000 averaged only \$3,146. In Minnesota, 41,752 farms had net cash gains in 1997 and 31,623 had net losses. In 1992, the proportion was slightly higher, with 45,772 farms showing net gains and 29,303 net losses.

Bigger farms had a better likelihood of realizing net cash gains in 1997. Nearly 77 percent of farms with sales of \$10,000 or more in 1997 realized net gains. Farms with sales of less than \$10,000 were much more likely to post net losses; nearly 80 percent of these farms had negative balances in 1997. These proportions are about the same as the national figures. The agriculture census defines *farm* as "any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year." Farms with sales of less than \$10,000 are rarely self-sufficient, and most are probably hobby farms. Most of these operations probably have at least one worker employed full-time off the farm.

While the proportions of farms realizing net gains or net losses are very similar to the national data, gains in Minnesota are smaller than in the nation as a whole. Farms with sales greater than \$10,000 nationally averaged net gains of \$47,693 in 1997, or over \$7,000 more than in Minnesota. Considering only those farms that posted net gains and had sales over \$10,000, the average gain was \$69,284 nationally, or nearly \$11,000 higher than in Minnesota.

In part, the 1997 data reflects a difficult year for Minnesota's biggest farmers. Some of the largest agricultural operations in

the state are in northwestern Minnesota, an area that saw yields decline in 1997 due to extreme weather conditions. In Polk County, the average value of sales per farm dropped to 49th place (out of 87 counties) in 1997 from fifth place in 1992.

While the agriculture census does not publish data on net cash return by county, data is available on total production expenses and total market value of production. By subtracting total production expenses from total market value, a rough approximation of net cash return can be calculated. Net cash return varies widely from year to year. In 1997, the average per farm for Minnesota was \$26,290, or about \$7,500 more than in 1992 and nearly \$6,000 more than in 1987.

In 1997, the counties with highest value per farm of sales less expenses were in the corn and hog belt of

southern Minnesota. Martin and Watonwan counties led the state with \$76,465 and \$74,144, respectively. In 1997, total market value exceeded production expenses by more than \$40,000 in 19 counties. Only two counties exceeded \$40,000 in 1997 dollars in both 1992 and 1987: Traverse and Wilkin counties in 1992, Rock and Renville in 1987.

Online information and data

The information from the *1997 Census of Agriculture* is available on the Internet at: <http://www.nass.usda.gov/census/>.

Copies of the *1997 Census of Agriculture* can be ordered by calling: 800-999-6779 or through the Internet at: <http://www.nass.usda.gov/census/census97/cenweborder.htm>.

In addition, copies of the CD-ROM and printed reports for Minnesota are available at the

Minnesota Data Center affiliates listed at: http://www.mnplan.state.mn.us/demography/demog_04.html.

The Minnesota Agricultural Statistics Service publishes annual statistics on agriculture in Minnesota in the Minnesota Agricultural Statistics series. Data in these volumes has a one-year lag; for example the most recent data in the 1998 volume is for 1997. Contact the Service at 651-296-2230 or <http://www.nass.usda.gov/mn/>.

Population Notes is published periodically by the State Demographic Center at Minnesota Planning.

Upon request, *Population Notes* will be made available in an alternate format, such as Braille, large print or audio tape. For TTY, contact Minnesota Relay Service at 800-627-3529 and ask for Minnesota Planning. For information or additional copies of *Population Notes*, contact:



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Bigger farms more likely to have net gains

	All farms	Farms with sales greater than \$10,000	Farms with sales less than \$10,000
Number of farms	73,375	47,378	25,997
Net cash return, Minnesota	\$25,015	\$40,468	\$ 3,146
Net cash return, United States	\$22,260	\$47,693	\$ 2,711
Net cash return for farms with gains	\$51,412	\$58,647	\$ 1,957
Average loss for farms with losses	\$ 9,836	\$19,994	\$ 4,453
Number of farms with gains	41,752	36,426	5,326
Number of farms with losses	31,623	10,952	20,671

Source: Census of Agriculture at the U.S. Department of Agriculture

Census 2000 update

Local census offices open

The Census Bureau has opened local offices throughout the state of Minnesota to begin Census 2000 operations. For job information call toll-free at **888-325-7733**. For any other information, contact the office nearest you. Or check the Minnesota Census 2000 web site at: <http://census2000.state.mn.us>.

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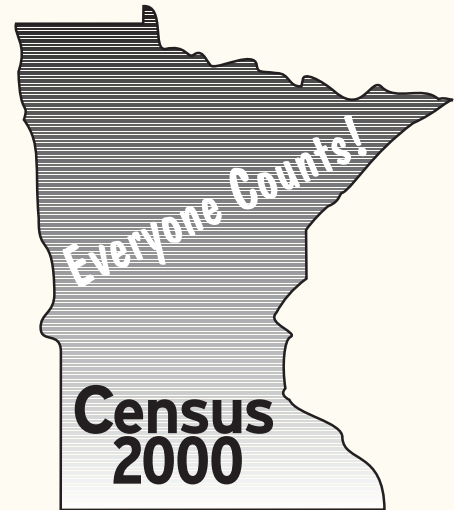
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