



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Financial Characteristics of North Dakota Farms 2001-2003

Andrew L. Swenson

**Department of Agribusiness and Applied Economics
Agricultural Experiment Station
North Dakota State University
Fargo, ND 58105-5636**

CONTACT INFORMATION

We would be happy to provide a single copy of this publication free of charge. You can address your inquiry to: Carol Jensen, Department of Agribusiness and Applied Economics, North Dakota State University, P.O. Box 5636, Fargo, ND, 58105-5636, Ph. 701-231-7441, Fax 701-231-7400, e-mail cjensen@ndsuent.nodak.edu . This publication is also available electronically at: <http://agecon.lib.umn.edu/>.

NDSU is an equal opportunity institution.

NOTICE:

The analyses and views reported in this paper are those of the author(s). They are not necessarily endorsed by the Department of Agribusiness and Applied Economics or by North Dakota State University.

North Dakota State University is committed to the policy that all persons shall have equal access to its programs, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

Information on other titles in this series may be obtained from: Department of Agribusiness and Applied Economics, North Dakota State University, P.O. Box 5636, Fargo, ND 58105. Telephone: 701-231-7441, Fax: 701-231-7400, or e-mail: cjensen@ndsuent.nodak.edu.

Copyright © 2004 by Andrew L. Swenson. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

TABLE OF CONTENTS

List of Tables	ii
Abstract	iii
Introduction	1
Source of Data	1
Definition of Financial Measures	2
Liquidity	2
Solvency	2
Profitability	3
Repayment Capacity	4
Financial Efficiency	4
Interpretation of Results	5
Farm Classifications and Highlights	6
All Farms	6
Region	7
Farm Enterprise	8
Farm Sales	9
Farm Size	10
Cropland Tenure	11
Net Farm Income	12
Debt-to-Asset Ratio	13
Farmer Age	14
Tables	15
References	27

LIST OF TABLES

Table 1.	Median farm size, farm operator age, and financial factors of farms participating in the North Dakota Farm Business Management Education Program, 1994-2003	15
Table 2.	Percent distribution of farms by farm group category, North Dakota Farm Business Management Program, 1994-2003	16
Table 3.	Farm classifications and percent distribution of farm types within regions, North Dakota Farm Business Management Education Program, 2003	17
Table 4.	Current assets and current liabilities, quartile values for 2003, median values for 2001 and 2002, North Dakota Farm Business Management Education program participants.	18
Table 5.	Liquidity measures, quartile values for 2003, median values for 2001 and 2002, North Dakota Farm Business Management Education Program participants.	19
Table 6.	Total assets and total liabilities, quartile values for 2003, median values for 2001 and 2002, North Dakota Farm Business Management Education Program participants.	20
Table 7.	Solvency measures, quartile values for 2003, median values for 2001 and 2002, North Dakota Farm Business Management Education Program participants.	21
Table 8.	Rate of return on assets and rate of return on equity profitability measures, quartile values for 2003, median values for 2001 and 2002, North Dakota Farm Business Management Education program participants.	22
Table 9.	Operating profit margin and net farm income profitability measures, quartile values for 2003, median values for 2001 and 2002, North Dakota Farm Business Management Education Program participants.	23
Table 10.	Repayment capacity measures, quartile values for 2003, median values for 2001 and 2002, North Dakota Farm Business Management Education Program participants.	24
Table 11.	Asset turnover, and operating expense and depreciation expense efficiency measures (as a percentage of gross farm income), quartile values for 2003, median values for 2001 and 2002, North Dakota Farm Business Management Education Program participants.	25
Table 12.	Interest expense and farm income efficiency measures (as a percentage of gross farm income), quartile values for 2003, median values for 2001 and 2002, North Dakota Farm Business Management Education Program participants.	26

Abstract

The performance of over 500 North Dakota farms, 2001-2003, is summarized using 16 financial measures. Farms are categorized by geographic region, farm type, farm size, gross cash sales, farm tenure, net farm income, debt-to-asset, and age of farmer to analyze relationships between financial performance and farm characteristics. Farm financial trends for the 1994-2003 period are also presented.

Financial performance in 2003 was the highest of the 1994-2003 period because of a good wheat and barley crop, strong crop prices, and improved livestock profit. Median net farm income was \$49,181 in 2003, \$38,079 in 2002, and \$27,729 in 2001.

Financial performance for the 1994-2003 period was poorest in 1997 and 1998 when over one-half of farms could not make scheduled term debt payments with the year's income. A strong improvement occurred in 2000 and 1999 because of extraordinary government and crop insurance payments, record yields for some crops, and improved beef cattle prices. All 16 financial performance measures declined in 2001, except interest expense ratio, because of lower government subsidies, higher costs, and continued low commodity prices. Performance improved in 2002, except for the west region and livestock farms, because of strong crop prices and lower costs.

Keywords: Farm financial management, farm management, farm income, liquidity, solvency, profitability, repayment capacity, financial efficiency, financial benchmarks, tenure, North Dakota.

INTRODUCTION

Financial statements such as the balance sheet and income statement provide a structured format to summarize financial information so it is more manageable for decision making. It is helpful to further simplify or summarize information contained in financial statements into key measures of financial performance. However, the calculation of a financial measure can be fruitless unless there is a meaningful basis of comparison to evaluate the number. Two methods of comparison are:

- ❶ **Past performance.** The progress of a business can be monitored by constructing financial measures on a periodic basis and comparing present to past performance.
- ❷ **Industry benchmarks.** The average or median of a financial measure from several similar businesses provides a good point of reference. Currently there is no nationwide database of farm records. However, there are statewide farm record programs in some states, including North Dakota. Each farm has its own unique aspects, so the most appropriate comparison would be farms that have similar enterprises and resources.

Whatever method of comparison is used, it is imperative that the procedures for construction of financial statements and performance measures are consistent over time and between farms to ensure an "apples-to-apples" comparison.

The Farm Financial Standards Task Force (FFSTF) was formed by the American Bankers Association in 1989 to develop standards for construction of financial statements and measures of financial performance in agriculture. In 1991, the task force provided recommendations for financial statement construction and the calculation of 16 measures of financial performance. These recommendations were adopted, in most part, by the North Dakota Farm Business Management Education Program and are the basis for the benchmarks presented in this publication.

The purpose of this study is to provide information to producers, lenders, educators, and others on the financial performance of a sample of North Dakota farms from 2001-2003. Similar studies for 1991 through 2000 are referenced on page 27 of this

report. Table 1 lists the median operator age, farm size and selected financial factors, 1994-2003. The data are from financial summaries of farms participating in the North Dakota Farm Business Management Education program. In this study the median and upper and lower quartiles of 16 financial performance measures are presented for all farms in the data set and for groupings of farms by characteristic such as farm type, farm size, and age of producer. The results can be used by producers and lenders to evaluate the financial performance of a farm. Also, trends can be identified and relationships between farm characteristics and financial measures can be analyzed. However, because of the small number of farms in this study, the results should be used cautiously and only be considered guidelines.

SOURCE OF DATA

About 700 farms are enrolled in the North Dakota Farm Business Management Education program. Instructors educate and assist producers in record keeping and review data for completeness and accuracy. Instructors use the Finpack farm financial management software program to generate financial summaries. From 2001-2003, the financial summaries of over 500 farms each year were considered usable for this study.

Most farms were represented in all three years (2001-2003) of this study, although there is a turnover of participants in farm management education programs and the number of farms that complete their annual records by a cutoff date varies from year to year.

The farms in this study are larger and the age of the farm operators younger than the state average. In 2003, there were 30,300 farms in North Dakota with gross agricultural sales of at least \$1,000. Only 9,500, or 31%, had gross receipts greater than \$100,000, whereas 86% of the 513 farms in this study exceed that sales volume (median gross sales was \$247,757). The farms in the study are more representative of operations that provide the primary source of net family income. The average age of farm operators in this study is 44 compared to 54 for the state average.

DEFINITION OF FINANCIAL MEASURES

Sixteen measures of financial performance were calculated for each farm in this study. The recommendations of the farm financial standards council for calculating the ratios were followed as closely as possible, from the Finpack data.

The farm financial standards council stated that a more meaningful comparison between farms is achieved with market valuation of assets, but due to fluctuations in market values the cost method (acquisition cost less accumulated depreciation) is superior for comparisons over time for an individual farm operation. In fact, a dual column balance sheet is recommended: one column to value assets by the cost approach and a second column for market valuation of assets.

The valuation method used for current assets of farms in this study depended on what was most relevant and reliable. For example, current market value was used for grain and market livestock inventories, but prepaid expenses and supplies were listed at purchase cost.

Non-current asset valuation was:

- Machinery was valued at cost minus accumulated depreciation. Annual depreciation was 10 percent of un-depreciated value.
- Purchased breeding livestock was valued at cost. Raised replacement animals were valued at a conservative market value when they enter the breeding herd. This value remains constant until the animal leaves the herd.
- Generally, land was valued at cost. However, when a farmer enrolls in the farm business program there may be a one-time revaluing of land to a conservative market value.

Assets and liabilities not associated with the farm business are excluded from the calculation of farm financial performance measures. Accrued liabilities were included on the balance sheets but deferred tax liabilities were not.

The calculations of all financial measures, unless otherwise noted, are accrual adjusted. Examples are:

- Gross farm revenue is gross cash revenue plus

the changes in crop and market livestock inventories and accounts receivable.

- Interest expense is cash interest plus the change in accrued interest.

LIQUIDITY

Current Ratio

Computation: Current assets divided by current liabilities.

Interpretation: This ratio measures the extent current assets will cover liabilities that are due during the next 12 months. The higher the ratio the more cushion the business has to meet short-run obligations without disrupting normal business operations. The current ratio's limitation as a measure of liquidity is that it does not match the timing of financial obligations with the liquidation of current assets, nor does it consider any new debt incurred or assets that may be generated during the 12 months after the balance sheet date.

Working Capital

Computation: Current assets minus current liabilities.

Interpretation: This measure shows the dollar amount that current assets can or cannot cover current liabilities. The amount of working capital necessary to provide an adequate cushion for meeting debt obligations must be related to the size of the business. Working capital as a measure of liquidity has similar limitations as the current ratio.

SOLVENCY

Debt-to-Asset

Computation: Total liabilities divided by total assets.

Interpretation: This ratio shows the proportion of assets owed to creditors. The lower the debt-to-asset ratio the higher the solvency of the

business. Solvency is a measure of risk exposure. As solvency decreases, the owner has less equity relative to debt, the ability to procure additional financing may decrease, and the business's ability to survive adverse outcomes is diminished. However, solvency should be viewed in connection with profitability. A low solvency position may be desirable if debt capital provides returns in excess of its cost.

Equity-to-Asset

Computation: Owner equity divided by total assets.

Interpretation: This ratio shows the portion of total assets represented by owner equity. It is another way of expressing solvency.

Debt-to-Equity

Computation: Total liabilities divided by owner equity.

Interpretation: This ratio shows the extent to which debt capital is combined with equity capital. It is another way of expressing solvency.

PROFITABILITY

Rate of Return on Assets (ROA)

Computation: Net farm income plus interest expense minus a charge for unpaid operator labor and management, divided by average total assets.

Interpretation: This ratio measures the pre-tax rate of return on farm assets and is used to evaluate whether assets are employed profitably in the business. Two important factors affecting this measure are valuation of assets and the charge for unpaid operator labor and management. A \$15,000 charge per full time operator plus five percent of gross revenue was used in the 2001-2003 analysis.

Rate of Return on Equity (ROE)

Computation: Net farm income minus a charge for unpaid operator labor and management, divided by average owner equity.

Interpretation: This ratio measures the pre-tax rate of return on equity capital employed in the

business. Two important factors affecting this measure are valuation of assets and the charge for unpaid operator labor and management. A \$15,000 charge per full time operator plus five percent of gross revenue was used in the 2001-2003 analysis. This ratio should be evaluated carefully and used in conjunction with other ratios when analyzing a farm business. If ROE is greater than ROA, debt capital is being employed profitably—it is earning more than it costs in interest. A high ratio may indicate an undercapitalized or highly leveraged business, and a low ratio may indicate a more conservative, high equity business.

Operating Profit Margin

Computation: Net farm income plus interest expense minus a charge for unpaid operator labor and management, divided by the value of farm production. Value of farm production is gross farm revenue less purchase of market livestock and feed.

Interpretation: This ratio measures net farm income per dollar of farm production. It is a pre-tax measure of profit margin from the employment of assets. An important factor is the charge for unpaid operator labor and management. There is a relationship between operating profit margin, asset turnover rate, and ROA. Operating profit margin multiplied by asset turnover rate equals ROA.

Net Farm Income

Computation: Net farm income is total revenue earned minus the costs incurred to generate those revenues. It is cash revenue less cash expense and depreciation plus capital adjustments (gain or loss from sale of capital assets). Accrual adjustments for changes in inventories are included to properly match revenues and expenses to the time period for which net farm income is being measured.

Interpretation: Net farm income is the return to the operator for unpaid labor and management and equity capital used in the farm business. Net farm income is an absolute amount and it is difficult to assign a standard to all farms because of differences in the amount of unpaid operator labor and equity used.

REPAYMENT CAPACITY

Term Debt Coverage Ratio

Calculation: Net farm income plus depreciation and other capital adjustments plus non-farm income plus scheduled interest on term debt minus family living expense and income taxes, divided by scheduled term debt principal and interest payments.

Interpretation: This ratio measures the capacity of the borrower to cover all term debt payments. The more the ratio exceeds 1, the greater the margin to cover term debt payments. The business may have sufficient earnings but the timing of cashflows may not be adequate to make the payments on a timely basis. Also, the ratio does not contain any provision for replacement of capital assets.

Capital Replacement and Term Debt Repayment Margin

Calculation: Net farm income plus depreciation and other capital adjustments plus non-farm income minus family living expense, income taxes, and scheduled term debt principal payments.

Interpretation: This is a measure of the business's ability to make payments on term debt. A positive margin indicates the amount available, after making term debt payments, for acquiring capital assets or servicing additional debt. The capital replacement and term debt repayment margin is a dollar amount, so it is impossible to establish a standard for all farm businesses.

FINANCIAL EFFICIENCY

Asset Turnover

Calculation: Value of farm production divided by average total assets. Value of farm production is gross farm revenue less purchase of market livestock and feed.

Interpretation: This is a measure of how efficiently assets are used in the business. The higher the number, the more production is created per dollar of assets. Asset turnover can vary significantly by type of farm and by asset base. For example, dairy and hog farms will typically have higher asset turnovers than cow-calf or cash grain operations.

Asset turnover will probably be higher if capital assets, such as machinery and land, are rented instead of owned.

Operating Expense Ratio

Calculation: Total expense less interest and depreciation and capital adjustment divided by gross farm revenue.

Interpretation: This ratio measures how efficiently operating expenses are managed to generate gross farm revenue. The operating expense ratio will typically vary by farm type.

Depreciation Expense Ratio

Calculation: Depreciation and capital adjustments divided by gross farm revenue.

Interpretation: This ratio expresses depreciation and capital adjustment relative to gross farm revenue. It will vary by farm type and from year to year. Caution must be used when evaluating this ratio. It does not comply with the farm financial standards because the Finpack program, used to generate the farm financial summaries, calculates depreciation and capital adjustment as one number (ending inventory plus capital sales less the sum of beginning inventory and capital purchases). Therefore depreciation cannot be isolated.

Interest Expense Ratio

Calculation: Interest expense divided by gross farm revenue.

Interpretation: This ratio shows the portion of gross farm revenue necessary to cover interest expense. It is often used as a measure of financial risk.

Net Farm Income Ratio

Calculation: Net farm income divided by gross farm revenue.

Interpretation: This is a measure of how efficient the farm business is at generating net income from gross revenue. It is the portion of gross farm revenue left after operating expense, depreciation and capital adjustment, and interest expense have been removed.

INTERPRETATION OF RESULTS

Each financial measure was calculated for each farm. Farms were grouped by characteristics such as region, type of farm, and size and were sorted in order from strongest to weakest by each of the 16 financial measures. The **median** is the midpoint value of the financial measure: one-half of the farms in the category had a higher value and one-half had a lower value than the median. The **upper quartile** is the value that was exceeded by one-fourth of the farms, and the **lower quartile** is the value that was exceeded by three-fourths of the farms. (Another definition of lower quartile is the value for which one-quarter of the farms in the category had a weaker value.)

Individual farm operators and lenders can use the tables as a measure of comparison if their financial measures are calculated similarly. For example, a farm operator 30 years of age may compare his/her profitability and financial efficiency with those of other young operators. Or a lender may compare the solvency and repayment capacity of producers who rent all their crop land. The tables also can be used to look at relationships and trends. What is the relationship between age of farmer and rate of return on equity? How has operating profit margin of livestock farms changed over time?

One ratio is not sufficient to make conclusions about the overall financial performance of a farm business. For example, a crop farm may have a debt-to-asset ratio of 60%, which is worse than the median value of 49.8% (shown on table 7) for the crop farm enterprise category. However, other factors such as profitability, total assets, and age of operator should also be considered.

Also, a farm can be adversely affected by extraordinary circumstances. Profitability in the low quartile may not be reflective of management capability if the farm had localized bad weather that was not experienced by many other producers in the farm category.

Caution must be used when analyzing the tables because a small number of farms increases the possibility that results may not be representative of a farm category. In this study, for 2003, there are only 51 farms with negative net farm income, 70 farms with sales less than \$100,000, 82 and 84 farms in the Red River Valley and west regions, respectively, and 89 mixed livestock-crop enterprise farms. Performance of the Red River Valley region may not be representative of the

central or northern areas of the Red River Valley because nearly all valley farms in the study are from the south. In 2003, there was a lack of farms in the northern portion of the west region.

There are some strong correlations between two or more classifications, so it is difficult to associate a financial measure with an individual farm characteristic.

For example, the profitability of livestock, in comparison to crop farming, is reflected in farm categories that had a disproportionate number of livestock farms, such as the west region, farms with greater than 40% crop land ownership, and farms with less than \$100,000 sales. Also, comparison of farms by enterprise type, farm size and gross sales can be affected by regional performance. The Red River Valley has the highest proportion, relative to other regions, of crop farms, farms of less than 1,600 acres, and farms with gross income greater than \$250,000.

Tables 1 and 2 show the trends in financial performance and characteristics of North Dakota farms, 1994-2003. The trend has been for farms to get larger and for farmers to get older. In 2003, median gross cash revenue was about 50% higher than in 1994. Median age of operator was 45 in 2003 compared to 40 in 1994.

Financial performance improved in 2003, to the highest in the past decade, despite higher costs, because of a good wheat and barley crop, strong crop prices and improved livestock profits.

Financial performance for the 1994-2003 period was poorest in 1997 and 1998 when one out of four farms had negative net farm income. Performance rebounded strongly in 2000 and 1999 because of extraordinary government and crop insurance payments, good yields for row crops and improved beef cattle prices. Financial performance in 2001 declined for all 16 measures, except interest expense ratio, because of lower government subsidies, higher costs and continued low commodity prices. Profit was improved in 2002, except for livestock farms, because of higher crop prices and lower costs.

FARM CLASSIFICATION AND HIGHLIGHTS

ALL FARMS

Highlights

- Some consistent trends over the past ten years, 1994-2003, for farms enrolled in the North Dakota Farm Business Management Education Program are:
 - farms are getting larger; median acreage increased 32% to 1,995 acres, median gross revenue increased 53% and median farm assets and liabilities increased 39% and 52% to \$612,437 and \$305,268, respectively.
 - farmers are getting older; the median age increased from 40 to 45.
 - off-farm wages and salaries per farm household more than doubled.
- Median net farm income reached a 10-year high in 2003 at \$49,181, 29% higher than 2002. A good wheat and barley crop, strong crop prices, improved livestock profit and disaster payments legislated in 2003, for crop losses in 2001 and 2002, all contributed. Profit had declined in 2001 because of lower government subsidies and higher crop production costs, but increased 37% in 2002 due to high prices and lower production costs.
- Financial performance, 1994-2003, was poorest in 1997 followed by 1998 and 1995 because of low cattle prices, weather related production problems with small grains in 1995 and 1997, low crop prices in 1998 and increasing production costs. Financial performance was strong in 2000 and 1999, despite very low crop prices, because of extraordinary government and crop insurance payments and higher beef prices. Also, yields and acreage of corn, soybeans and sugarbeets were at record levels.
- Median current ratio of 1.4 in 2003 was higher than 1.3 in 2002 and 1.2 in 2001.
- The median debt-to-asset ratio was 54.3 in 2003 compared to 53.3 in 2002. Solvency deteriorated each year from 46.4% in 1993 to 59.4% in 1998, before improving in 1999 and 2000.
- Median rates of return on equity and assets were 8.4% and 7.0%, respectively, in 2003. In the 1994-2003 period, the only other years that ROE exceeded ROA, which indicated that debt capital was employed profitably, were 1999 and 2000.
- Median term debt coverage ratio was 1.6 in 2003 compared to 1.3 in 2002. During 1994-2003, only 1997 and 1998 had median term debt coverage ratio below 1.0, which indicates over one-half of the farms were not able to make all scheduled term debt payments with farm and non-farm income.
- The 5.6% interest expense as a percent of gross revenue for 2003 is the lowest in the 1994-2003 period. It has declined six consecutive years because of lower interest rates and higher gross.
- Median net farm income as a percent of gross revenue was 19.6% in 2003, 17.3% in 2002 and 14% in 2001. In the 1994-2003 period it was the highest, 22.4%, in 1999 and lowest, 8.1%, in 1997.

REGION

Farms are classified in one of four geographic regions in North Dakota, based on the location of their Farm Business Management program. However, farms enrolled in the Bismarck program are classified as "west or "south central" according to which side of the Missouri River the farm is located. Also, some farms that are enrolled in the Casselton and Wahpeton programs are not in the Red River Valley and are classified as south-central. The southern area of the "west" region is better represented than the northern area. The northern area of the Red River Valley has had no representation since 1997. Locations of North Dakota Farm Business Management programs that participated in the 2001-2003 summaries are:

Red River Valley: Wahpeton, Casselton (2002, 2003), and Kindred (2001)

North Central: Bottineau, Devils Lake, Minot, and Rugby

South Central: Bismarck, Carrington, Enderlin, Jamestown, and Napoleon

West: Bismarck, Dickinson, Glen Ullin, and Stanley (2001, 2002)

Highlights

- In 2002 the median farm size increased from the Red River Valley (1,495 acres, all crop land) to the west region (2,688 acres, including pasture). Median farm size was 2,107 acres (1,800 crop acres) in the north central region and 1,993 acres (1,336 crop acres) for the south central region .
- Several farm characteristics are strongly related to region. Red River Valley farms are more likely to be crop farms and typically have smaller total acreage (crop land and pasture) and percent of crop land owned, but much larger total farm sales, assets and liabilities, than farms in other regions.
- The incidence of livestock and mixed enterprise farms goes from a mere 2% in the Red River Valley to 71% in the west.
- In 2003, profitability measures were much stronger in the Red River Valley than in other regions. But compared to 2002, profitability measures declined in the Red River Valley and increased in the other regions. In 2002, financial performance greatly improved in the Red River Valley and north central regions, slightly improved in the south central region and deteriorated in the west.
- In 2001, all 16 measures of financial performance declined in each region except the median interest expense ratio improved in the west region. The decline was greatest in the north central region and the least in the west.
- Repayment capacity improved in 2003. The median term debt coverage ratio ranged from 2.1 in the Red River Valley to 1.1 in the west.
- Solvency improved in all regions in 2002, except the west. In 2003, solvency continued to improve in the Red River Valley and the south central region but deteriorated in the north central and the west. Median debt-to-asset ranged from 45.6% in the Red River Valley to 63.2% in the west.
- In 2003 net farm income as a percent of gross revenue was only 12.8% in the west and around 20% for the other regions. Interest expense as a percent of gross revenue declined in all regions and ranged from 3.9% in the Red River Valley to 8.4% in the west.

FARM ENTERPRISE

Farms were classified as "crop" if 70% or more of total sales were from crops, and "livestock" if livestock sales accounted for 70% or more of total sales. The remaining farms were classified as "mixed."

Highlights

- In 2003, 62.2% of farms were classified as crop, 20.5% as livestock and 17.3% were mixed enterprise farms.
- Ninety-eight percent of Red River Valley farms, 71% of north central farms, 51% of south central farms and 29% of west region farms were classified as crop in 2003.
- Forty-four percent of the west region farms were classified as livestock in 2003.
- In 2000 and 1999, financial performance of all farm types was much better than in 1998. In 2001, financial performance declined for all farm types, especially crop farms. In 2002 the decline continued for livestock and mixed enterprise farms, but crop farms had strong improvement in all 16 measures of financial performance. In 2003 all farm types improved financial performance.
- In 2003, median net farm income for all farm types increased. The increase was 18%, to \$71,260, for crop farms, 49%, to \$25,242, for livestock farms and 75%, to \$31,011, for mixed enterprise farms.
- In the 1994-2003 period crop farms tended to have more total assets and liabilities and greater gross and net income than livestock and mixed enterprise farms. Profitability of livestock farms was similar to crop farms only in 1997 and 2001. Profitability of livestock and mixed farms was extremely weak in 1995-1998. In 1997 the performance of crop farms was also very poor.
- Every year, 1994-2003, crop farms had better solvency than other farm types. In 2003, crop farms had a median debt-to-asset ratio of 49.8%, mixed enterprise farms had 60.8% and livestock farms had 62.1%.
- In 2003, repayment capacity improved for all farm types. In 2002, crop farms showed great improvement but livestock and mixed enterprise farms declined to where over one-half were not able to meet scheduled term debt payments with farm and non-farm income. Repayment capacity in 2001 had declined sharply for all farm types after improvements in 2000 and 1999.
- The median asset turnover ratio was 0.50 for crop farms, 0.33 for mixed enterprise farms and 0.25 for livestock farms in 2003. A higher ratio for crop farms is typical. Most livestock farms are beef cow-calf operations.
- Financial efficiency, as measured by the median net farm income as percent of gross revenue, was 22.7% for crop farms, 13.5% for livestock farms and 16.8% for mixed enterprise farms in 2003.
- Median interest expense as percent of gross revenue has typically been worse for livestock farms than for crop farms. This relationship held in 2003, as median interest expense as a percent of gross revenue declined to 8.7% for livestock farms and to 4.7% for crop farms.

FARM SALES

Farms were classified in one of three cash farm sales categories. Farm sales include cash receipts from crop and livestock sales, government payments, and other farm income.

The categories were: less than \$100,000
 \$100,000 to \$249,999
 \$250,000 or over

Highlights

- Median farm sales were \$247,757 in 2003. Sales per farm have increased over time; one-half of farms had sales in excess of \$250,000, compared to less than one-fourth in 1994.
- Three-fourths of Red River Valley farms had sales in excess of \$250,000, compared to 46% of south central and north central farms, and 34% of west region farms in 2003.
- Farm type and sales are correlated. In 2003, 63% of crop farms had sales in excess of \$250,000 compared to only 21% of livestock farms.
- As expected, young farmers typically have lower sales than older farmers. However, farmers between the ages of 35 and 45 were as likely to have farm sales greater than \$250,000 than farmers older than 45 years.
- A strong relationship between gross sales and financial performance is typical. Every year, 1994-2003, median rates of return on assets and equity increased with sales volume.
- From 2000 to 2003, median current ratio improved as farm sales increased, but there was not a clear relationship between farm sales and current ratio over the 1994-1999 period.
- Farms with low sales typically have higher debt-to-asset. In 2003, median debt-to-asset was 64.3%, 56.6% and 50.1% for low, medium and high farm sale groups, respectively.
- In 2003, median net farm income increased for all sale groups. It was \$11,365 for farms with less than \$100,000 sales, \$36,138 for farms with \$100,000 to \$250,000 sales, and \$96,963 for farms with greater than \$250,000 sales.
- Typically, as in 2003, repayment capacity is directly related to amount of sales. However, low sale farms rely more heavily on non-farm income for repayment capacity than large sale farms. In 1997, when farms had poor profitability regardless of sales level, farms with less than \$100,000 sales had the best repayment capacity.
- From 1994-2003, farms with sales under \$100,000 had the best operating expense as percent of gross revenue, but had the worst interest expense ratio because of higher debt, and usually have the worst depreciation expense ratio.

FARM SIZE

Both crop and pasture acres were included in determining farm size.

Farm size categories were: 1,600 acres or less
 1,601 acres or more

Highlights

- Because of an increase in pasture land from east to west, median total farm acreage (crop land and pasture) ranged from 1,495 in the Red River Valley (all crop land) to 2,688 in the west region. Median farm crop land acreage was lowest in the west region.
- In 2003, nearly two-thirds of farms were greater than 1,600 acres, compared to one-half in 1996.
- From 1999 to 2003, mixed enterprise farms were slightly larger than crop or livestock farms.
- In 2003, only 38% of farmers under 35 years old operated more than 1,600 acres. Compared to about 75% of farmers between 35 and 45 years old and 65% of farmers over 45 years.
- As expected, farms with greater than 1,600 acres have greater assets, liabilities, sales and profitability than smaller farms. Larger farms also have better solvency.
- In 2003 and 2002, nearly all financial performance measures improved for both farm size categories, after declining in 2001. In 2000 and 1999, all financial performance measures for both farm size categories were much better than in 1998.
- In 2003, the median current ratio of the small farm group was slightly higher than for farms with more than 1,600 acres. Conversely, 1994-1999 and 2002, the median current ratio for the large farm category was slightly better than for the small farm category. In 2001 and 2000 it was 1.3 and 1.5 for farms with greater than 1,600 acres, respectively, and 1.1 and 1.3 for smaller farms, respectively.
- In 2003, median debt-to-asset was 60.4% for farms with less than 1,600 acres and 51.4% for larger farms.
- In 2003, median net farm income improved 40% to \$29,103 for farms with less than 1,600 acres and 22% to \$62,734 for farms with more than 1,600 acres.
- In 1999-2003, median term debt coverage ratio was better for farms with more than 1,600 acres than for smaller farms. However, it was better for smaller farms in the four years 1995-1998. Although smaller acreage farms generate less cash income, they tend to have more non-farm income and lower payments than larger farms.
- Financial efficiency measures of farm size groups tend to be similar. This indicates that greater profitability of farms larger than 1,600 acres is due to larger sales volume and/or greater operator labor efficiencies not lower operating expenses per dollar of sales.

CROPLAND TENURE

This is a classification of the portion of crop land that is rented. Four categories were used.

Full tenant
1-20 percent owned
21-40 percent owned
41 percent or over owned

Highlights:

- High ownership of crop land is less likely in the Red River Valley. In 2003, only one of ten of Red River Valley farms owned more than 40% of the crop land they operated, compared to three of ten farms in other regions.
- Crop land ownership increases with age. In 2003, farmers older than 45 years were over twice as likely to own more than 40% of their crop land than were farmers younger than 35 years. Nearly one-half of young farmers rented all of their crop land, compared to 11% of farmers older than 45 years old.
- Operators of livestock and mixed enterprise farms own a greater portion of their crop land than crop farms. About one-half of livestock farms and one-third of mixed enterprise farms own more than 40% of the crop land that they operate, compared to one-fourth of crop farms.
- Interestingly, small farms (less than 1,600 acres) were more likely to either own no crop land or to own more than 40% of crop land than were large farms (more than 1,600 acres).
- Farms that own some land, but not a lot, are typically the most profitable. Farms in the 1 to 20% crop land ownership category, followed by farms with 20-40% crop land ownership, are also most likely to be crop farms, farm more acreage, and have larger sales. In 2003, farms with 1 to 20% crop land ownership had the highest median net farm income, \$66,988, than other land tenure groups.
- During 1994 to 2003 there is no clear relationship between current ratio and land tenure except that farms with greater than 40% crop land ownership tend to have a slightly better median current ratio.
- Farms with greater than 40% crop land ownership typically had better solvency, 1994-2003, than other crop land ownership groups. In 2003, farms with no crop land ownership had a median debt-to-asset ratio of 61.6% compared to 49.5% for farms with crop land ownership greater than 40%.
- In 2003, median net farm income declined slightly to \$31,746 for farms with no crop land ownership but increased 18% to 52% for other land tenure categories compared to 2002.
- The lower profit of farms with greater than 40% crop land ownership, compared to farms with 1 to 40% crop land ownership, is associated with the fact these farms are more likely to also be in livestock, low sales, and small size farm categories and less likely to be in the Red River Region.
- Farms with a smaller proportion of crop land ownership have fewer land assets and land interest costs and therefore have higher asset turnover ratios and lower interest expense ratios.

NET FARM INCOME

Four levels of net farm income were used to group farms.

Negative
\$0 - \$24,999
\$25,000 - \$49,999
\$50,000 or more

Highlights

- Median net farm income fell to \$27,729 in 2001, but rebounded each of the past two years to \$38,079 in 2002 and \$49,181 in 2003. It also had rebounded in 2000 and 1999 to \$45,085 and \$42,009, respectively, following two extremely low years, \$19,491 in 1998 and \$14,290 in 1997.
- The Red River Valley region had the highest median net farm income every year from 1994 to 2003, except for 1998.
- In 2003, median net farm income was \$71,260 for crop farms, \$31,011 for mixed enterprise farms and \$25,242 for livestock farms. Crop farms have been more profitable than livestock or mixed enterprise farms each year from 1994-2003, except for 2001. In 2001, net farm income was similar by farm type.
- The typical strong associations between net farm income and farm sales and farm size were greatly reduced in 1997.
- In 2003, 76% of the farms with sales greater than \$250,000 had net farm income greater than \$50,000. One out of four farms with sales less than \$100,000, had negative net farm income.
- In 2003, 61% of farms larger than 1,600 acres had net farm income greater than \$50,000, compared to 29% of smaller farms.
- In 2003 and the 1994-2000 period, farmers between the ages of 35 to 45 years were more profitable than farmers that were younger or older. However, in 2001 older farmers had similar net farm income as farmers in the 35 to 45 age group and in 2002 the younger farmers had similar net farm income as the 35 to 45 age group.
- Solvency, liquidity, repayment capacity, and financial efficiency were strongly correlated with net farm income.
- In 2001, low debt farms (less than 40% debt-to-asset) were five times more likely to have net farm income in excess of \$50,000 than high debt farms (greater than 70% debt). In other years, 1996-2003, low debt farms were three to four times as likely to have net farm income greater than \$50,000.

DEBT-TO-ASSET RATIO

Three ranges of debt-to-asset ratio were used to group farms.

- 0 - 40 percent
- 41 - 70 percent
- 71 percent or more

Highlights

- Median debt-to-asset of 54.3% in 2003 was worse than 53.3% in 2002 but better than 55.5% in 2001. Solvency had declined each year from 1994 to 1998 prior to improving in 1999 and 2000.
- There is a strong inverse relationship between level of debt and liquidity, repayment capacity, profitability and financial efficiency measures. As debt-to-asset increases, these measures deteriorate.
- In 2003, farms in the low debt category had the best median current ratio, 2.9, term debt coverage ratio, 3.1, interest as a percent of gross revenue, 3.0, operating expense as a percent of gross revenue, 63.1, and net farm income as percent of gross revenue, 27.9, compared to any of the 26 farm categories used in this study.
- Median net farm income for the low, medium, and high debt categories in 2003 was \$82,772, \$54,220 and \$25,438, respectively.
- In 2003, 70% of farms with low debt had net farm income greater than \$50,000 compared to only 22% of high debt farms.
- Red River Valley farms, crop farms, large farms (greater than 1,600 acres) and farms with high sales (greater than \$250,000 sales) had lower median debt-to-asset than other regions, farm types, farm size and farm sales groups, respectively, during the years 1996-2003.
- About 43% of farms with sales less than \$100,000 sales were in the high debt group compared to 23% of farms that had sales greater than \$250,000.
- As expected, percent debt-to-asset tended to decrease as age of farmer increased.

FARMER AGE

Three groups were used to classify farms by age of operator:

34 years or less
35 - 44 years
45 years or older

Highlights

- In 2003, 18% of farm operators were under 35 years old and 30% were between 35 and 45 years old. The percent of farmers older than 45 has steadily increased from 31% in 1994 to 53% in 2003.
- Prior to 1999, the age of farmers tended to increase slightly from east to west, but from 1999 to 2003 the age distribution of farm operators has been similar for all regions.
- Farmers in the middle age group typically had more total farm liabilities, higher gross sales, larger farms and were more profitable than the younger or older age groups. However, in 2001, net farm income was similar between the middle and older age groups and in 2002 it was similar between the middle and young age groups.
- Median total assets were greatest, 1994-2003, for farm operators older than 45 years and least for farmers under 35 years old. However, median total assets of the middle age group of farmers (35 to 45 years) is close to the asset level of the older farmer group.
- As expected, as the age of the farm operator increases there is a higher percent of the crop land in the farm that is owned, and the percent of farm debt tends to decrease. In 2003, median debt-to-asset was 72.7% for farmers less than 35 years old, 53.1% for farmers in the 35 to 45 age group and 49.6% for farmers older than 45.
- The younger farmers had the best median current ratio in 2003, 1.5, in 2002, 1.4, and also in 2001, 1998 and 1997, at 1.3. In 2000 the median current ratio was 1.4 for all age groups and in 1996, 1994 and 1993 the middle age group had the best liquidity measures.
- In 2003, median net farm income decreased to \$32,912 for farmers under 35 years, but increased to \$55,953 for farmers between 35 and 45 years old and to \$50,881 for farmers older than 45 years. The largest increase was for farmers between 35 and 45 years old.
- In each year, 1994-2003, the young age group of farmers employed assets more efficiently than farmers older than 45 years. The young group had better median measures of ROA, ROE, term debt repayment coverage ratio, asset turnover and interest expense and net farm income as percent of gross revenue despite having much fewer total assets and higher debt-to-asset.

TABLE 1. MEDIAN FARM SIZE, FARM OPERATOR AGE, AND FINANCIAL FACTORS OF FARMS PARTICIPATING IN THE NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM, 1994-2003.

	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
Number of Farms	513	513	532	553	539	535	560	551	596	536
-----Median-----										
Age of Operator	45	44	44	44	43	42	42	41	41	40
Farm Size (acres)	1,995	2,033	1,937	1,916	1,921	1,882	1,729	1,601	1,576	1,517
Gross Cash Revenue	247,757	220,781	216,697	205,659	190,676	173,972	179,052	177,152	165,134	162,427
Total Farm Assets	612,437	575,606	543,860	549,636	520,094	499,496	485,094	469,587	438,289	439,749
Total Farm Liabilities	305,268	284,828	287,068	274,640	266,401	270,802	263,406	251,480	225,793	201,037
Current Ratio	1.4	1.3	1.2	1.4	1.4	1.2	1.2	1.2	1.3	1.4
Working Capital	39,712	29,099	21,910	36,612	29,643	12,095	11,207	19,042	18,984	27,598
Debt-to-asset (%)	54.3	53.3	55.5	53.9	55.5	59.4	58.6	55.6	51.5	49.8
Rate of Return on Farm Assets (%)	7.0	5.7	4.1	7.6	8.4	4.0	2.5	6.5	4.7	6.4
Rate of Return on Farm Equity (%)	8.4	4.4	3.2	7.7	9.0	0.0	-1.4	4.9	2.2	5.8
Operating Profit Margin (%)	17.4	14.5	12.1	20.6	21.6	11.5	8.3	17.3	14.5	17.9
Net Farm Income	49,181	38,079	27,729	45,085	42,009	19,491	14,290	31,063	23,463	32,523
Term Debt Coverage Ratio	1.6	1.3	1.0	1.6	1.5	0.9	0.7	1.2	1.1	1.3
Term Debt & Capital Repayment Margin (\$)	21,012	10,628	301	17,768	17,973	-2,680	-8,995	5,024	1,652	7,069
Asset Turnover Ratio	0.42	0.37	0.38	0.42	0.38	0.36	0.34	0.39	0.36	0.4
Operating Expense Ratio (%)	66.8	68.8	70.9	63.3	61.2	71.9	73.3	66.0	67.4	64.9
Depreciation Expense Ratio (%)	5.9	5.6	5.9	5.3	5.7	5.7	6.0	5.6	5.7	4.7
Interest Expense Ratio (%)	5.6	6.6	7.6	7.8	8.4	9.6	9.9	8.9	8.8	7.6
Net Farm Income Ratio (%)	19.6	17.3	14.0	21.7	22.4	12.7	8.1	18.0	16.2	21.7

TABLE 2. PERCENT DISTRIBUTION OF FARMS BY FARM GROUP CATEGORY, NORTH DAKOTA FARM BUSINESS MANAGEMENT PROGRAM, 1994-2003.

Farm Group/Category	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
All Farms	513	513	532	553	539	535	560	551	596	536
	-----Percentage-----									
Region										
Red River Valley	16.0	15.0	15.0	13.0	12.8	12.7	17.0	16.7	20.5	23.3
North Central	37.8	35.5	37.0	36.2	36.2	36.1	31.8	30.3	25.8	25.2
South Central	29.8	29.0	28.2	30.2	30.2	33.1	33.6	33.9	35.9	35.1
West	16.4	20.5	19.7	20.6	20.8	18.1	17.7	19.1	17.8	16.4
Farm Enterprise										
Crop	62.2	62.4	64.1	63.3	64.6	63.9	65.4	66.4	66.9	68.5
Livestock	20.5	19.3	18.0	19.9	20.0	20.6	17.5	17.2	23.8	22.8
Mixed	17.3	18.3	17.9	16.8	15.4	15.5	17.1	16.3	9.2	8.8
Farm Sales										
\$99,999 or less	13.6	17.2	16.4	17.7	20.0	23.2	20.7	26.3	26.0	24.1
\$100,000 - \$249,999	36.8	40.0	41.5	43.8	44.0	45.6	46.4	43.6	47.3	51.9
\$250,000 or over	49.5	42.9	42.1	38.5	36.0	31.2	32.9	30.1	26.7	24.1
Farm Size										
1,600 acres or less	36.6	34.9	36.1	36.3	36.0	39.3	44.3	50.1	30.7*	34.1*
1,600 acres or over	63.4	65.1	63.9	63.7	64.0	60.7	55.7	49.9	69.3*	65.9*
Cropland Tenure										
Full tenant	21.1	20.4	20.1	17.1	17.8	18.2	19.6	20.8	20.7	22.0
1-20 percent owned	26.5	26.1	26.7	26.2	23.2	26.1	25.2	23.0	22.3	19.0
21-40 percent owned	22.0	23.0	20.0	22.2	24.7	21.8	20.7	20.8	19.9	20.3
41 percent or over owned	29.8	30.5	33.3	34.4	34.2	33.8	34.5	35.4	37.1	38.6
Farm Income										
Negative	9.9	15.6	21.2	10.3	8.0	25.6	29.5	18.0	22.1	12.9
\$0-\$24,999	19.7	23.4	25.9	20.6	23.2	29.7	32.1	25.0	24.2**	23.7**
\$25,000 - \$49,000	21.2	18.9	22.6	23.5	25.6	20.4	21.4	20.9	16.4**	21.5**
\$50,000 or more	49.1	42.1	30.3	45.6	43.2	24.3	17.0	36.1	37.2**	42.0**
Debt-to-asset Ratio										
0-40 percent	31.4	30.8	26.9	29.3	28.8	24.3	28.4	28.9	33.6	35.8
41-70 percent	39.2	41.5	43.8	45.9	44.5	41.9	39.1	42.6	42.4	45.1
71 percent or more	29.4	27.7	29.3	24.8	26.7	33.8	32.5	28.5	24.0	19.0
Farmer Age										
34 years or younger	17.7	15.0	14.8	15.0	17.8	18.5	20.0	18.7	22.1	25.6
35-44 years	29.6	34.5	36.8	40.0	39.7	41.9	40.9	44.3	43.0	43.7
45 years or older	52.6	50.5	48.3	45.0	42.5	39.6	39.1	37.0	34.9	30.8

* For 1994-1995 farm sizes were 1,200 acres or less, and 1,201 acres or more.

** For 1994-1995 farm income categories were negative, \$0-\$19,999, \$20,000-\$39,999, and \$40,000 or more.

TABLE 3. FARM CLASSIFICATIONS AND PERCENT DISTRIBUTION OF FARM TYPES WITHIN REGIONS, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM, 2003.

Farm Group Category	Number of Farms (513)	Percentage	Farm Group Category Breakout by Region			
			Red River Valley	North Central	South Central	West
Region			82	194	153	84
Red River Valley	82	16.0				
North Central	194	37.8				
South Central	153	29.8				
West	84	16.4				
Farm Enterprise			-----percentage-----			
Crop	319	62.2	97.6	70.6	51.0	28.6
Livestock	105	20.5	0.0	16.5	23.5	44.0
Mixed	89	17.3	2.4	12.9	25.5	27.4
Farm Sales						
\$99,999 or less	70	13.6	2.4	13.4	17.0	19.0
\$100,000 - \$249,999	189	36.8	23.2	40.7	36.6	41.7
\$250,000 or over	254	49.5	74.4	45.9	46.4	39.3
Farm Size						
1,600 acres or less	188	36.6	59.8	29.4	38.6	27.4
1,600 acres or over	325	63.4	40.2	70.6	61.4	72.6
Cropland Tenure						
Full tenant	108	21.2	22.0	18.7	21.1	26.5
1-20 percent owned	136	26.7	42.7	29.0	20.4	16.9
21-40 percent owned	113	22.1	23.2	20.7	21.7	25.3
41 percent or over owned	153	30.0	12.2	31.6	36.8	31.3
Farm Income						
Negative	51	9.9	4.9	8.2	9.2	20.2
\$0 - \$24,999	101	19.7	12.2	18.0	21.6	27.4
\$25,000 - \$49,999	109	21.2	12.2	23.7	24.2	19.0
\$50,000 or more	252	49.1	70.7	50.0	45.1	33.3
Debt-to-asset Ratio						
0 - 40 percent	161	31.4	37.8	27.8	36.6	23.8
41 - 70 percent	201	39.2	46.3	41.2	35.3	34.5
71 percent or more	151	29.4	15.9	30.9	28.1	41.7
Farmer Age						
34 years or younger	91	17.7	14.6	20.6	16.3	16.7
35 - 44 years	152	29.6	34.1	25.8	30.1	33.3
45 years or older	270	52.6	51.2	53.6	53.6	50.0

TABLE 4. CURRENT ASSETS AND CURRENT LIABILITIES, QUARTILE VALUES FOR 2003, MEDIAN VALUES FOR 2001 AND 2002, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	2003					2003				
	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median
	Current Farm Assets (\$)					Current Farm Liabilities (\$)				
All Farms	292,173	85,498	163,272	146,374	138,633	49,132	179,990	99,997	96,972	98,804
Region										
Red River Valley	454,842	155,370	275,846	247,720	218,795	85,414	249,309	148,716	136,693	142,996
North Central	260,154	84,511	159,999	141,307	116,444	51,574	170,220	93,953	95,961	81,555
South Central	259,270	76,785	148,732	131,429	136,612	38,652	161,013	84,799	94,943	108,956
West	239,729	77,778	135,917	125,104	136,788	41,182	184,479	94,625	64,012	75,340
Farm Enterprise										
Crop	345,143	108,168	194,622	169,025	148,129	61,130	209,570	119,491	103,524	109,535
Livestock	173,977	57,080	95,528	99,712	97,498	32,252	114,203	61,774	70,069	64,165
Mixed	233,950	76,252	148,894	126,351	128,620	47,379	161,013	94,468	100,783	88,542
Farm Sales										
\$99,999 or less	67,592	25,667	43,100	42,635	49,310	15,457	56,227	33,885	34,119	36,285
\$100,000-\$249,999	165,902	81,306	126,557	120,752	112,004	41,808	120,996	77,680	86,753	85,064
\$250,000 or over	422,059	176,522	274,297	253,626	239,022	91,125	263,282	163,376	151,073	161,967
Farm Size										
1,600 acres or less	155,722	47,738	93,858	78,479	79,543	29,711	114,334	63,932	57,013	62,810
1,601 acres or over	363,626	137,391	221,528	180,336	173,123	71,937	222,689	126,760	116,177	120,587
Cropland Tenure										
Full tenant	215,340	51,937	108,168	113,401	119,612	24,825	140,930	63,070	64,012	95,195
1-20 percent owned	349,096	120,764	198,594	180,251	164,345	78,269	226,908	131,344	125,517	135,648
21-40 percent owned	372,006	111,498	211,403	186,585	160,467	66,138	227,379	125,266	113,800	98,804
41 percent or over owned	251,015	73,861	146,766	118,110	119,701	37,798	137,476	80,698	73,688	76,604
Net Farm Income										
Negative	134,465	40,899	81,306	70,059	94,872	40,485	160,195	80,621	85,919	107,881
\$0-\$24,999	120,770	42,100	76,252	90,214	99,781	29,939	112,409	58,594	73,485	72,810
\$25,000-\$49,999	173,234	75,166	127,291	122,456	138,655	41,857	133,997	77,680	74,938	83,694
\$50,000 or more	419,361	177,903	271,285	247,720	248,026	74,903	231,535	138,181	118,407	113,230
Debt-to-Asset Ratio										
0-40 percent	391,052	121,635	226,895	186,562	206,953	26,831	120,589	65,681	59,617	53,985
41-70 percent	293,856	94,440	176,394	157,204	142,660	66,138	219,504	121,676	113,583	109,535
71 percent or more	184,090	58,433	112,738	105,000	96,521	59,451	184,626	120,645	116,177	124,404
Farmer Age										
34 years or younger	161,507	45,370	106,983	89,091	93,994	28,128	116,400	63,385	66,255	69,441
35-44 years	352,588	110,916	209,680	173,409	157,724	62,709	227,254	123,991	115,480	116,895
45 years or older	309,118	87,805	169,330	149,757	139,414	47,557	181,440	104,431	95,989	101,486

TABLE 5. LIQUIDITY MEASURES, QUARTILE VALUES FOR 2003, MEDIAN VALUES FOR 2001 AND 2002, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2003			2002 Median	2001 Median	2003			2002 Median	2001 Median
	Upper Quartile	Lower Quartile	Median			Upper Quartile	Lower Quartile	Median		
	Current Ratio					Working Capital(\$)				
All Farms	2.4	1.1	1.4	1.3	1.2	113,431	7,341	39,712	29,099	21,910
Region										
Red River Valley	2.8	1.1	1.6	1.4	1.3	210,007	21,115	92,277	70,108	31,973
North Central	2.1	1.1	1.4	1.2	1.2	96,892	5,528	36,007	21,826	15,037
South Central	2.6	1.1	1.5	1.2	1.2	114,092	7,341	32,944	19,647	18,343
West	2.3	1.1	1.4	1.4	1.4	80,188	4,345	26,744	30,991	38,517
Farm Enterprise										
Crop	2.6	1.1	1.5	1.3	1.2	140,947	8,472	53,866	33,688	17,967
Livestock	2.1	1.0	1.4	1.3	1.4	77,988	-403	26,187	22,995	24,571
Mixed	2.0	1.0	1.3	1.3	1.3	90,926	3,468	26,383	27,339	33,710
Farm Sales										
\$99,999 or less	2.0	0.9	1.4	1.2	1.2	24,028	-3,219	11,776	9,428	9,413
\$100,000-\$249,999	2.3	1.1	1.4	1.3	1.2	75,471	6,985	30,839	24,032	20,527
\$250,000 or over	2.6	1.1	1.5	1.4	1.3	210,008	18,568	89,852	64,141	52,266
Farm Size										
1,600 acres or less	2.3	0.9	1.5	1.2	1.1	54,811	-3,665	20,554	11,354	10,450
1,601 acres or over	2.5	1.1	1.4	1.3	1.3	142,220	12,796	64,153	45,370	36,621
Cropland Tenure										
Full tenant	2.4	1.0	1.5	1.3	1.2	68,572	-2,047	23,225	23,030	13,223
1-20 percent owned	1.9	1.1	1.4	1.2	1.1	120,672	11,072	60,424	37,543	21,209
21-40 percent owned	2.5	1.1	1.4	1.3	1.2	162,204	9,361	56,565	28,583	25,878
41 percent or over owned	2.8	1.1	1.5	1.3	1.4	110,566	8,516	32,598	29,879	29,378
Net Farm Income										
Negative	1.4	0.8	1.0	0.9	0.8	18,173	-24,930	2,042	-9,933	-16,275
\$0-\$24,999	1.9	0.9	1.2	1.1	1.2	27,105	-8,805	11,155	6,891	10,450
\$25,000-\$49,999	1.8	1.0	1.3	1.3	1.3	58,179	-2,079	25,078	21,826	28,335
\$50,000 or more	3.0	1.3	1.7	1.6	1.9	216,576	46,820	102,105	78,800	103,880
Debt-to-Asset Ratio										
0-40 percent	6.8	1.9	2.9	2.9	3.5	298,845	55,334	132,161	113,342	123,086
41-70 percent	1.7	1.1	1.4	1.3	1.2	96,634	15,375	41,189	29,679	21,947
71 percent or more	1.3	0.8	1.0	0.9	0.9	26,744	-19,020	4,312	-10,144	-13,188
Farmer Age										
34 years or younger	2.3	1.1	1.5	1.4	1.3	60,769	8,438	28,550	24,438	22,047
35-44 years	2.2	1.1	1.4	1.3	1.2	118,064	9,629	49,143	30,429	18,293
45 years or older	2.6	1.0	1.4	1.3	1.2	132,810	4,804	47,830	29,254	25,448

TABLE 6. TOTAL ASSETS AND TOTAL LIABILITIES, QUARTILE VALUES FOR 2003, MEDIAN VALUES FOR 2001 AND 2002 NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	2003					2003				
	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median
	Total Farm Assets(\$)					Total Farm Liabilities(\$)				
All Farms	985,889	403,319	612,437	575,606	543,860	176,047	476,008	305,268	284,828	287,068
Region										
Red River Valley	1,556,642	510,866	884,387	799,018	833,862	235,650	609,470	367,964	361,852	389,476
North Central	890,452	425,075	583,419	553,297	508,048	175,450	449,509	314,305	286,991	262,075
South Central	889,039	377,017	541,340	523,601	525,730	150,580	462,335	273,502	273,946	296,070
West	908,416	303,382	522,548	551,016	549,193	193,069	485,992	261,743	256,435	259,034
Farm Enterprise										
Crop	1,100,100	424,942	673,448	618,089	576,724	178,686	487,332	319,119	290,160	292,847
Livestock	706,818	309,971	496,922	494,570	477,006	153,734	439,199	251,724	271,254	260,389
Mixed	806,474	327,459	542,990	551,016	539,633	194,529	447,803	284,586	269,502	281,070
Farm Sales										
\$99,999 or less	412,068	135,939	278,088	301,602	290,499	78,651	221,452	148,298	146,272	164,005
\$100,000-\$249,999	627,467	340,632	465,221	488,074	459,624	159,505	360,522	247,229	250,838	256,410
\$250,000 or over	1,346,328	645,230	925,437	927,396	915,842	289,150	623,970	419,674	418,345	403,818
Farm Size										
1,600 acres or less	576,994	256,466	411,925	361,453	367,137	114,325	327,583	210,632	200,076	200,384
1,601 acres or over	1,116,291	509,993	752,720	719,557	700,265	229,306	552,169	373,129	336,264	340,189
Cropland Tenure										
Full tenant	521,858	194,023	302,549	328,887	316,279	80,316	311,458	200,924	189,523	216,630
1-20 percent owned	1,022,952	472,776	630,968	607,928	562,851	233,187	541,415	360,640	319,892	329,254
21-40 percent owned	1,159,989	495,408	757,631	694,326	629,079	201,146	544,388	362,288	359,771	316,698
41 percent or over owned	1,073,866	464,707	706,818	680,366	657,631	179,326	507,024	318,370	277,186	305,929
Net Farm Income										
Negative	539,421	231,576	390,691	406,133	438,396	152,922	427,691	284,586	269,502	305,098
\$0-\$24,999	542,990	268,251	412,795	441,854	396,498	161,366	352,560	227,193	241,262	240,288
\$25,000-\$49,999	647,184	327,459	457,098	510,078	517,755	156,465	402,246	254,123	257,052	261,083
\$50,000 or more	1,330,961	624,640	890,614	849,715	915,842	227,210	554,134	362,787	321,507	329,900
Debt-to-Asset Ratio										
0-40 percent	1,318,851	485,604	817,574	774,403	717,702	74,253	302,583	166,898	161,437	144,037
41-70 percent	1,022,906	424,967	647,184	611,138	618,779	227,622	552,169	351,810	319,043	319,826
71 percent or more	627,066	279,083	457,462	442,935	383,308	248,825	533,954	386,699	391,933	354,597
Farmer Age										
34 years or younger	534,974	201,807	334,869	353,399	344,575	114,190	328,010	247,229	215,018	222,508
35-44 years	1,059,169	452,056	675,763	594,629	563,957	200,997	546,867	361,925	323,045	314,602
45 years or older	1,088,525	457,501	667,379	644,594	628,784	180,583	479,986	317,888	277,186	287,950

TABLE 7. SOLVENCY MEASURES, QUARTILE VALUES FOR 2003, MEDIAN VALUES FOR 2001 AND 2002, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2003					2003					2003				
	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median
	Debt-to-Asset (%)					Equity-to-Asset (%)					Debt-to-Equity				
All Farms	35.7	74.8	54.3	53.3	55.5	64.3	25.2	45.7	46.7	44.5	0.6	3.0	1.2	1.1	1.2
Region															
Red River Valley	35.7	61.6	45.6	47.1	49.9	64.3	38.4	54.4	52.9	50.1	0.6	1.6	0.8	0.9	1.0
North Central	37.8	74.5	57.8	55.2	58.0	62.2	25.5	42.2	44.8	42.0	0.6	2.9	1.4	1.2	1.4
South Central	27.9	75.1	51.2	53.9	56.4	72.1	24.9	48.8	46.1	43.6	0.4	3.0	1.0	1.2	1.3
West	41.7	84.8	63.2	56.8	54.9	58.3	15.2	36.8	43.2	45.1	0.7	5.6	1.7	1.3	1.2
Farm Enterprise															
Crop	32.9	69.1	49.8	50.5	55.2	67.1	30.9	50.2	49.5	44.8	0.5	2.2	1.0	1.0	1.2
Livestock	42.4	79.2	62.1	58.8	56.2	57.6	20.8	37.9	41.2	43.8	0.7	3.8	1.6	1.4	1.3
Mixed	36.1	81.2	60.8	58.4	55.3	63.9	18.8	39.2	41.6	44.7	0.6	4.3	1.6	1.4	1.2
Farm Sales															
\$99,999 or less	46.3	82.3	64.3	60.5	62.4	53.7	17.7	35.7	39.5	37.6	0.9	4.6	1.8	1.5	1.7
\$100,000-\$249,999	36.3	77.6	56.6	55.9	59.5	63.7	22.4	43.4	44.1	40.5	0.6	3.5	1.3	1.3	1.5
\$250,000 or over	32.9	69.2	50.1	49.4	51.4	67.1	30.8	49.9	50.6	48.6	0.5	2.2	1.0	1.0	1.1
Farm Size															
1,600 acres or less	36.3	79.7	60.4	58.8	63.3	63.7	20.3	39.6	41.2	36.7	0.6	3.9	1.5	1.4	1.7
1,601 acres or over	35.4	69.7	51.4	51.5	51.8	64.6	30.3	48.6	48.5	48.2	0.5	2.3	1.1	1.1	1.1
Cropland Tenure															
Full tenant	37.4	79.9	61.6	59.8	63.8	62.6	20.1	38.4	40.2	36.2	0.6	4.0	1.6	1.5	1.8
1-20 percent owned	37.8	74.3	58.3	53.9	56.6	62.2	25.7	41.7	46.1	43.4	0.6	2.9	1.4	1.2	1.3
21-40 percent owned	32.8	72.1	50.1	53.7	53.4	67.2	27.9	49.9	46.3	46.6	0.5	2.6	1.0	1.2	1.1
41 percent or over owned	27.9	69.7	49.5	48.0	51.4	72.1	30.3	50.5	52.0	48.6	0.4	2.3	1.0	0.9	1.1
Net Farm Income															
Negative	61.2	85.6	75.2	74.8	71.2	38.8	14.4	24.8	25.2	28.8	1.6	5.9	3.0	3.0	2.5
\$0-\$24,999	44.3	81.9	65.5	61.6	64.4	55.7	18.1	34.5	38.4	35.6	0.8	4.5	1.9	1.6	1.8
\$25,000-\$49,999	45.0	79.8	63.3	55.9	57.1	55.0	20.2	36.7	44.1	42.9	0.8	4.0	1.7	1.3	1.3
\$50,000 or more	26.9	59.3	42.5	44.2	43.3	73.1	40.7	57.5	55.8	56.7	0.4	1.5	0.7	0.8	0.8
Debt-to-Asset Ratio															
0-40 percent	12.8	33.8	24.9	23.4	24.7	87.2	66.2	75.1	76.6	75.3	0.1	0.5	0.3	0.3	0.3
41-70 percent	46.8	62.2	55.5	55.1	54.7	53.2	37.8	44.5	44.9	45.3	0.9	1.6	1.2	1.2	1.2
71 percent	76.9	91.8	82.9	83.4	85.5	23.1	8.2	17.1	16.6	14.5	3.3	11.2	4.8	5.0	5.9
Farmer Age															
34 years or younger	47.4	81.0	72.7	63.8	64.3	52.6	19.0	27.3	36.2	35.7	0.9	4.3	2.7	1.8	1.8
35-44 years	39.8	73.8	53.1	57.2	56.0	60.2	26.2	46.9	42.8	44.0	0.7	2.8	1.1	1.3	1.3
45 years or older	27.9	67.7	49.6	48.5	51.4	72.1	32.3	50.4	51.5	48.6	0.4	2.1	1.0	0.9	1.1

TABLE 8. RATE OF RETURN ON ASSETS AND RATE OF RETURN ON EQUITY PROFITABILITY MEASURES, QUARTILE VALUES FOR 2003, MEDIAN VALUES FOR 2001 AND 2002, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2003					2003				
	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median
	Return on Farm Assets(%)					Return on Equity(%)				
All Farms	11.3	2.8	7.0	5.7	4.1	18.1	0.0	8.4	4.4	3.2
Region										
Red River Valley	12.0	5.7	9.1	11.4	6.3	19.3	6.8	11.7	17.8	6.8
North Central	12.3	3.6	7.1	6.6	3.3	22.5	0.4	8.7	6.7	1.4
South Central	12.1	2.7	6.8	4.0	3.3	20.8	0.0	8.5	1.1	2.5
West	8.7	-0.5	4.2	2.3	5.0	9.9	-11.6	0.5	0.0	6.4
Farm Enterprise										
Crop	13.5	5.0	9.5	8.0	4.0	23.6	4.8	12.0	8.9	2.6
Livestock	6.2	0.4	3.6	2.8	4.5	8.3	-4.2	1.0	0.0	4.1
Mixed	7.7	1.4	4.6	2.2	4.2	14.4	-3.6	3.1	-1.2	3.8
Farm Sales										
\$99,999 or less	6.0	-3.2	2.8	0.8	0.3	7.6	-14.9	0.0	-5.6	-4.6
\$100,000-\$249,999	9.7	2.1	5.4	4.7	3.6	14.4	-0.7	5.6	2.8	3.8
\$250,000 or over	12.9	5.7	9.2	8.4	5.4	21.8	6.3	12.2	9.7	4.3
Farm Size										
1,600 acres or less	10.1	0.6	5.6	3.6	2.7	15.7	-4.6	6.3	0.0	2.1
1,601 acres or over	12.1	3.6	7.7	6.4	4.6	19.3	1.9	9.3	6.0	3.5
Cropland Tenure										
Full tenant	14.6	1.1	6.8	6.5	3.7	28.9	-5.3	7.1	4.6	5.1
1-20 percent owned	12.1	4.1	9.1	8.3	4.0	24.5	3.7	12.1	9.7	2.9
21-40 percent owned	12.1	3.8	8.0	6.3	4.7	18.2	1.0	10.1	4.7	3.1
41 percent or over owned	8.4	2.1	5.5	3.6	4.0	11.4	0.0	5.9	1.6	2.8
Net Farm Income										
Negative	-2.4	-9.1	-5.9	-4.1	-4.7	-9.7	-48.3	-30.2	-21.5	-21.2
\$0-\$24,999	3.3	-0.5	2.0	1.1	1.6	0.0	-9.3	-3.3	-3.8	-3.4
\$25,000-\$49,999	9.0	4.4	5.9	5.9	5.5	15.9	2.8	6.7	5.5	4.8
\$50,000 or more	15.0	8.1	10.5	11.1	9.3	26.8	9.6	15.1	15.5	11.3
Debt-to-Asset Ratio										
0-40 percent	12.1	4.4	9.0	6.8	5.1	14.4	4.1	9.6	7.1	4.9
41-70 percent	12.5	4.2	7.1	6.5	4.9	22.4	2.3	9.6	6.4	2.8
71 percent or more	9.0	-0.3	4.2	3.5	0.7	26.9	-13.1	0.0	0.0	-3.6
Farmer Age										
34 years or younger	15.1	2.6	7.9	9.9	4.3	37.3	-3.0	9.8	15.7	4.8
35-44 years	12.4	3.1	7.7	6.4	4.1	21.3	0.0	11.3	6.0	4.1
45 years or older	10.3	2.8	6.4	4.9	4.1	14.7	0.0	7.4	2.8	2.5

TABLE 9. OPERATING PROFIT MARGIN AND NET FARM INCOME PROFITABILITY MEASURES, QUARTILE VALUES FOR 2003, MEDIAN VALUES FOR 2001 AND 2002, NORTH DAKOTA FARM BUSINESS MANAGEMENT PROGRAM PARTICIPANTS.

Farm Group	2003					2003				
	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median
	Operating Profit Margin(%)					Net Farm Income(\$)				
All Farms	26.2	8.2	17.4	14.5	12.1	102,568	18,879	49,181	38,079	27,729
Region										
Red River Valley	25.8	12.0	18.9	23.4	13.6	173,587	42,565	79,869	92,958	41,629
North Central	27.1	9.9	18.6	15.6	9.5	97,059	23,756	50,134	43,967	22,230
South Central	26.7	9.7	16.3	11.9	11.7	98,765	15,692	46,147	27,498	22,167
West	21.7	-1.4	11.1	8.8	15.9	54,722	4,745	26,094	23,019	34,531
Farm Enterprise										
Crop	27.4	11.3	18.5	16.4	10.1	134,445	36,533	71,260	60,591	28,042
Livestock	23.8	2.2	13.9	12.5	17.1	42,571	7,403	25,242	16,935	24,917
Mixed	20.0	5.3	14.8	8.2	13.2	61,903	9,979	31,011	17,645	29,405
Farm Sales										
\$99,999 or less	24.7	-15.3	10.7	4.2	5.3	22,633	982	11,365	8,630	8,299
\$100,000-\$249,999	23.1	7.3	15.5	13.9	11.7	54,220	17,309	36,136	32,808	23,515
\$250,000 or over	27.6	12.3	19.1	18.1	13.4	154,596	51,193	96,963	77,044	56,278
Farm Size										
1,600 acres or less	24.7	2.2	15.8	11.4	8.5	60,340	9,297	29,103	20,755	18,392
1,601 acres or over	26.6	11.2	18.3	16.2	12.8	129,452	30,494	62,734	51,374	34,498
Cropland Tenure										
Full tenant	25.8	1.3	12.9	13.0	6.5	64,637	11,543	31,746	33,509	22,230
1-20 percent owned	22.2	9.2	17.0	15.6	9.7	129,728	33,901	66,988	57,002	30,936
21-40 percent owned	28.0	10.2	19.2	14.4	12.2	143,053	26,685	60,526	40,870	30,720
41 percent or over owned	28.4	9.5	19.5	15.7	16.1	77,031	18,089	41,638	27,449	27,729
Net Farm Income										
Negative	-7.0	-28.9	-14.9	-15.8	-13.1	-5,136	-22,027	-11,250	-9,590	-14,514
\$0-\$24,999	10.8	-1.4	5.4	4.4	4.6	18,493	6,306	12,528	13,325	12,959
\$25,000-\$49,999	21.6	11.2	15.7	14.4	15.6	44,000	30,916	36,383	36,687	34,572
\$50,000 or more	30.3	18.3	23.4	24.6	22.5	156,466	68,864	103,391	92,958	81,200
Debt-to-Asset Ratio										
0-40 percent	29.8	12.4	21.7	19.6	17.8	150,831	44,006	82,772	60,244	52,196
41-70 percent	26.1	11.9	18.7	15.7	13.4	104,949	23,849	54,220	42,612	32,069
71 percent or more	18.6	-0.7	10.1	8.8	1.8	47,453	3,727	25,438	16,044	7,123
Farmer Age										
34 years or younger	26.6	5.9	17.2	19.1	10.9	61,155	13,477	32,912	38,632	22,622
35-44 years	26.3	8.3	17.5	13.9	12.2	118,655	22,986	55,953	38,596	29,405
45 years or older	25.5	9.2	17.4	14.4	12.2	109,315	20,089	50,881	35,396	28,428

TABLE 10. REPAYMENT CAPACITY MEASURES, QUARTILE VALUES FOR 2003, MEDIAN VALUES FOR 2001 AND 2002, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2003					2003				
	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median
	Term Debt Coverage Ratio					Term Debt and Capital Repayment Margin(\$)				
All Farms	2.6	1.0	1.6	1.3	1.0	65,812	-1,918	21,012	10,628	301
Region										
Red River Valley	3.0	1.2	2.1	2.3	1.0	100,534	9,066	61,557	53,135	3,029
North Central	2.9	0.9	1.6	1.2	0.7	57,051	-3,214	17,151	5,393	-10,636
South Central	3.6	1.1	1.8	1.3	1.1	74,079	1,238	24,319	9,771	1,897
West	1.6	0.5	1.1	0.9	1.4	25,392	-16,152	3,600	-4,645	11,547
Farm Enterprise										
Crop	3.4	1.1	2.0	1.6	0.9	92,760	3,650	37,494	26,345	-4,888
Livestock	1.6	0.6	1.1	0.9	1.3	26,990	-15,409	3,601	-5,337	6,688
Mixed	2.2	0.9	1.3	0.9	1.2	36,874	-3,808	10,942	-3,849	6,108
Farm Sales										
\$99,999 or less	2.3	0.6	1.1	0.9	1.0	17,738	-12,121	1,850	-3,749	-908
\$100,000-\$249,999	2.3	0.9	1.3	1.2	0.9	34,395	-3,504	11,282	6,693	-3,511
\$250,000 or over	3.4	1.1	2.0	1.7	1.2	106,582	7,873	56,522	37,984	7,509
Farm Size										
1,600 acres or less	2.9	0.9	1.4	1.2	1.0	35,105	-3,328	9,542	5,393	-908
1,601 acres or over	2.9	1.0	1.7	1.4	1.1	87,589	37	34,395	16,604	2,611
Cropland Tenure										
Full tenant	3.1	0.9	1.6	1.3	1.0	39,956	-3,385	11,348	6,693	1,391
1-20 percent owned	2.7	1.0	1.8	1.5	1.0	88,773	673	29,420	20,041	-2,103
21-40 percent owned	3.3	1.0	1.9	1.4	1.0	93,132	-1,360	33,835	17,907	556
41 percent or over owned	2.8	0.9	1.4	1.2	1.1	51,817	-3,314	15,071	7,673	1,698
Net Farm Income										
Negative	0.9	-0.2	0.3	0.1	0.1	-3,435	-44,387	-25,227	-29,042	-32,998
\$0-\$24,999	1.5	0.6	1.1	0.7	0.7	11,952	-13,974	1,058	-9,929	-10,455
\$25,000-\$49,999	2.3	0.9	1.2	1.3	1.2	24,803	-2,723	8,290	9,246	5,196
\$50,000 or more	3.9	1.7	2.4	2.4	2.0	108,857	31,745	64,874	53,846	40,021
Debt-to-Asset Ratio										
0-40 percent	6.0	1.9	3.1	2.6	2.2	108,024	21,487	57,641	33,184	24,844
41-70 percent	2.3	1.0	1.6	1.3	1.0	58,505	-681	22,601	11,572	560
71 percent or more	1.5	0.5	1.0	0.7	0.6	17,696	-19,310	1,058	-14,192	-16,403
Farmer Age										
34 years or younger	3.4	1.0	1.8	1.6	1.1	38,496	-1,498	15,582	15,880	1,483
35-44 years	2.4	1.0	1.5	1.3	1.0	68,859	-1,042	17,767	8,473	-1,743
45 years or older	3.0	0.9	1.6	1.3	1.0	75,434	-2,482	24,382	10,605	165

TABLE 11. ASSET TURNOVER AND OPERATING EXPENSE AND DEPRECIATION EXPENSE EFFICIENCY MEASURES (AS A PERCENTAGE OF GROSS FARM INCOME), QUARTILE VALUES FOR 2003, MEDIAN VALUES FOR 2001 AND 2002, FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2003					2003					2003				
	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median
	Asset Turnover					Operating Expense(%)					Depreciation Expense (%)				
All Farms	.59	.29	.42	.37	.38	57.9	75.8	66.8	68.8	70.9	3.2	9.4	5.9	5.6	5.9
Region															
Red River Valley	.67	.40	.50	.50	.47	61.1	74.8	66.8	64.2	72.2	3.9	7.5	5.4	5.0	5.7
North Central	.58	.31	.43	.38	.37	56.3	74.4	65.2	67.6	72.4	3.2	9.1	5.7	4.2	4.8
South Central	.62	.27	.39	.35	.37	56.2	73.9	67.1	70.4	70.9	3.3	11.0	6.2	8.4	6.7
West	.45	.25	.32	.26	.33	61.7	82.4	72.2	71.1	63.8	2.7	12.1	6.3	6.4	7.8
Farm Enterprise															
Crop	.67	.39	.50	.47	.45	58.3	74.1	66.0	67.2	72.7	3.5	8.1	5.6	5.5	5.7
Livestock	.34	.18	.25	.22	.23	54.4	80.4	70.1	70.4	60.3	2.5	13.2	7.0	5.0	6.7
Mixed	.46	.27	.33	.29	.31	59.5	78.3	69.5	73.2	67.6	3.1	12.5	7.3	6.5	6.5
Farm Sales															
\$99,999 or less	.38	.16	.21	.21	.24	46.9	81.6	63.0	67.5	65.9	3.5	15.0	8.3	5.3	6.2
\$100,000-\$249,999	.52	.27	.39	.35	.35	58.0	75.4	67.0	69.4	69.3	2.5	10.0	5.8	5.5	6.0
\$250,000 or over	.64	.35	.49	.46	.44	59.8	74.9	66.7	68.6	72.1	3.9	8.3	5.8	5.7	5.7
Farm Size															
1,600 acres or less	.59	.28	.40	.34	.35	56.6	77.9	66.5	67.5	70.3	3.3	10.0	6.2	5.7	5.7
1,601 acres or over	.58	.30	.43	.39	.39	58.5	74.8	67.0	68.8	70.9	3.2	9.3	5.8	5.5	6.1
Cropland Tenure															
Full tenant	.85	.36	.63	.49	.57	59.2	80.6	69.7	69.0	73.9	2.6	9.3	5.6	5.6	6.0
1-20 percent owned	.64	.41	.54	.49	.49	64.3	74.8	70.0	70.4	75.2	3.9	8.3	5.5	5.0	5.9
21-40 percent owned	.50	.34	.42	.38	.36	58.4	73.8	65.7	69.7	71.5	3.0	8.7	5.9	5.3	5.0
41 percent or over owned	.36	.21	.28	.24	.26	53.9	73.5	62.5	66.4	65.1	3.5	11.6	6.3	6.2	6.2
Net Farm Income															
Negative	.44	.17	.32	.25	.31	83.9	98.3	89.8	86.5	88.2	4.1	15.4	8.3	8.9	9.4
\$0-\$24,999	.48	.21	.32	.26	.37	60.6	80.0	71.9	73.1	75.2	4.1	13.1	8.2	6.3	5.7
\$25,000-\$49,999	.57	.26	.41	.38	.37	59.4	74.4	67.3	69.3	66.8	2.3	9.2	4.6	4.2	5.9
\$50,000 or more	.62	.36	.47	.48	.43	55.9	69.4	62.7	61.9	63.6	3.3	7.5	5.6	5.2	4.9
Debt-to-Asset Ratio															
0-40 percent	.50	.29	.39	.33	.32	55.9	69.9	61.5	63.1	65.7	3.4	9.5	6.2	6.7	6.7
41-70 percent	.56	.29	.44	.40	.38	57.7	73.5	66.4	67.9	68.9	3.0	8.7	5.2	4.6	5.8
71 percent or more	.67	.29	.45	.42	.45	65.6	82.4	73.7	75.8	78.6	3.6	10.0	6.2	5.2	5.7
Farmer Age															
34 years or younger	.73	.35	.51	.50	.46	56.4	75.5	65.2	65.5	72.3	3.0	7.8	5.2	3.3	4.9
35-44 years	.62	.31	.42	.39	.40	58.4	75.3	68.8	70.3	71.1	3.8	8.7	6.2	5.3	6.4
45 years or older	.51	.26	.39	.32	.33	57.8	75.8	66.0	68.6	69.1	3.3	10.4	5.9	6.3	6.0

TABLE 12. INTEREST EXPENSE AND FARM INCOME EFFICIENCY MEASURES (AS A PERCENTAGE OF GROSS FARM INCOME), QUARTILE VALUES FOR 2003, MEDIAN VALUES FOR 2001 AND 2002, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2003					2003				
	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median	Upper Quartile	Lower Quartile	Median	2002 Median	2001 Median
	Interest Expense(%)					Net Farm Income (%)				
All Farms	3.2	8.7	5.6	6.6	7.6	29.7	11.1	19.6	17.3	14.0
Region										
Red River Valley	2.8	6.2	3.9	4.2	6.1	27.2	16.2	21.7	26.0	14.1
North Central	3.4	8.7	5.8	7.0	8.4	31.4	13.3	22.4	21.1	13.5
South Central	2.3	8.4	5.0	6.6	7.6	30.0	11.4	19.1	13.9	12.8
West	5.1	11.2	7.4	8.4	8.2	23.4	2.2	12.8	12.7	17.7
Farm Enterprise										
Crop	2.9	6.8	4.7	5.4	7.1	32.1	14.7	22.7	20.8	12.5
Livestock	4.9	13.2	8.7	11.0	8.9	25.9	7.7	13.5	13.1	18.5
Mixed	4.2	9.7	7.5	9.2	9.0	24.3	7.7	16.8	11.7	16.4
Farm Sales										
\$99,999 or less	5.4	16.4	10.5	12.2	11.1	30.0	1.6	17.6	12.9	14.4
\$100,000-\$249,999	3.5	9.1	6.0	7.0	8.4	28.2	10.1	19.4	17.0	14.9
\$250,000 or over	2.9	6.9	4.7	5.4	6.5	30.0	13.8	20.8	18.9	13.8
Farm Size										
1,600 acres or less	3.2	9.1	5.8	7.4	8.3	29.9	7.6	20.4	17.2	14.0
1,601 acres or over	3.2	8.4	5.4	6.3	7.4	29.5	12.7	19.3	17.3	13.9
Cropland Tenure										
Full tenant	2.5	6.5	4.6	4.6	6.6	30.6	7.8	18.1	19.2	14.4
1-20 percent owned	3.1	7.4	4.9	5.5	6.7	26.4	12.7	18.9	17.3	11.4
21-40 percent owned	3.2	8.9	5.9	7.1	8.3	30.7	11.4	21.7	16.5	12.7
41 percent or over owned	4.4	11.7	7.9	9.0	10.3	31.8	12.6	20.6	16.9	16.5
Net Farm Income										
Negative	6.0	15.6	9.7	12.3	12.0	-3.4	-18.9	-7.9	-8.2	-10.2
\$0-\$24,999	5.3	11.3	8.3	8.6	8.2	13.7	3.4	9.1	8.5	8.5
\$25,000-\$49,999	3.6	9.5	6.3	7.0	7.7	27.8	13.8	18.9	17.7	18.3
\$50,000 or more	2.5	6.3	4.0	4.7	5.4	34.8	19.8	26.8	27.6	25.0
Debt-to-Asset Ratio										
0-40 percent	1.4	4.4	3.0	3.4	3.9	36.0	19.6	27.9	26.3	22.7
41-70 percent	4.3	8.8	6.4	7.7	8.8	28.8	13.5	20.1	18.4	14.9
71 percent or more	5.3	11.7	8.2	9.5	9.8	18.0	1.8	11.2	8.7	3.3
Farmer Age										
34 years or younger	3.0	8.8	5.3	5.5	6.8	33.4	10.2	23.8	25.4	14.8
35-44 years	3.5	8.4	5.3	7.0	7.7	28.4	10.6	18.8	16.1	13.8
45 years or older	3.2	8.7	5.9	6.7	8.1	29.4	12.0	20.1	16.9	13.8

REFERENCES

- Baltezore, James F., Cole R. Gustafson, and Andrew Swenson. 1993. *Financial Benchmarks of North Dakota Farm Operators in 1991*. Agricultural Economics Report No. 298, Department of Agricultural Economics, North Dakota State University, Fargo.
- Farm Financial Standards Task Force. 1991. *Financial Guidelines for Agricultural Producers: Recommendations of the Farm Financial Standards Task Force*. American Bankers Association, Agricultural Bankers Division, Washington, DC.
- North Dakota Agricultural Statistics Service. 2001. *North Dakota Agricultural Statistics*. North Dakota State University, Fargo, and U.S. Department of Agriculture, Washington, DC.
- Swenson, Andrew L. 2001. *Financial Characteristics of North Dakota Farms, 1998-2000*. Agribusiness and Applied Economics Report No. 467, Department of Agribusiness and Applied Economics, North Dakota State University, Fargo, Website <http://agecon.lib.umn.edu/>.
- Swenson, Andrew L. 1998. *Financial Characteristics of North Dakota Farms, 1995-1997*. Agricultural Economics Report No. 403. Department of Agricultural Economics, North Dakota State University, Fargo. Website <http://agecon.lib.umn.edu/>
- Swenson, Andrew L., and Cole R. Gustafson. 1995. *Financial Characteristics of North Dakota Farms, 1992-1994*. Agricultural Economics Report No. 341, Department of Agricultural Economics, North Dakota State University, Fargo. Website <http://agecon.lib.umn.edu/>