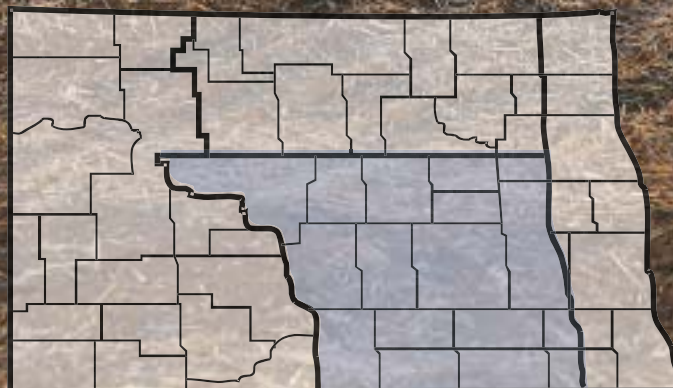


2016 ANNUAL REPORT

South Central North Dakota

North Dakota Farm and Ranch Business
Management Education



www.ndfarmmanagement.com



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NORTH DAKOTA

FARM BUSINESS MANAGEMENT EDUCATION

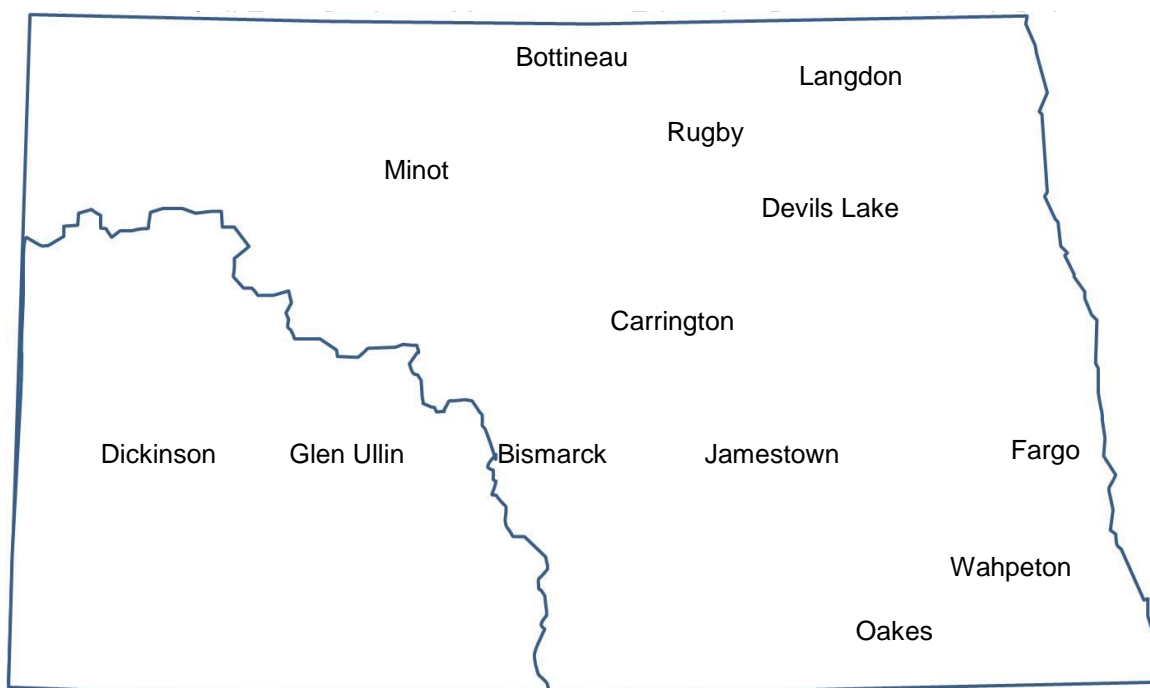
REGION 3 – SOUTH CENTRAL AVERAGES

2016 ANNUAL REPORT

The South Central (Region 3) farm business analyses were submitted by the following instructors represented by their cooperating schools.

<u>School</u>	<u>Instructor</u>
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Oakes (JVCTC)	Lance Brower
Wahpeton (NDSCS)	Keith Torgerson

This report was made possible by the farm families who cooperated with their farm management instructors in getting the records for 2016 closed out on a timely basis. The farm management instructors cited above generated the Finpack year-end farm analyses. Andrew Swenson, NDSU Extension Service, databased the Finpack analyses of farms and generated the comparative tables for this report.



2016 South Central Report

North Dakota Farm Business Management Education

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INTRODUCTION

This report summarizes the individual farm records of the specific region or the whole state as identified on the acknowledgement page. The current financial status of farm operators and net returns from each crop and livestock enterprise is reported. In addition to the average of all farms, the averages for the high, middle, and low-income groups are also presented. All participating farm/ranch families are provided a copy of the regional averages report. They can compare their own Finan business analysis to the regional and/or state averages report and study the areas that may need management improvement. A review of the comparative information may reveal how certain aspects of the business or enterprises excel and help answer why they are profitable.

The regional and state averages reports are divided into three major sections; farm operators' reports, crop reports and livestock reports. Explanatory notes precede each section. The first section contains 15 tables with whole farm financial and operator information. The last three tables of this section are financial summaries in which farms are categorized by gross revenue, age of operator and farm type, respectively. The second section provides performance information on crop enterprises. The third section provides performance results on livestock enterprises. Lastly, figures 1 through 10 provide trend information for various measures of finance and/or production.

The 2016 summary reports are based upon data generated by the Finan individual farm analysis completed by farm/ranch families enrolled in the statewide Adult Farm and Ranch Business Management Education program in North Dakota. Instructors pooled the individual business analysis and submitted the combined school data to the FINPACK Center located at North Dakota State University. The FINPACK Center did provide schools with local averages in order to assist instructors with obtaining relevant local management trends.

Farm/ranch families enrolled in the statewide program are encouraged to request assistance from their instructors to determine short-term cash flow and long-term projections. Each instructor has access to FINPACK computer programs, which can be used to generate annual or multi-year (cash flow) farm plans and/or long term alternative projections.

This is the 28th year that the regional averages have been generated in North Dakota based upon the four regions shown in the state map on the cover of this publication. A regional report has been generated and published for Regions 2 – North Central, 3 – South Central and 4 - Western identified on the North Dakota map. Farms in Region 1 – Red River Valley are located within the Red River Valley. Those farms are contained in a combined Minnesota-North Dakota Red River Valley report. The state averages report includes all farms participating in the North Dakota Farm Business Management Education Program that were represented in the regional averages and also those farms which were processed and submitted after the March deadline date. All of these reports may be ordered from Farm Business Management, P.O. Box 6022, Bismarck, ND, 58506-6022 for \$5 per copy. The reports are available online at www.ndfarmmanagement.com.

EXPLANATORY NOTES FOR THE FARM OPERATORS' REPORTS

The tables include the same number of farms, which were all of the farms whose records were judged to be of sufficient quality to be included in the overall report. However, the balance sheets include only sole proprietors. Partnerships and corporations are excluded because some debt is held outside of the business causing potential misinterpretations of the financial statement. The number of farms included in each of the crop tables varies because all farms do not have the same enterprises. Also, some farmers' records were complete enough to be included in the whole-farm tables, but at times, these same farmers' crop records were not complete enough to include in the respective crop and livestock tables.

Rounding of individual items for the report may have caused minor discrepancies with the printed totals which are calculated before rounding.

Farm Income Statement

This statement is a summary of income, expenses, or resultant profit or loss from farming operations during the calendar year.

The first section of the table lists cash farm income from all sources. There are three possible sources of cash income from crops. The first is income from cash sales. The second is income from crops stored under government loan programs when the loan is treated as income for the year in which the crop was stored. If the crop value has not been entered as income when it was stored, then it would be treated as cash income in the year it was sold. The third is Net Government Sales, which refers to the difference between income credited in the year a crop was stored and the actual cash income received at the time it was sold. There are two categories of cash income from livestock sales. "Raised" steer, hogs, and lambs refer to animals raised from birth to market weight on the farm. "Finished" animals refers to those purchased as feeders and fed to market weight. Government payments are grouped as "Direct, CCP & ACRE pymts;" "LDP payments" which are loan deficiency payments that may be received on production when local prices are below the county loan rate for the crop; "Other government payments" which refers to all other government payments such as disaster payments but not including CRP payments; and CRP payments.

The second section of the income statement lists cash expenses. "Labor" includes only labor hired. "Interest" includes only interest actually paid. No opportunity charges on farm equity capital or unpaid labor are included.

The difference between "Gross Cash Farm Income" and "Total Cash Expense" is the "Net Cash Farm Income." This is net farm income on a cash basis.

The last two sections of the income statement deal with the non-cash changes in the farm business. The "Inventory Changes" and "Depreciation" sections are used to convert the cash income statement (Net Cash Farm Income) derived from the first two sections into an accrual income statement. The final adjustment is for "Gain or loss on capital sales." The bottom line, labeled "Net farm Income," represents the return to the operator's and family's unpaid labor, management, and equity capital (net worth). In other words, it represents the return to all of the resources that are owned by the farm family and hence, not purchased or paid a wage. However, it does not include any debt forgiveness or asset repossessions.

Inventory Changes

This is the detailed statement of inventory changes that is summarized in the income statement. It includes beginning and ending inventories and the calculated changes.

Depreciation

This is the detailed statement of depreciation and other capital adjustments that is summarized in the income statement. It includes beginning and ending inventories, and capital sales and purchases.

Profitability Measures

This table shows profitability when capital assets are valued at cost. Various measures of performance are calculated. In the previous tables no opportunity costs are used. In this table, opportunity costs for labor, capital, and management are used. The measures and their components are described below.

"Rate of return on assets" is the "Return on farm assets" divided by "Average farm assets."

"Rate of return on equity" is the "Return of farm equity" divided by "Average farm equity."

"Operating profit margin" is the "Return on farm assets" divided by "Value of farm production."

"Asset turnover rate" is the "Value of farm production" divided by "Average farm assets."

"Farm interest expense" is the accrual interest cost, usually it will be different from the cash interest expense.

"Value of operator's labor and management" is an opportunity cost for unpaid operator's labor and management that is used in the calculation of several financial performance measures. A value of \$20,000 per full time operator plus 5% of value of farm production is used.

"Return of farm assets" is calculated by adding "Farm interest expense" to "Net farm income" and then subtracting the "Value of operator's labor and management."

"Average farm assets" is the average of beginning and ending total farm assets.

"Return on farm equity" is calculated by subtracting the "Value of operator's labor and management" from "Net farm income."

"Average farm equity" is the average of beginning and ending farm net worth.

"Value of farm production" is gross cash farm income minus purchased feed and feeder livestock and adjusted for inventory changes in crops, market livestock, accounts receivable and breeding livestock.

Liquidity & Repayment Capacity Measures

The table shows several measures of liquidity and repayment capacity. Calculation of repayment capacity starts with net farm income from operations and adds back the non-cash expense of depreciation. Personal income is also added. Family living expenses, personal debt payments and income taxes paid are subtracted to determine the capital debt repayment capacity.

Balance Sheets

The ending balance sheet statements and solvency measures are presented for sole proprietors only. Current assets are valued at market price at the time of the inventory which is December 31. In balance sheet at cost values, intermediate and long-term assets that are depreciable are valued at cost remaining (amount remaining to be depreciated, plus salvage value). Raised breeding livestock is valued at conservative market replacement costs. Land is valued at cost or conservative market value. In balance sheet at market values, the intermediate and long term assets are listed at market value, and deferred income tax liabilities are estimated.

Statement of Cash Flows

This statement organizes cash inflows and outflows by the following three categories: Operating activities, investing activities, and financing activities.

Financial Standards Measures

The Farm Financial Standards Task Force recommended the use of these financial measures to evaluate a farm's financial position and financial performance. These measures are grouped by: Liquidity, Solvency, Profitability, Repayment Capacity, and Efficiency.

Liquidity

Liquidity is the ability of the farm business to meet financial obligations in a timely manner, without disrupting normal business operations.

Current Ratio: The current ratio shows the value of current assets relative to current liabilities. It measures the extent current farm assets, if liquidated, would cover liabilities that are due during the next 12 months. The higher the ratio, the safer the short term position.

Working Capital: Working capital shows the dollar amount that current assets can or cannot cover current liabilities. It approximates the amount of capital available to purchase crop and livestock inputs and equipment necessary to produce farm products. The amount of working capital considered adequate must be related to the size of the farm business.

Working Capital to Gross Revenues: Measures operating capital available against the size of the business.

Solvency

Solvency is important in evaluating the risk position of the farm and family and in considering future borrowing capacity. Solvency measures the ability of the business to pay off all debts if liquidated.

Farm Debt To Asset Ratio: The farm debt to asset ratio measures the financial position or solvency of the farm or ranch by comparing the total liabilities to the total assets. It measures the portion of the farm assets that have debt against them. A higher ratio is considered an indicator of greater financial risk.

Farm Equity To Asset Ratio: The farm equity to asset ratio measures the farm equity relative to the value of the farm assets. It measures the proportion of the farm assets financed by the owner's equity whereas the debt to asset ratio measured the proportion of farm assets financed by debt.

Farm Debt To Equity Ratio: The farm debt to equity ratio measures the amount of farm debt relative to the amount of farm equity. It measures the amount of debt the farm has for every dollar of equity.

Profitability

Profitability is the measure of the value of goods produced by the business in relation to the cost of resources used in the production. Profitability calculated on a cost basis does not consider changes in market valuation of capital assets such as machinery and breeding livestock.

Rate of Return on Assets: Rate of return on assets is, in effect, the interest rate your farm earned in the past year on all money invested in the business. If assets are valued at market value, the rate of return on investment can be looked at as the "opportunity cost" of investing money in the farm instead of alternative investments. If assets are valued at cost (cost less depreciation), the rate of return represents the actual return on the average dollar invested in the business.

Rate of Return on Equity: Rate of return on equity is, in effect, the interest rate your investment in the business earned in the past year. If assets are valued at market value, this return can be compared with returns available if the assets were liquidated and invested in alternative investments. If assets are valued at cost, this represents the actual return to the amount of equity capital you have invested in the farm business.

If your return on assets is higher than your average interest rate, your return on equity will be still higher, reflecting the fact that there are residual returns to equity capital after paying all interest expense. This is positive use of financial leverage. If your return on assets is lower than your average interest rate, your return on equity will be still lower, reflecting the fact that borrowed capital did not earn enough to pay its interest cost. This is negative financial leverage. Profitability becomes a key concern when substantial debt capital is used in the business.

Operating Profit Margin: The operating profit margin is a measure of the profit margin from the employment of assets. It measures how effectively you are employing assets relative to the value of output produced. Low prices, high operating expenses, or production problems are all possible causes of a low operating profit margin.

Net Farm Income: Net farm income represents the returns to labor, management, and equity capital invested in the business. Without income from other sources, or appreciation of capital asset values, net farm income must cover family living expenses and taxes, or net worth will decrease.

EBITDA: This factor stands for: Earnings Before Interest, Taxes, Depreciation and Amortization. This represents a measure of earnings available for debt repayment.

Repayment Capacity

Repayment capacity shows the borrower's ability to repay term debts (longer than one year) on time. This includes non-farm income, and is therefore not a measure of business performance alone.

Capital Debt Repayment Capacity: Measures the amount generated from farm and non-farm sources, to cover debt repayment and capital replacement.

Capital Debt Repayment Margin: The amount of money remaining after all operating expenses, taxes, family living costs, and scheduled debt payments have been made. It is the money left, after paying all expenses, which is available for purchasing/financing new machinery, equipment, land or livestock.

Replacement Margin: The replacement margin is the amount of income remaining after paying principal and interest on term loans and unfunded (cash) capital purchases.

Term Debt Coverage Ratio: The term debt coverage ratio measures the ability of the business to cover all term debt payments. A number less than 100 percent indicates that the business, plus non-farm income, is not generating sufficient cash to meet all of the debt payments, after family living expenses and taxes have been paid. A number greater than 100 indicates the business is generating sufficient cash to pay all term debt obligations with some surplus margin remaining.

Replacement Margin Coverage Ratio: This represents the ability to term debt and unfunded capital purchases. A ratio under 1.0 indicated that you did not generate enough income to cover term debt payments and unfunded capital purchases.

Efficiency

These measures reflect the relationships between expense and income items to revenue and the efficiency of the farm business with regard to the use of cash and capital assets.

Asset Turnover: Asset turnover is a measure of how efficiently assets are used in the business. A farm with good operating profit margin and asset turnover will show a strong rate of return on farm assets. If operating profit margin is low, the asset turnover rate must be strong, or vice versa, to maintain the rate of return on assets.

Operating Expense Ratio: This ratio indicates the percent of the gross farm income, which is used to pay the operating expenses. Operating expenses do not include interest or depreciation expense.

Depreciation Expense Ratio: This ratio indicates the percent of the gross farm income, which is used to cover the depreciation expense.

Interest Expense Ratio: This ratio indicates the percent of the gross farm income, which is used to pay farm interest expenses.

Net Farm Income Ratio: The ratio indicates the percent of the gross farm income, which remains after all expenses.

Crop Production and Marketing Summary

This table contains three sections. The first section reports averages for total acres owned, crop land by tenure and total pasture acres. The next two sections show average price received and average yields for major crops. These tables are sorted on the basis of "Net farm income."

Household and Personal Expenses

For those farms that keep records, the household and personal expenses are summarized. The farms are grouped in the same ranking as in the Income Statement. Since not all farms keep these records, the number of farms in the low profit and high profit groups may be different. Averages are determined by the number of farms keeping these records. The Statement of Cash Flows presents calculated family living and includes all farms. Income tax paid is also shown in the Statement of Cash Flows and includes all farms.

Operator and Labor Information

This table reports the average for the number of operators per farm, the operator's age, and the number of years farming.

Nonfarm Summary

This table also reports nonfarm income. The figure reported is the average over all farms not just those reporting nonfarm income.

Farm Income Statement
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	149	29	30	30
Cash Farm Income				
Barley	34,497	8,189	13,463	124,373
Barley, Malting	243	745	395	-
Beans, Black Turtle	935	-	-	2,931
Beans, Pinto	16,921	3,996	2,462	65,651
Buckwheat	156	-	-	-
Canola	9,420	-	7,125	21,711
Corn	131,754	6,148	63,474	375,206
Flax	1,858	4,390	1,816	1,634
Hay, Alfalfa	4,446	7	-	-
Hay, Grass	122	363	5	214
Hay, Small Grain	115	-	-	569
Peas, Field	6,420	10,389	4,387	9,353
Rye	128	48	536	-
Soybeans	221,224	71,232	118,826	522,320
Sunflowers	6,731	875	5,119	18,688
Sunflowers, Confectionary	2,325	-	-	11,547
Wheat, Durum	3,331	2,303	-	1,163
Wheat, Spring	71,853	26,008	49,877	163,547
Wheat, Winter	587	1,758	259	533
Rented Out	4,186	1,066	5,008	11,611
Soybeans, Food	3,533	-	5,414	9,321
Flax, Organic	316	1,625	-	-
Miscellaneous crop income	197	-	-	75
Beef Bulls	2,346	-	10,988	662
Beef Cow-Calf, Beef Calves	32,358	34,754	45,968	21,292
Beef Replacement Heifers	5,176	9,407	-	4,797
Beef Backgrounding	27,363	54,219	6,367	37,129
Beef Finishing	14,789	104	-	14,612
Beef Finish Yearlings	214	-	907	154
Beef Stockers	1,635	138	-	6,342
Dairy, Milk	24,461	3,164	-	9,788
Dairy, Dairy Calves	2,292	9,958	-	-
Dairy Replacement Heifers	46	234	-	-
Sheep, Feeder Lamb Prod, Fdr Lambs	115	-	-	103
Sheep, Market Lamb Prod, Mkt Lambs	239	-	-	-
Beef Finish Cull Cows	558	-	2,770	-
Dairy Backgrounding	166	-	-	827
Cull breeding livestock	8,146	6,199	6,517	11,570
Misc. livestock income	4,535	45	1,654	15,430
CCC market loan gain	5,095	-	-	25,308
Crop government payments	44,732	12,542	23,781	109,386
CRP payments	1,422	849	5	2,278
Other government payments	7,611	5,211	1,127	22,188
Custom work income	9,329	10,738	12,090	16,317
Patronage dividends, cash	4,702	2,138	5,665	8,423
Crop insurance income	24,501	15,386	4,215	80,621
Property insurance income	2,201	3,448	-	3,481
Sale of resale items	97	501	-	-
Livestock insurance inc	190	509	-	-
Other farm income	8,440	5,938	4,457	14,835
Gross Cash Farm Income	754,059	314,624	404,678	1,745,987

Farm Income Statement (continued)
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	149	29	30	30
Cash Farm Expense				
Seed	93,527	31,624	53,239	226,496
Fertilizer	81,077	23,518	37,041	214,572
Crop chemicals	53,441	17,753	34,001	127,246
Crop insurance	27,199	8,081	16,003	65,412
Drying expense	1,906	113	1,179	4,747
Storage	506	165	119	1,393
Irrigation energy	349	371	317	584
Crop marketing	495	733	486	552
Crop miscellaneous	2,597	493	4,986	6,058
Consultants	1,736	-	971	7,103
Feeder livestock purchase	16,457	31,850	2,221	6,704
Purchased feed	19,596	19,625	11,300	11,444
Breeding fees	1,163	358	3,293	243
Veterinary	4,107	3,898	3,881	3,544
Supplies	3,570	881	820	2,893
Livestock custom hire	171	-	-	465
Livestock machinery leases	33	-	124	-
Livestock leases	162	830	-	-
Grazing fees	60	306	-	-
Hauling and trucking	969	-	-	-
Livestock marketing	1,224	1,508	1,630	476
Interest	36,698	22,600	21,757	78,985
Fuel & oil	22,741	12,468	13,793	46,230
Repairs	47,443	31,212	30,619	100,278
Custom hire	15,429	15,892	11,679	17,914
Hired labor	28,612	12,688	5,620	66,120
Land rent	98,177	35,982	52,747	250,748
Machinery leases	9,139	6,704	3,367	18,032
Building leases	1,620	91	-	5,581
Real estate taxes	4,828	2,816	4,079	7,434
Farm insurance	10,525	6,711	5,183	22,410
Utilities	9,084	5,244	5,612	16,592
Dues & professional fees	3,120	1,854	1,642	6,807
Purchase of resale items	1,108	-	-	-
Miscellaneous	11,259	7,894	5,793	27,739
Total cash expense	610,126	304,263	333,501	1,344,805
Net cash farm income	143,933	10,361	71,177	401,182
Inventory Changes				
Prepays and supplies	-5,630	197	-5,646	-39,242
Accounts receivable	-4,263	345	1,675	-25,456
Hedging accounts	1,201	-973	226	8,229
Other current assets	1,117	-260	-910	-
Crops and feed	118,792	-3,676	73,049	434,016
Market livestock	-16,778	-15,478	-10,925	-25,323
Breeding livestock	3,260	4,970	-3,309	9,541
Other assets	-3,606	-2,100	755	-20,117
Accounts payable	-1,634	-2,348	-2,148	4,985
Accrued interest	701	2,584	-1,265	-657
Total inventory change	93,159	-16,739	51,502	345,976
Net operating profit	237,092	-6,378	122,678	747,158
Depreciation				
Machinery and equipment	-57,645	-18,237	-26,934	-156,999
Titled vehicles	-4,282	-3,442	-2,573	-7,385
Buildings and improvements	-7,495	-1,177	-2,561	-26,728
Total depreciation	-69,422	-22,856	-32,068	-191,111
Net farm income from operations	167,670	-29,234	90,610	556,047
Gain or loss on capital sales	-1,096	-660	-	-5,073
Net farm income	166,574	-29,894	90,610	550,974

Inventory Changes
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	149	29	30	30
Net cash farm income	143,933	10,361	71,177	401,182
Crops and Feed				
Ending inventory	591,131	124,777	269,518	1,803,380
Beginning inventory	472,340	128,453	196,470	1,369,364
Inventory change	118,792	-3,676	73,049	434,016
Market Livestock				
Ending inventory	56,835	58,510	61,788	60,434
Beginning inventory	73,613	73,988	72,713	85,757
Inventory change	-16,778	-15,478	-10,925	-25,323
Accts Receivable				
Ending inventory	21,988	6,119	15,061	16,608
Beginning inventory	26,251	5,774	13,386	42,064
Inventory change	-4,263	345	1,675	-25,456
Prepaid Expenses and Supplies				
Ending inventory	62,827	10,885	15,969	177,640
Beginning inventory	68,457	10,689	21,615	216,883
Inventory change	-5,630	197	-5,646	-39,242
Hedging Activities				
Ending inventory	4,838	315	708	16,245
Withdrawals	4,046	677	368	17,272
Beginning inventory	4,620	1,039	402	16,764
Deposits	3,062	926	448	8,524
Gain or loss	1,201	-973	226	8,229
Other Current Assets				
Ending inventory	3,560	1,071	40	-
Beginning inventory	2,443	1,331	951	-
Inventory change	1,117	-260	-910	-
Breeding Livestock				
Ending inventory	118,387	125,942	113,870	152,857
Capital sales	6,146	16,422	409	519
Beginning inventory	108,183	124,591	97,196	133,437
Capital purchases	13,091	12,803	20,392	10,398
Depreciation, capital adjust	3,260	4,970	-3,309	9,541
Other Capital Assets				
Ending inventory	58,632	14,721	40,082	126,888
Capital sales	7,054	3,407	-	31,640
Beginning inventory	63,608	19,976	33,703	158,077
Capital purchases	5,685	252	5,623	20,569
Depreciation, capital adjust	-3,606	-2,100	755	-20,117
Accounts Payable				
Beginning inventory	13,852	6,661	15,273	17,614
Ending inventory	15,486	9,009	17,422	12,628
Inventory change	-1,634	-2,348	-2,148	4,985
Accrued Interest				
Beginning inventory	15,126	10,114	8,995	35,388
Ending inventory	14,425	7,530	10,259	36,045
Inventory change	701	2,584	-1,265	-657
Total inventory change	93,159	-16,739	51,502	345,976
Net operating profit	237,092	-6,378	122,678	747,158

Depreciation
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	149	29	30	30
Net operating profit	237,092	-6,378	122,678	747,158
Machinery and Equipment				
Ending inventory	636,249	218,334	342,164	1,653,749
Capital sales	6,104	4,567	599	17,801
Beginning inventory	649,535	229,523	346,425	1,680,946
Capital purchases	50,463	11,615	23,272	147,603
Depreciation, capital adjust.	-57,645	-18,237	-26,934	-156,999
Titled Vehicles				
Ending inventory	38,177	29,745	18,662	74,767
Capital sales	963	3,169	33	1,115
Beginning inventory	38,150	33,401	18,177	72,207
Capital purchases	5,272	2,954	3,091	11,060
Depreciation, capital adjust.	-4,282	-3,442	-2,573	-7,385
Buildings and Improvements				
Ending inventory	242,711	52,573	96,647	699,560
Capital sales	-	-	-	-
Beginning inventory	233,692	46,483	96,804	670,821
Capital purchases	16,515	7,267	2,404	55,467
Depreciation, capital adjust.	-7,495	-1,177	-2,561	-26,728
Total depreciation, capital adj.	-69,422	-22,856	-32,068	-191,111
Net farm income from operations	167,670	-29,234	90,610	556,047
Gain or loss on capital sales	-1,096	-660	-	-5,073
Net farm income	166,574	-29,894	90,610	550,974

Profitability Measures
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	149	29	30	30
Profitability (assets valued at cost)				
Net farm income from operations	167,670	-29,234	90,610	556,047
Rate of return on assets	6.0 %	-3.5 %	5.3 %	8.5 %
Rate of return on equity	7.3 %	-10.6 %	6.5 %	11.1 %
Operating profit margin	18.0 %	-15.2 %	17.1 %	24.2 %
Asset turnover rate	33.1 %	22.8 %	31.0 %	35.2 %
Farm interest expense	35,997	20,015	23,022	79,642
Value of operator lbr and mgmt.	56,658	28,289	36,453	126,247
Return on farm assets	147,009	-37,507	77,178	509,442
Average farm assets	2,465,238	1,081,204	1,456,626	5,998,367
Return on farm equity	111,012	-57,523	54,157	429,800
Average farm equity	1,521,773	541,879	827,314	3,881,456
Value of farm production	816,862	246,280	451,950	2,108,728

Liquidity & Repayment Capacity Measures
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	149	29	30	30
Liquidity				
Current ratio	1.65	1.08	1.68	1.59
Working capital	214,431	16,195	162,376	492,322
Working capital to gross inc	32.0 %	5.4 %	34.9 %	28.3 %
Current assets	542,077	226,167	399,433	1,332,129
Current liabilities	327,646	209,973	237,057	839,806
Gross revenues (accrual)	670,148	297,755	465,470	1,739,164
Repayment capacity				
Net farm income from operations	167,670	-29,234	90,610	556,047
Depreciation	69,422	22,856	32,068	191,111
Personal income	43,035	51,318	38,924	39,993
Family living/owner withdrawals	-63,994	-47,938	-50,885	-109,651
Cash discrepancy	-344	-548	-1,140	161
Payments on personal debt	-3,920	-4,176	-3,142	-5,600
Income taxes paid	-12,211	-7,367	-11,217	-18,967
Interest on term debt	19,164	13,678	19,082	40,016
Capital debt repayment capacity	219,166	-862	115,440	692,950
Scheduled term debt payments	-114,873	-52,857	-57,802	-331,832
Capital debt repayment margin	104,292	-53,719	57,638	361,118
Cash replacement allowance	-40,626	-8,763	-20,568	-100,624
Replacement margin	63,666	-62,483	37,070	260,494
Term debt coverage ratio	1.91	-0.02	2.00	2.09
Replacement coverage ratio	1.41	-0.01	1.47	1.60

Balance Sheet at Cost Values
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	137	29	30	22
Assets				
Current Farm Assets				
Cash and checking balance	28,653	24,490	36,348	53,565
Prepaid expenses & supplies	38,339	10,885	15,969	103,264
Growing crops	269	933	40	-
Accounts receivable	11,864	6,119	15,061	15,808
Hedging accounts	3,970	315	708	15,468
Crops held for sale or feed	403,212	124,777	269,518	1,095,147
Market livestock held for sale	54,249	58,510	61,788	48,877
Other current assets	1,519	138	-	-
Total current farm assets	542,077	226,167	399,433	1,332,129
Intermediate Farm Assets				
Breeding livestock	95,848	125,942	113,870	105,814
Machinery and equipment	505,723	218,334	342,164	1,324,599
Titled vehicles	27,969	29,745	18,662	48,171
Other intermediate assets	11,580	5,417	19,002	4,620
Total intermediate farm assets	641,121	379,437	493,697	1,483,205
Long Term Farm Assets				
Farm land	660,217	420,153	488,561	1,622,568
Buildings and improvements	178,919	52,573	96,647	537,307
Other long-term assets	20,995	9,303	21,080	19,050
Total long-term farm assets	860,131	482,029	606,287	2,178,926
Total Farm Assets	2,043,328	1,087,633	1,499,418	4,994,259
Total Nonfarm Assets	275,585	174,208	146,697	532,797
Total Assets	2,318,913	1,261,841	1,646,114	5,527,056
Liabilities				
Current Farm Liabilities				
Accrued interest	13,039	7,530	10,259	35,727
Accounts payable	14,059	9,009	17,422	15,758
Current notes	231,096	153,594	169,443	598,698
Principal due on term debt	69,452	39,839	39,933	189,622
Total current farm liabilities	327,646	209,973	237,057	839,806
Total intermediate farm liabs	150,115	141,360	103,710	402,380
Total long term farm liabilities	391,817	196,549	300,742	1,042,456
Total farm liabilities	869,578	547,882	641,509	2,284,642
Total nonfarm liabilities	47,319	58,540	32,791	63,898
Total liabilities	916,897	606,422	674,300	2,348,540
Net worth (farm and nonfarm)	1,402,016	655,419	971,814	3,178,516
Net worth change	102,283	-5,106	69,801	346,906
Percent net worth change	8 %	-1 %	8 %	12 %
Ratio Analysis				
Current farm liabilities / assets	60 %	93 %	59 %	63 %
Intermediate farm liab. / assets	23 %	37 %	21 %	27 %
Long term farm liab. / assets	46 %	41 %	50 %	48 %
Total debt to asset ratio	40 %	48 %	41 %	42 %

Statement Of Cash Flows
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	149	29	30	30
Beginning cash (farm & nonfarm)	22,526	29,227	34,327	-4,296
Cash Provided By Operating Activities				
Gross cash farm income	754,059	314,624	404,678	1,745,987
Total cash farm expense	-610,126	-304,263	-333,501	-1,344,805
Net cash from hedging transactions	984	-249	-80	8,748
Cash provided by operating	144,916	10,112	71,097	409,930
Cash Provided By Investing Activities				
Sale of breeding livestock	6,210	16,749	409	519
Sale of machinery & equipment	5,854	4,164	599	16,681
Sale of titled vehicles	954	2,800	33	1,425
Sale of farm land	27,383	2,736	-	133,358
Sale of farm buildings	-	-	-	-
Sale of other farm assets	4,652	3,190	-	19,919
Sale of nonfarm assets	8,345	7,408	3,495	13,813
Purchase of breeding livestock	-13,091	-12,803	-20,392	-10,398
Purchase of machinery & equip.	-50,463	-11,615	-23,272	-147,603
Purchase of titled vehicles	-5,272	-2,954	-3,091	-11,060
Purchase of farm land	-60,934	-45,676	-4,333	-200,459
Purchase of farm buildings	-16,515	-7,267	-2,404	-55,467
Purchase of other farm assets	-5,685	-252	-5,623	-20,569
Purchase of nonfarm assets	-10,142	-16,648	-4,564	-15,712
Cash provided by investing	-108,704	-60,166	-59,143	-275,552
Cash Provided By Financing Activities				
Money borrowed	730,403	478,879	266,676	1,989,474
Principal payments	-713,441	-452,139	-248,590	-1,957,204
Personal income	43,035	51,318	38,924	39,993
Family living/owner withdrawals	-63,994	-47,938	-50,885	-109,651
Income and social security tax	-12,369	-7,401	-11,217	-20,130
Capital contributions	16	-	-	-
Capital distributions	-2,123	-	-2,533	-
Dividends paid	-	-	-	-
Cash gifts and inheritances	5,354	24,931	113	867
Gifts given	-3,065	-	-	-10,427
Other cash flows	23	-	-	-
Cash provided by financing	-16,160	47,649	-7,513	-67,079
Net change in cash balance	20,052	-2,405	4,441	67,298
Ending cash (farm & nonfarm)	42,234	26,273	37,628	63,163
Discrepancy	344	548	1,140	-161

Financial Standards Measures
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	149	29	30	30
Liquidity				
Current ratio	1.65	1.08	1.68	1.59
Working capital	214,431	16,195	162,376	492,322
Working capital to gross inc	32.0 %	5.4 %	34.9 %	28.3 %
Solvency (cost)				
Farm debt to asset ratio	43 %	50 %	43 %	46 %
Farm equity to asset ratio	57 %	50 %	57 %	54 %
Farm debt to equity ratio	0.74	1.02	0.75	0.84
Profitability (cost)				
Rate of return on farm assets	6.0 %	-3.5 %	5.3 %	8.5 %
Rate of return on farm equity	7.3 %	-10.6 %	6.5 %	11.1 %
Operating profit margin	18.0 %	-15.2 %	17.1 %	24.2 %
Net farm income	166,574	-29,894	90,610	550,974
EBITDA	273,090	13,638	145,700	826,800
Repayment Capacity				
Capital debt repayment capacity	219,166	-862	115,440	692,950
Capital debt repayment margin	104,292	-53,719	57,638	361,118
Replacement margin	63,666	-62,483	37,070	260,494
Term debt coverage ratio	1.91	-0.02	2.00	2.09
Replacement coverage ratio	1.41	-0.01	1.47	1.60
Efficiency				
Asset turnover rate (cost)	33.1 %	22.8 %	31.0 %	35.2 %
Operating expense ratio	68.0 %	95.4 %	68.7 %	61.1 %
Depreciation expense ratio	8.1 %	7.7 %	6.9 %	9.0 %
Interest expense ratio	4.2 %	6.7 %	4.9 %	3.7 %
Net farm income ratio	19.5 %	-10.0 %	19.5 %	25.9 %

Crop Production and Marketing Summary
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	149	29	30	30
Acreage Summary				
Total acres owned	894	452	657	1,834
Total crop acres	2,013	777	1,130	4,854
Crop acres owned	535	241	399	1,063
Crop acres cash rented	1,429	523	656	3,738
Crop acres share rented	49	13	74	53
Total pasture acres	540	599	559	924
Percent crop acres owned	27 %	31 %	35 %	22 %
Mach invest/crop acre cost	338	326	319	359
Average Price Received (Cash Sales Only)				
Soybeans per bushel	8.75	8.66	8.53	8.71
Corn per bushel	3.18	2.93	3.01	3.26
Wheat, Spring per bushel	4.68	5.01	4.53	4.87
Barley per bushel	4.65	-	-	4.49
Beans, Pinto per cwt	26.04	-	-	26.67
Peas, Field per bushel	7.27	-	-	-
Canola per cwt	16.37	-	-	-
Sunflowers per cwt	19.46	-	-	-
Hay, Grass per ton	45.11	-	-	-
Flax per bushel	9.42	-	-	-
Wheat, Durum per bushel	7.16	-	-	-
Wheat, Winter per bushel	2.74	-	-	-
Average Yield Per Acre				
Soybeans (bushel)	42.58	37.76	42.84	43.34
Corn (bushel)	158.71	-	154.41	160.92
Wheat, Spring (bushel)	57.25	-	46.96	61.63
Pasture (aum)	1.08	0.851	0.791	1.25
Barley (bushel)	77.26	-	61.34	81.93
Hay, Mixed Alfalfa/Grass (ton)	1.46	1.73	-	1.23
Beans, Pinto (cwt)	15.23	-	-	14.61
Hay, Grass (ton)	1.46	-	-	1.53
Sunflowers (cwt)	21.62	-	-	21.87
Hay, Alfalfa (ton)	3.43	-	1.98	2.97
Peas, Field (bushel)	43.23	-	47.98	45.95
Hay, Small Grain (ton)	2.18	-	-	-
Canola (cwt)	21.72	-	-	21.72
Corn Silage (ton)	17.14	-	-	-
Wheat, Durum (bushel)	55.66	-	-	-
Wheat, Winter (bushel)	45.87	-	-	-
Oats (bushel)	80.47	-	-	-

Household and Personal Expenses
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	42	5	14	6
Average family size	2.8	3.6	2.5	3.2
Family Living Expenses				
Food and meals expense	7,886	8,225	7,762	9,102
Medical care	4,217	2,923	4,357	6,637
Health insurance	7,029	3,036	5,047	13,400
Cash donations	2,167	458	2,810	3,060
Household supplies	5,936	4,430	5,299	5,488
Clothing	1,511	551	938	3,391
Personal care	5,292	2,419	2,391	13,854
Child / Dependent care	162	-	47	596
Alimony and child support	-	-	-	-
Gifts	1,430	195	973	2,593
Education	1,225	634	1,494	1,919
Recreation	3,479	1,201	3,317	3,586
Utilities (household share)	3,052	3,102	2,097	4,558
Personal vehicle operating exp	2,419	2,744	2,339	2,582
Household real estate taxes	183	-	148	-
Dwelling rent	57	480	-	-
Household repairs	2,166	2,138	1,153	555
Personal interest	264	286	-	306
Disability / Long term care ins	356	60	425	-
Life insurance payments	1,446	270	1,559	3,284
Personal property insurance	220	-	153	167
Miscellaneous	1,079	3,690	226	1,748
Total cash family living expense	51,576	36,842	42,535	76,827
Family living from the farm	24	-	71	-
Total family living	51,600	36,842	42,607	76,827
Other Nonfarm Expenditures				
Income taxes	13,340	3,215	11,296	28,336
Furnishing & appliance purchases	60	-	-	-
Nonfarm vehicle purchases	2,776	-	2,286	2,500
Nonfarm real estate purchases	1,699	-	-3,429	-
Other nonfarm capital purchases	296	-	1,000	1,500
Nonfarm savings & investments	-4,439	18	-1,397	1,377
Total other nonfarm expenditures	13,733	3,233	9,756	33,713
Total cash family living investment & nonfarm capital purch	65,309	40,075	52,292	110,539

Operator and Labor Information
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	149	29	30	30
Operator Information				
Average number of operators	1.1	1.1	1.0	1.3
Average age of operators	45.6	43.8	45.8	45.6
Average number of years farming	21.6	17.1	21.6	23.8
Results Per Operator				
Working capital	355,606	14,676	162,376	933,385
Total assets (cost)	2,547,664	1,143,543	1,646,114	5,301,355
Total liabilities	906,515	549,570	674,300	1,735,684
Net worth (cost)	1,641,150	593,974	971,814	3,565,670
Gross farm income	773,552	269,841	465,470	1,679,113
Total farm expense	621,681	296,334	374,860	1,240,129
Net farm income from operations	151,872	-26,493	90,610	438,985
Net nonfarm income	38,980	46,507	38,924	31,573
Family living & tax withdrawals	69,336	50,617	63,242	101,413
Total acres owned	810.0	409.3	656.9	1,448.2
Total crop acres	1,823.5	704.2	1,129.8	3,832.3
Crop acres owned	484.4	218.7	399.2	839.4
Crop acres cash rented	1,294.5	474.0	656.4	2,951.3
Crop acres share rented	44.6	11.6	74.3	41.6
Total pasture acres	489.5	543.1	558.8	729.2
Labor Analysis				
Number of farms	149	29	30	30
Total unpaid labor hours	1,858	1,433	1,767	2,911
Total hired labor hours	1,301	489	207	2,834
Total labor hours per farm	3,159	1,922	1,973	5,746
Unpaid hours per operator	1,683	1,299	1,767	2,298

Nonfarm Summary
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Farm Income)

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	149	29	30	30
Nonfarm Income				
Personal wages & salary	24,426	37,188	29,297	15,469
Net nonfarm business income	6,318	6,545	4,367	1,824
Personal rental income	2,712	2,815	1,484	952
Personal interest income	612	32	35	2,817
Personal cash dividends	64	325	5	-
Tax refunds	1,061	2,690	208	439
Nontaxable personal inc.	23	-	-	-
Other nonfarm income	7,841	1,723	3,528	18,492
Total nonfarm income	43,058	51,318	38,924	39,993
Gifts and inheritances	5,354	24,931	113	867

Financial Summary
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Gross Farm Income)

	<u>Avg. Of All Farms</u>	<u>Less than 100,000</u>	<u>100,001 - 250,000</u>	<u>250,001 - 500,000</u>	<u>500,001 - 1,000,000</u>	<u>1,000,001- 2,000,000</u>	<u>Over 2,000,000</u>
Number of farms	149	22	21	33	41	20	12
Income Statement							
Gross cash farm income	754,059	54,475	175,876	360,871	688,164	1,435,784	3,218,645
Total cash farm expense	610,126	58,227	163,871	295,156	554,470	1,114,916	2,617,897
Net cash farm income	143,933	-3,752	12,005	65,715	133,694	320,869	600,748
Inventory change	93,159	23,854	29,729	47,083	68,615	174,776	405,764
Depreciation	-69,422	-3,485	-14,598	-29,702	-56,094	-158,590	-292,399
Net farm income from operations	167,670	16,617	27,137	83,096	146,216	337,055	714,113
Gain or loss on capital sales	-1,096	-45	-	-	1,539	-308	-18,271
Average net farm income	166,574	16,572	27,137	83,096	147,754	336,746	695,841
Median net farm income	90,945	6,732	18,320	95,480	128,039	318,373	635,906
Profitability (cost)							
Rate of return on assets	6.0 %	4.4 %	2.1 %	4.7 %	6.0 %	6.3 %	6.7 %
Rate of return on equity	7.3 %	4.2 %	0.3 %	5.3 %	8.2 %	7.4 %	8.3 %
Operating profit margin	18.0 %	12.1 %	8.0 %	17.9 %	19.0 %	17.8 %	18.6 %
Asset turnover rate	33.1 %	36.3 %	26.8 %	26.1 %	31.6 %	35.6 %	36.2 %
Liquidity & Repayment (end of year)							
Current assets	542,077	75,449	176,333	361,235	573,729	1,461,424	1,982,978
Current liabilities	327,646	50,791	108,723	177,049	400,337	722,580	1,428,140
Current ratio	1.65	1.49	1.62	2.04	1.43	2.02	1.39
Working capital	214,431	24,658	67,610	184,186	173,392	738,844	554,839
Working capital to gross inc	32.0 %	29.5 %	33.3 %	44.7 %	22.9 %	44.5 %	20.0 %
Term debt coverage ratio	1.91	1.28	1.08	1.92	0.91	3.19	3.45
Replacement coverage ratio	1.41	1.19	0.93	1.44	0.79	1.81	2.18
Term debt to EBITDA	1.86	3.19	4.25	2.95	2.55	0.84	1.54
Solvency (end of year at cost)							
Number of sole proprietors	137	22	21	32	41	15	6
Total assets	2,318,913	351,575	792,969	1,887,772	2,675,799	5,334,371	7,195,345
Total liabilities	916,897	196,670	369,424	618,451	1,204,911	1,523,065	3,582,074
Net worth	1,402,016	154,905	423,545	1,269,321	1,470,888	3,811,306	3,613,271
Net worth change	102,283	19,307	48,519	88,439	105,206	221,453	350,641
Farm debt to asset ratio	43 %	60 %	48 %	36 %	49 %	31 %	52 %
Total debt to asset ratio	40 %	56 %	47 %	33 %	45 %	29 %	50 %
Change in earned net worth %	8 %	14 %	13 %	7 %	8 %	6 %	11 %
Nonfarm Information							
Net nonfarm income	43,035	37,751	31,536	71,056	34,004	35,906	38,521
Farms reporting living expenses	42	4	5	14	14	3	2
Total family living expense	51,600	-	31,979	42,364	64,058	-	-
Crop Acres							
Total crop acres	2,013	227	550	1,002	2,081	3,721	7,550
Total crop acres owned	535	34	150	389	684	883	1,440
Total crop acres cash rented	1,429	193	385	580	1,325	2,707	6,085
Total crop acres share rented	49	-	15	33	73	131	25
Machinery value per crop acre	338	115	242	362	278	412	349

Financial Summary
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Age of Operator)

	<u>Avg. Of All Farms</u>	<u>Less Than 31</u>	<u>31 - 40</u>	<u>41 - 50</u>	<u>51 - 60</u>	<u>Over 60</u>
Number of farms	149	28	27	23	39	32
Income Statement						
Gross cash farm income	754,059	276,589	698,037	686,573	1,319,747	578,185
Total cash farm expense	610,126	243,952	601,538	578,560	1,031,866	446,465
Net cash farm income	143,933	32,637	96,498	108,012	287,881	131,720
Inventory change	93,159	58,704	129,958	108,151	100,409	72,650
Depreciation	-69,422	-20,467	-55,280	-66,731	-127,070	-55,865
Net farm income from operations	167,670	70,873	171,176	149,432	261,220	148,505
Gain or loss on capital sales	-1,096	-	-1,651	799	-5,994	3,019
Average net farm income	166,574	70,873	169,525	150,231	255,226	151,525
Median net farm income	90,945	49,296	82,829	83,869	184,324	77,741
Profitability (cost)						
Rate of return on assets	6.0 %	7.3 %	8.6 %	6.7 %	5.4 %	4.9 %
Rate of return on equity	7.3 %	12.1 %	12.6 %	9.1 %	6.3 %	5.3 %
Operating profit margin	18.0 %	17.8 %	18.0 %	17.4 %	17.0 %	21.2 %
Asset turnover rate	33.1 %	40.8 %	47.8 %	38.2 %	31.6 %	23.4 %
Liquidity & Repayment (end of year)						
Current assets	542,077	247,886	508,311	542,734	893,294	446,307
Current liabilities	327,646	154,678	312,114	337,350	594,203	193,459
Current ratio	1.65	1.60	1.63	1.61	1.50	2.31
Working capital	214,431	93,208	196,197	205,384	299,091	252,849
Working capital to gross inc	32.0 %	27.1 %	28.8 %	30.9 %	27.6 %	50.6 %
Term debt coverage ratio	1.91	1.83	2.71	2.42	2.52	0.97
Replacement coverage ratio	1.41	1.73	2.28	1.67	1.64	0.76
Term debt to EBITDA	1.86	2.52	1.59	1.76	1.85	1.93
Solvency (end of year at cost)						
Number of sole proprietors	137	28	25	20	34	30
Total assets	2,318,913	982,195	1,710,954	2,062,315	3,633,785	2,754,027
Total liabilities	916,897	603,368	728,504	924,152	1,394,082	820,870
Net worth	1,402,016	378,827	982,449	1,138,163	2,239,703	1,933,157
Net worth change	102,283	52,693	99,057	125,742	147,037	84,896
Farm debt to asset ratio	43 %	61 %	44 %	47 %	41 %	34 %
Total debt to asset ratio	40 %	61 %	43 %	45 %	38 %	30 %
Change in earned net worth %	8 %	16 %	11 %	12 %	7 %	5 %
Nonfarm Information						
Net nonfarm income	43,035	25,034	44,842	42,475	31,939	71,186
Farms reporting living expenses	42	5	9	3	12	13
Total family living expense	51,600	33,895	49,138	-	55,734	57,207
Crop Acres						
Total crop acres	2,013	1,025	1,912	2,162	3,025	1,622
Total crop acres owned	535	186	168	600	838	733
Total crop acres cash rented	1,429	805	1,725	1,522	2,114	825
Total crop acres share rented	49	34	20	40	74	64
Machinery value per crop acre	338	161	283	277	388	433

Financial Summary
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Farm Type)

	<u>Avg. Of All Farms</u>	<u>Crop</u>	<u>Beef</u>	<u>Crop and Beef</u>	<u>Other</u>
Number of farms	149	90	16	23	17
Income Statement					
Gross cash farm income	754,059	900,923	366,861	512,740	370,587
Total cash farm expense	610,126	727,729	267,536	398,565	313,865
Net cash farm income	143,933	173,194	99,326	114,175	56,722
Inventory change	93,159	164,132	-34,965	-48,725	61,259
Depreciation	-69,422	-93,171	-21,917	-33,856	-37,541
Net farm income from operations	167,670	244,154	42,444	31,594	80,440
Gain or loss on capital sales	-1,096	-2,926	-63	304	5,529
Average net farm income	166,574	241,229	42,381	31,898	85,969
Median net farm income	90,945	135,320	4,185	27,984	13,402
Profitability (cost)					
Rate of return on assets	6.0 %	7.3 %	2.9 %	1.3 %	4.0 %
Rate of return on equity	7.3 %	9.0 %	2.4 %	-0.5 %	5.2 %
Operating profit margin	18.0 %	20.3 %	13.2 %	5.5 %	18.3 %
Asset turnover rate	33.1 %	36.0 %	21.8 %	24.5 %	22.0 %
Liquidity & Repayment (end of year)					
Current assets	542,077	703,925	270,733	381,267	289,945
Current liabilities	327,646	396,601	187,286	266,690	237,621
Current ratio	1.65	1.77	1.45	1.43	1.22
Working capital	214,431	307,325	83,446	114,578	52,324
Working capital to gross inc	32.0 %	35.4 %	25.0 %	24.4 %	14.4 %
Term debt coverage ratio	1.91	2.99	1.18	0.67	0.35
Replacement coverage ratio	1.41	1.97	1.04	0.53	0.32
Term debt to EBITDA	1.86	1.34	3.14	4.11	4.68
Solvency (end of year at cost)					
Number of sole proprietors	137	80	16	23	16
Total assets	2,318,913	2,796,568	1,154,418	1,823,260	2,027,908
Total liabilities	916,897	1,013,843	563,381	684,272	1,206,071
Net worth	1,402,016	1,782,724	591,037	1,138,988	821,837
Net worth change	102,283	151,211	34,827	10,014	83,727
Farm debt to asset ratio	43 %	39 %	51 %	41 %	64 %
Total debt to asset ratio	40 %	36 %	49 %	38 %	59 %
Change in earned net worth %	8 %	9 %	6 %	1 %	11 %
Nonfarm Information					
Net nonfarm income	43,035	45,212	33,124	24,831	57,759
Farms reporting living expenses	42	28	5	8	1
Total family living expense	51,600	54,908	48,248	45,878	-
Crop Acres					
Total crop acres	2,013	2,602	438	1,422	1,051
Total crop acres owned	535	629	174	506	415
Total crop acres cash rented	1,429	1,902	264	880	636
Total crop acres share rented	49	72	-	36	-
Machinery value per crop acre	338	349	357	254	336

EXPLANATORY NOTES FOR CROPS TABLES

The "Crop Enterprise Analysis" tables show the average physical production, gross return, direct costs, overhead costs, and net returns per acre. The "Net Return per Acre" is the "Gross Return per Acre" minus the direct and overhead costs. "Net Return" represents the return to the operator's and family's unpaid labor, management, and equity. It represents the return to all of the resources which are owned by the farm family and hence, not purchased or paid a wage. Net returns are also calculated after a charge for unpaid operator labor and management and after an allocation of direct government payments. The last section of each crop table contains breakeven yield measures which provide useful standards or goals for the individual managers.

There are potentially three tables for each crop depending on the farmer's tenure on the land. The crop tables may be for (1) owned land, (2) cash rented land, and (3) share rented land. Individual farms may have data in all three tables if all three land tenure categories are represented in that farm business. When there are less than five farms with a particular crop and tenure, that table is not included in the report. Farms may be classified into the low 20%, the mid 20%, or the high 20% on the basis of net return per acre. The classification is done separately for each table, i.e., an individual farm may be in the low 20% for one crop, the high 20% for a second, and the middle 20% for a third crop. When there are less than 25 total farms with any particular crop and farmer's tenure, only overall averages are presented.

Several cost items, such as "utilities," "hired labor," and "interest paid," are listed under both "direct" and "overhead" costs because some of these costs are specific to that crop whereas others are general overhead costs of the farm. For example, "Machinery leases" as direct expense refers to machinery leased and used only in that crop enterprise; the most common example is the lease of equipment that is crop specific. However, cost of leasing machinery that is used for the entire farm operation is listed as an overhead cost. Interest payments are likewise divided into those incurred directly for a specific crop and those that are not. "Land Rent" is listed as a direct cost for each crop enterprise on cash rented land. In the case of double cropping, one-half of the rent is charged to each crop.

"Total direct expense per unit" and "Total dir & ovhd exp per unit" are calculated by dividing "Total direct expense per acre" and "Total dir & ovhd expenses per acre," respectively, by "Yield per acre." "With labor & management" is the breakeven yield after direct, overhead and a labor and management charge are considered. "Total exp less govt & oth income" is the breakeven yield after all costs (including a labor and management charge) are reduced by government payments and miscellaneous income.

In the last section of the crop table, "machinery cost per acre" is the sum of fuel, repairs, all custom hire and machinery leases, machinery depreciation and interest on intermediate debt.

Rounding of individual items for the report may have caused minor discrepancies with the calculated totals.

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Barley on Owned Land

	<u>Avg. Of All Farms</u>
Number of farms	10
Acres	259.77
Yield per acre (bu.)	71.36
Operators share of yield %	100.00
Value per bu.	4.40
Total product return per acre	313.62
Crop insurance per acre	43.95
Gross return per acre	357.57
Direct Expenses	
Seed	16.27
Fertilizer	56.10
Crop chemicals	27.54
Crop insurance	17.26
Fuel & oil	10.81
Repairs	16.51
Custom hire	2.04
Operating interest	1.57
Total direct expenses per acre	148.28
Return over direct exp per acre	209.29
Overhead Expenses	
Custom hire	0.44
Hired labor	8.93
Machinery leases	1.08
Building leases	2.29
RE & pers. property taxes	6.96
Farm insurance	4.50
Utilities	4.11
Dues & professional fees	0.76
Interest	11.20
Mach & bldg depreciation	39.82
Miscellaneous	7.28
Total overhead expenses per acre	87.36
Total dir & ovhd expenses per acre	235.64
Net return per acre	121.93
Government payments	25.20
Net return with govt pmts	147.13
Labor & management charge	24.71
Net return over lbr & mgt	122.42
Cost of Production	
Total direct expense per bu.	2.08
Total dir & ovhd exp per bu.	3.30
Less govt & other income	2.33
With labor & management	2.68
Net value per unit	4.40
Machinery cost per acre	67.13
Est. labor hours per acre	1.06

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Barley on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	14
Acres	542.26
Yield per acre (bu.)	79.32
Operators share of yield %	100.00
Value per bu.	4.64
Total product return per acre	367.89
Crop insurance per acre	17.13
Gross return per acre	385.02
Direct Expenses	
Seed	16.75
Fertilizer	58.62
Crop chemicals	32.78
Crop insurance	12.74
Fuel & oil	8.64
Repairs	17.67
Custom hire	5.52
Land rent	66.18
Operating interest	1.90
Miscellaneous	2.24
Total direct expenses per acre	223.04
Return over direct exp per acre	161.98
Overhead Expenses	
Custom hire	0.52
Hired labor	11.99
Machinery leases	1.50
Building leases	1.90
Farm insurance	3.86
Utilities	3.65
Dues & professional fees	2.83
Interest	0.87
Mach & bldg depreciation	35.27
Miscellaneous	6.37
Total overhead expenses per acre	68.75
Total dir & ovhd expenses per acre	291.80
Net return per acre	93.23
Government payments	24.98
Net return with govt pmts	118.20
Labor & management charge	22.23
Net return over lbr & mgt	95.97
Cost of Production	
Total direct expense per bu.	2.81
Total dir & ovhd exp per bu.	3.68
Less govt & other income	3.15
With labor & management	3.43
Net value per unit	4.64
Machinery cost per acre	65.16
Est. labor hours per acre	0.95

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Beans, Pinto on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	11
Acres	604.01
Yield per acre (cwt.)	15.07
Operators share of yield %	100.00
Value per cwt.	27.08
Total product return per acre	407.92
Crop insurance per acre	36.09
Gross return per acre	444.01
Direct Expenses	
Seed	41.31
Fertilizer	37.46
Crop chemicals	47.38
Crop insurance	15.34
Fuel & oil	8.05
Repairs	24.08
Land rent	75.07
Operating interest	7.80
Total direct expenses per acre	256.70
Return over direct exp per acre	187.31
Overhead Expenses	
Hired labor	15.88
Machinery leases	7.78
Building leases	0.31
Farm insurance	4.05
Utilities	4.39
Dues & professional fees	0.46
Interest	6.11
Mach & bldg depreciation	31.63
Miscellaneous	4.52
Total overhead expenses per acre	75.14
Total dir & ovhd expenses per acre	331.84
Net return per acre	112.18
Government payments	18.62
Net return with govt pmts	130.80
Labor & management charge	24.73
Net return over lbr & mgt	106.07
Cost of Production	
Total direct expense per cwt.	17.04
Total dir & ovhd exp per cwt.	22.03
Less govt & other income	18.40
With labor & management	20.04
Net value per unit	27.08
Machinery cost per acre	73.21
Est. labor hours per acre	1.14

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Canola on Owned Land

	<u>Avg. Of All Farms</u>
Number of farms	6
Acres	276.53
Yield per acre (cwt.)	21.24
Operators share of yield %	100.00
Value per cwt.	16.53
Total product return per acre	351.03
Gross return per acre	351.03
Direct Expenses	
Seed	57.97
Fertilizer	68.05
Crop chemicals	28.00
Crop insurance	9.13
Fuel & oil	8.17
Repairs	10.87
Custom hire	1.44
Operating interest	2.03
Total direct expenses per acre	185.67
Return over direct exp per acre	165.36
Overhead Expenses	
Hired labor	7.91
Machinery leases	1.46
Building leases	6.74
RE & pers. property taxes	4.60
Farm insurance	4.02
Utilities	3.15
Dues & professional fees	1.35
Interest	9.33
Mach & bldg depreciation	31.27
Miscellaneous	7.24
Total overhead expenses per acre	77.08
Total dir & ovhd expenses per acre	262.75
Net return per acre	88.28
Government payments	17.65
Net return with govt pmts	105.93
Labor & management charge	20.12
Net return over lbr & mgt	85.81
Cost of Production	
Total direct expense per cwt.	8.74
Total dir & ovhd exp per cwt.	12.37
Less govt & other income	11.54
With labor & management	12.49
Net value per unit	16.53
Machinery cost per acre	50.66
Est. labor hours per acre	1.01

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Canola on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	325.17
Yield per acre (cwt.)	22.03
Operators share of yield %	100.00
Value per cwt.	15.99
Total product return per acre	352.24
Gross return per acre	352.24
Direct Expenses	
Seed	55.92
Fertilizer	64.96
Crop chemicals	30.49
Crop insurance	7.05
Fuel & oil	8.71
Repairs	11.52
Custom hire	5.82
Land rent	47.95
Operating interest	3.18
Total direct expenses per acre	235.59
Return over direct exp per acre	116.64
Overhead Expenses	
Hired labor	7.98
Machinery leases	1.08
Building leases	2.91
Farm insurance	4.00
Utilities	3.40
Dues & professional fees	0.67
Interest	2.37
Mach & bldg depreciation	29.17
Miscellaneous	4.94
Total overhead expenses per acre	56.53
Total dir & ovhd expenses per acre	292.13
Net return per acre	60.11
Government payments	22.16
Net return with govt pmts	82.27
Labor & management charge	18.06
Net return over lbr & mgt	64.21
Cost of Production	
Total direct expense per cwt.	10.69
Total dir & ovhd exp per cwt.	13.26
Less govt & other income	12.25
With labor & management	13.07
Net value per unit	15.99
Machinery cost per acre	54.53
Est. labor hours per acre	0.88

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Corn on Owned Land

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	37	7	8	8
Acres	284.60	303.81	374.05	170.61
Yield per acre (bu.)	161.05	148.33	162.53	172.53
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	2.95	2.89	2.96	3.03
Total product return per acre	475.71	429.15	480.71	522.88
Crop insurance per acre	4.06	11.70	-	-
Other crop income per acre	0.60	-	0.48	-
Gross return per acre	480.37	440.85	481.19	522.88
Direct Expenses				
Seed	88.02	85.08	89.95	81.73
Fertilizer	96.76	104.27	96.78	81.94
Crop chemicals	23.87	21.35	24.06	26.22
Crop insurance	22.75	27.19	27.83	21.56
Drying expense	5.47	3.70	4.07	7.06
Fuel & oil	14.62	14.68	10.81	13.56
Repairs	27.96	32.14	19.81	15.89
Custom hire	6.37	1.14	9.29	6.76
Operating interest	8.85	7.82	13.72	8.33
Miscellaneous	0.91	-	2.41	0.14
Total direct expenses per acre	295.58	297.36	298.74	263.19
Return over direct exp per acre	184.79	143.49	182.44	259.69
Overhead Expenses				
Custom hire	0.51	0.00	0.31	0.33
Hired labor	10.47	14.59	9.55	3.64
Machinery leases	4.02	7.52	2.95	1.95
RE & pers. property taxes	7.23	7.87	6.21	8.99
Farm insurance	4.93	4.46	5.05	5.64
Utilities	3.81	4.78	3.45	4.17
Dues & professional fees	0.75	0.30	0.33	1.44
Interest	34.53	58.60	29.38	20.45
Mach & bldg depreciation	49.37	57.51	44.26	44.03
Miscellaneous	5.99	11.63	4.57	6.37
Total overhead expenses per acre	121.61	167.26	106.08	97.01
Total dir & ovhd expenses per acre	417.18	464.62	404.82	360.20
Net return per acre	63.19	-23.77	76.37	162.68
Government payments	27.08	26.64	26.44	29.85
Net return with govt pmts	90.27	2.87	102.81	192.53
Labor & management charge	34.58	36.23	31.81	36.18
Net return over lbr & mgt	55.69	-33.36	71.00	156.35
Cost of Production				
Total direct expense per bu.	1.84	2.00	1.84	1.53
Total dir & ovhd exp per bu.	2.59	3.13	2.49	2.09
Less govt & other income	2.39	2.87	2.33	1.91
With labor & management	2.61	3.12	2.52	2.12
Net value per unit	2.95	2.89	2.96	3.03
Machinery cost per acre	102.70	111.83	89.65	82.98
Est. labor hours per acre	1.50	1.73	1.47	1.58

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Corn on Cash Rent

	<u>Avg. Of</u> <u>All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	61	12	12	13
Acres	556.73	683.67	673.88	293.26
Yield per acre (bu.)	158.16	143.88	157.53	171.44
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	3.00	2.99	2.95	3.08
Total product return per acre	474.24	430.20	465.17	527.73
Crop insurance per acre	8.91	35.25	-	2.42
Other crop income per acre	0.14	-	-	0.92
Gross return per acre	483.29	465.45	465.17	531.07
Direct Expenses				
Seed	84.92	85.90	84.78	75.69
Fertilizer	99.70	111.13	89.71	91.26
Crop chemicals	24.33	26.70	25.50	21.15
Crop insurance	18.79	20.79	19.97	16.72
Drying expense	4.89	7.42	1.61	2.94
Fuel & oil	12.25	13.00	11.31	10.99
Repairs	27.79	39.05	25.63	14.27
Custom hire	4.65	7.06	2.72	6.51
Land rent	77.95	87.09	68.01	67.79
Operating interest	7.10	11.32	6.75	3.48
Miscellaneous	1.04	0.45	1.40	0.57
Total direct expenses per acre	363.41	409.91	337.40	311.37
Return over direct exp per acre	119.88	55.54	127.77	219.70
Overhead Expenses				
Custom hire	0.45	0.00	0.00	2.45
Hired labor	15.21	20.59	20.17	3.01
Machinery leases	6.59	15.28	3.97	2.92
Building leases	0.88	1.71	0.19	0.06
Farm insurance	4.46	4.91	3.60	4.43
Utilities	3.85	4.26	3.45	3.29
Dues & professional fees	2.07	2.36	2.61	0.48
Interest	4.69	9.52	1.65	2.56
Mach & bldg depreciation	44.84	47.90	45.28	32.51
Miscellaneous	4.84	4.67	3.62	3.70
Total overhead expenses per acre	87.88	111.22	84.55	55.40
Total dir & ovhd expenses per acre	451.29	521.12	421.96	366.77
Net return per acre	32.00	-55.67	43.22	164.30
Government payments	26.07	28.93	28.46	19.28
Net return with govt pmts	58.08	-26.74	71.68	183.58
Labor & management charge	33.28	36.68	31.35	32.48
Net return over lbr & mgt	24.80	-63.41	40.33	151.10
Cost of Production				
Total direct expense per bu.	2.30	2.85	2.14	1.82
Total dir & ovhd exp per bu.	2.85	3.62	2.68	2.14
Less govt & other income	2.63	3.18	2.50	2.01
With labor & management	2.84	3.43	2.70	2.20
Net value per unit	3.00	2.99	2.95	3.08
Machinery cost per acre	96.41	124.70	85.24	70.04
Est. labor hours per acre	1.55	1.72	1.58	1.48

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Corn Silage on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	10
Acres	68.65
Yield per acre (ton)	15.90
Operators share of yield %	100.00
Value per ton	30.60
Total product return per acre	486.61
Gross return per acre	486.61
Direct Expenses	
Seed	78.03
Fertilizer	92.10
Crop chemicals	17.30
Crop insurance	16.76
Fuel & oil	12.29
Repairs	25.44
Custom hire	47.29
Land rent	60.18
Operating interest	4.74
Miscellaneous	0.26
Total direct expenses per acre	354.39
Return over direct exp per acre	132.22
Overhead Expenses	
Hired labor	9.61
Machinery leases	2.45
Farm insurance	3.54
Utilities	2.35
Dues & professional fees	1.80
Interest	1.49
Mach & bldg depreciation	43.94
Miscellaneous	5.52
Total overhead expenses per acre	70.72
Total dir & ovhd expenses per acre	425.10
Net return per acre	61.51
Government payments	23.27
Net return with govt pmts	84.78
Labor & management charge	31.15
Net return over lbr & mgt	53.63
Cost of Production	
Total direct expense per ton	22.28
Total dir & ovhd exp per ton	26.73
Less govt & other income	25.27
With labor & management	27.22
Net value per unit	30.60
Machinery cost per acre	127.62
Est. labor hours per acre	1.68

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

CRP on Owned Land

	<u>Avg. Of All Farms</u>
Number of farms	12
Acres	207.52
Yield per acre (\$)	48.55
Operators share of yield %	100.00
Value per \$	1.00
Total product return per acre	48.55
Gross return per acre	48.55
Direct Expenses	
Fuel & oil	0.40
Repairs	1.08
Total direct expenses per acre	1.96
Return over direct exp per acre	46.59
Overhead Expenses	
RE & pers. property taxes	6.03
Farm insurance	0.68
Dues & professional fees	0.18
Interest	11.71
Mach & bldg depreciation	1.49
Miscellaneous	0.57
Total overhead expenses per acre	20.67
Total dir & ovhd expenses per acre	22.63
Net return per acre	25.93

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Hay, Alfalfa on Owned Land

	<u>Avg. Of All Farms</u>
Number of farms	10
Acres	108.40
Yield per acre (ton)	3.43
Operators share of yield %	100.00
Value per ton	63.34
Total product return per acre	217.27
Gross return per acre	217.27
Direct Expenses	
Seed	1.23
Fertilizer	6.60
Crop insurance	2.21
Fuel & oil	10.12
Repairs	27.79
Custom hire	0.88
Operating interest	6.33
Total direct expenses per acre	55.16
Return over direct exp per acre	162.11
Overhead Expenses	
Hired labor	8.95
Machinery leases	2.18
Building leases	0.29
RE & pers. property taxes	6.83
Farm insurance	5.45
Utilities	3.30
Dues & professional fees	1.32
Interest	26.05
Mach & bldg depreciation	33.36
Miscellaneous	5.70
Total overhead expenses per acre	93.41
Total dir & ovhd expenses per acre	148.57
Net return per acre	68.70
Government payments	15.00
Net return with govt pmts	83.70
Labor & management charge	28.27
Net return over lbr & mgt	55.43
Cost of Production	
Total direct expense per ton	16.08
Total dir & ovhd exp per ton	43.31
Less govt & other income	38.94
With labor & management	47.18
Net value per unit	63.34
Machinery cost per acre	73.20
Est. labor hours per acre	1.69

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Hay, Alfalfa on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	100.25
Yield per acre (ton)	3.01
Operators share of yield %	100.00
Value per ton	81.86
Total product return per acre	246.13
Gross return per acre	246.13
Direct Expenses	
Seed	2.42
Fertilizer	15.08
Crop insurance	1.20
Fuel & oil	11.01
Repairs	23.42
Custom hire	24.04
Land rent	61.65
Operating interest	4.05
Miscellaneous	0.10
Total direct expenses per acre	142.98
Return over direct exp per acre	103.15
Overhead Expenses	
Hired labor	9.77
Machinery leases	0.76
Building leases	0.45
Farm insurance	3.87
Utilities	2.60
Dues & professional fees	2.02
Interest	1.47
Mach & bldg depreciation	30.25
Miscellaneous	4.32
Total overhead expenses per acre	55.50
Total dir & ovhd expenses per acre	198.48
Net return per acre	47.64
Government payments	15.95
Net return with govt pmts	63.59
Labor & management charge	24.85
Net return over lbr & mgt	38.73
Cost of Production	
Total direct expense per ton	47.55
Total dir & ovhd exp per ton	66.01
Less govt & other income	60.71
With labor & management	68.98
Net value per unit	81.86
Machinery cost per acre	87.97
Est. labor hours per acre	1.77

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Hay, Grass on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	296.00
Yield per acre (ton)	1.29
Operators share of yield %	100.00
Value per ton	52.47
Total product return per acre	67.55
Gross return per acre	67.55
Direct Expenses	
Fuel & oil	5.80
Repairs	16.31
Land rent	14.51
Operating interest	2.57
Miscellaneous	1.92
Total direct expenses per acre	41.11
Return over direct exp per acre	26.44
Overhead Expenses	
Hired labor	8.66
Machinery leases	0.46
Farm insurance	1.22
Utilities	1.08
Dues & professional fees	0.55
Interest	1.05
Mach & bldg depreciation	14.53
Miscellaneous	1.95
Total overhead expenses per acre	29.49
Total dir & ovhd expenses per acre	70.60
Net return per acre	-3.05
Government payments	-
Net return with govt pmts	-3.05
Labor & management charge	13.15
Net return over lbr & mgt	-16.20
Cost of Production	
Total direct expense per ton	31.93
Total dir & ovhd exp per ton	54.84
Less govt & other income	54.84
With labor & management	65.05
Net value per unit	52.47
Machinery cost per acre	37.51
Est. labor hours per acre	1.33

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Hay, Mixed Alfalfa/Grass on Owned Land

	<u>Avg. Of All Farms</u>
Number of farms	10
Acres	156.23
Yield per acre (ton)	1.45
Operators share of yield %	100.00
Value per ton	50.47
Total product return per acre	73.02
Gross return per acre	73.02
Direct Expenses	
Seed	1.20
Fertilizer	2.58
Crop chemicals	0.32
Crop insurance	0.89
Fuel & oil	5.68
Repairs	13.91
Custom hire	1.09
Operating interest	2.59
Miscellaneous	0.48
Total direct expenses per acre	28.74
Return over direct exp per acre	44.28
Overhead Expenses	
Custom hire	0.91
Hired labor	5.98
Machinery leases	0.67
Building leases	1.73
RE & pers. property taxes	4.64
Farm insurance	5.09
Utilities	3.56
Interest	13.76
Mach & bldg depreciation	19.81
Miscellaneous	4.17
Total overhead expenses per acre	60.33
Total dir & ovhd expenses per acre	89.07
Net return per acre	-16.05
Government payments	9.49
Net return with govt pmts	-6.57
Labor & management charge	17.62
Net return over lbr & mgt	-24.19
Cost of Production	
Total direct expense per ton	19.87
Total dir & ovhd exp per ton	61.57
Less govt & other income	55.01
With labor & management	67.20
Net value per unit	50.47
Machinery cost per acre	40.87
Est. labor hours per acre	1.00

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Hay, Mixed Alfalfa/Grass on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	11
Acres	216.00
Yield per acre (ton)	1.50
Operators share of yield %	100.00
Value per ton	48.24
Total product return per acre	72.56
Gross return per acre	72.56
Direct Expenses	
Fertilizer	0.41
Crop chemicals	0.11
Fuel & oil	4.92
Repairs	8.90
Custom hire	0.32
Land rent	22.41
Operating interest	2.82
Total direct expenses per acre	40.16
Return over direct exp per acre	32.40
Overhead Expenses	
Hired labor	2.65
Machinery leases	1.08
Farm insurance	3.03
Utilities	2.46
Interest	1.93
Mach & bldg depreciation	13.70
Miscellaneous	3.40
Total overhead expenses per acre	28.26
Total dir & ovhd expenses per acre	68.42
Net return per acre	4.15
Government payments	4.22
Net return with govt pmts	8.37
Labor & management charge	12.22
Net return over lbr & mgt	-3.85
Cost of Production	
Total direct expense per ton	26.70
Total dir & ovhd exp per ton	45.48
Less govt & other income	42.67
With labor & management	50.79
Net value per unit	48.24
Machinery cost per acre	29.87
Est. labor hours per acre	0.84

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Hay, Small Grain on Owned Land

	<u>Avg. Of All Farms</u>
Number of farms	9
Acres	71.65
Yield per acre (ton)	2.45
Operators share of yield %	100.00
Value per ton	55.09
Total product return per acre	135.09
Gross return per acre	135.09
Direct Expenses	
Seed	27.28
Fertilizer	12.59
Crop chemicals	6.20
Fuel & oil	8.08
Repairs	13.46
Custom hire	7.47
Operating interest	2.57
Miscellaneous	2.02
Total direct expenses per acre	79.67
Return over direct exp per acre	55.42
Overhead Expenses	
Custom hire	0.50
Hired labor	8.67
Machinery leases	1.60
Building leases	3.51
RE & pers. property taxes	5.31
Farm insurance	4.18
Utilities	3.71
Dues & professional fees	0.79
Interest	14.81
Mach & bldg depreciation	23.66
Miscellaneous	6.37
Total overhead expenses per acre	73.12
Total dir & ovhd expenses per acre	152.78
Net return per acre	-17.69
Government payments	30.96
Net return with govt pmts	13.27
Labor & management charge	19.92
Net return over lbr & mgt	-6.64
Cost of Production	
Total direct expense per ton	32.49
Total dir & ovhd exp per ton	62.31
Less govt & other income	49.68
With labor & management	57.80
Net value per unit	55.09
Machinery cost per acre	53.13
Est. labor hours per acre	1.15

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Pasture on Owned Land

	<u>Avg. Of All Farms</u>
Number of farms	24
Acres	823.84
Yield per acre (aum)	1.15
Operators share of yield %	100.00
Value per aum	26.95
Total product return per acre	31.07
Crop insurance per acre	0.00
Gross return per acre	31.07
Direct Expenses	
Repairs	1.11
Miscellaneous	0.74
Total direct expenses per acre	1.85
Return over direct exp per acre	29.22
Overhead Expenses	
RE & pers. property taxes	2.36
Farm insurance	0.57
Dues & professional fees	0.06
Interest	11.78
Mach & bldg depreciation	1.06
Miscellaneous	0.87
Total overhead expenses per acre	16.70
Total dir & ovhd expenses per acre	18.55
Net return per acre	12.52

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Pasture on Cash Rent

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	28	5	5	6
Acres	1,172.63	706.00	1,440.64	1,273.00
Yield per acre (aum)	1.02	0.86	0.85	1.49
Operators share of yield %	100.00	100.00	100.00	100.00
Value per aum	23.14	23.07	21.38	25.26
Total product return per acre	23.53	19.74	18.18	37.69
Crop insurance per acre	0.01	-	-	-
Gross return per acre	23.54	19.74	18.18	37.69
Direct Expenses				
Crop chemicals	0.18	0.62	-	-
Crop insurance	0.12	0.55	-	-
Fuel & oil	0.52	1.30	0.34	0.26
Repairs	0.86	1.34	0.70	0.65
Land rent	14.23	20.12	14.59	12.57
Operating interest	0.29	0.94	0.10	0.11
Total direct expenses per acre	16.33	25.29	15.74	13.60
Return over direct exp per acre	7.21	-5.54	2.44	24.09
Overhead Expenses				
Farm insurance	0.28	0.64	0.13	0.19
Utilities	0.24	0.51	0.08	0.10
Mach & bldg depreciation	1.31	3.36	0.71	1.29
Miscellaneous	0.72	1.65	0.29	0.91
Total overhead expenses per acre	2.55	6.16	1.21	2.49
Total dir & ovhd expenses per acre	18.88	31.45	16.95	16.09
Net return per acre	4.66	-11.70	1.23	21.60

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Peas, Field on Owned Land

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	151.78
Yield per acre (bu.)	31.37
Operators share of yield %	100.00
Value per bu.	7.75
Total product return per acre	243.00
Crop insurance per acre	18.58
Gross return per acre	261.59
Direct Expenses	
Seed	58.79
Fertilizer	5.80
Crop chemicals	33.52
Crop insurance	10.17
Fuel & oil	11.84
Repairs	21.91
Custom hire	1.39
Operating interest	5.30
Miscellaneous	1.24
Total direct expenses per acre	149.97
Return over direct exp per acre	111.62
Overhead Expenses	
Custom hire	3.51
Hired labor	9.01
Machinery leases	4.36
RE & pers. property taxes	7.48
Farm insurance	3.78
Utilities	4.22
Interest	26.44
Mach & bldg depreciation	37.34
Miscellaneous	10.70
Total overhead expenses per acre	106.85
Total dir & ovhd expenses per acre	256.82
Net return per acre	4.77
Government payments	19.30
Net return with govt pmts	24.07
Labor & management charge	24.18
Net return over lbr & mgt	-0.11
Cost of Production	
Total direct expense per bu.	4.78
Total dir & ovhd exp per bu.	8.19
Less govt & other income	6.98
With labor & management	7.75
Net value per unit	7.75
Machinery cost per acre	79.32
Est. labor hours per acre	1.30

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Peas, Field on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	11
Acres	289.95
Yield per acre (bu.)	39.79
Operators share of yield %	100.00
Value per bu.	7.54
Total product return per acre	299.83
Crop insurance per acre	17.53
Gross return per acre	317.36
Direct Expenses	
Seed	53.36
Fertilizer	6.04
Crop chemicals	41.72
Crop insurance	10.22
Fuel & oil	8.84
Repairs	18.53
Custom hire	2.69
Land rent	65.37
Machinery leases	3.71
Operating interest	4.21
Miscellaneous	1.19
Total direct expenses per acre	215.89
Return over direct exp per acre	101.47
Overhead Expenses	
Custom hire	1.07
Hired labor	14.28
Machinery leases	4.72
Farm insurance	3.95
Utilities	4.45
Dues & professional fees	0.35
Interest	3.31
Mach & bldg depreciation	35.09
Miscellaneous	7.99
Total overhead expenses per acre	75.21
Total dir & ovhd expenses per acre	291.10
Net return per acre	26.26
Government payments	20.66
Net return with govt pmts	46.92
Labor & management charge	22.13
Net return over lbr & mgt	24.79
Cost of Production	
Total direct expense per bu.	5.43
Total dir & ovhd exp per bu.	7.32
Less govt & other income	6.36
With labor & management	6.91
Net value per unit	7.54
Machinery cost per acre	73.59
Est. labor hours per acre	1.03

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Soybeans on Owned Land

	<u>Avg. Of</u> <u>All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	45	9	9	9
Acres	448.86	172.58	662.64	441.36
Yield per acre (bu.)	41.66	24.23	42.99	49.14
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	9.06	8.87	9.03	9.05
Total product return per acre	377.55	214.97	388.14	444.79
Crop insurance per acre	11.84	51.05	2.11	3.37
Gross return per acre	389.38	266.02	390.25	448.16
Direct Expenses				
Seed	65.02	63.34	64.46	67.03
Fertilizer	10.03	5.33	14.22	4.89
Crop chemicals	25.33	17.34	24.13	21.14
Crop insurance	13.46	16.08	15.69	12.36
Fuel & oil	9.20	11.42	7.67	10.22
Repairs	17.65	21.69	11.90	19.79
Custom hire	5.28	16.38	4.65	7.64
Machinery leases	1.20	-	1.85	-
Operating interest	4.71	3.10	6.50	3.73
Miscellaneous	0.56	0.20	1.02	0.18
Total direct expenses per acre	152.45	154.89	152.09	146.98
Return over direct exp per acre	236.94	111.13	238.17	301.18
Overhead Expenses				
Custom hire	0.15	0.11	-	0.70
Hired labor	7.24	2.22	6.50	5.11
Machinery leases	1.85	3.74	1.73	1.79
Building leases	0.79	0.41	2.11	-
RE & pers. property taxes	7.66	7.28	6.43	8.22
Farm insurance	4.45	3.10	5.54	4.00
Utilities	3.05	2.89	2.90	2.63
Dues & professional fees	0.98	1.04	0.85	0.67
Interest	18.57	20.15	20.25	14.54
Mach & bldg depreciation	32.49	29.11	35.44	37.89
Miscellaneous	5.03	2.08	5.80	8.07
Total overhead expenses per acre	82.26	72.14	87.55	83.61
Total dir & ovhd expenses per acre	234.71	227.03	239.64	230.59
Net return per acre	154.68	38.99	150.61	217.57
Government payments	25.79	24.38	26.58	22.56
Net return with govt pmts	180.47	63.37	177.19	240.13
Labor & management charge	23.29	19.38	23.40	24.39
Net return over lbr & mgt	157.18	43.99	153.79	215.74
Cost of Production				
Total direct expense per bu.	3.66	6.39	3.54	2.99
Total dir & ovhd exp per bu.	5.63	9.37	5.57	4.69
Less govt & other income	4.73	6.26	4.91	4.16
With labor & management	5.29	7.06	5.45	4.66
Net value per unit	9.06	8.87	9.03	9.05
Machinery cost per acre	68.07	84.60	65.32	77.46
Est. labor hours per acre	1.04	0.83	0.91	1.16

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Soybeans on Cash Rent

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	68	13	13	14
Acres	866.95	625.60	706.20	843.56
Yield per acre (bu.)	42.66	37.87	43.01	47.35
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	9.14	9.05	9.00	9.31
Total product return per acre	389.85	342.77	387.01	440.59
Crop insurance per acre	9.78	13.58	9.66	4.60
Gross return per acre	399.63	356.36	396.67	445.19
Direct Expenses				
Seed	62.39	62.48	61.22	59.46
Fertilizer	13.85	13.45	18.98	7.79
Crop chemicals	25.47	33.08	24.05	25.23
Crop insurance	13.92	13.62	12.48	14.52
Fuel & oil	8.75	9.46	10.87	7.33
Repairs	18.75	22.67	15.91	14.88
Custom hire	2.38	5.09	5.13	0.71
Land rent	69.62	85.64	73.37	69.86
Machinery leases	1.75	10.90	-	0.46
Operating interest	5.07	9.30	4.90	3.92
Miscellaneous	0.50	0.37	-	0.06
Total direct expenses per acre	222.45	266.06	226.90	204.21
Return over direct exp per acre	177.18	90.30	169.77	240.98
Overhead Expenses				
Custom hire	0.32	-	1.18	0.69
Hired labor	10.63	16.86	9.75	7.69
Machinery leases	2.42	6.43	0.87	1.58
Building leases	0.89	0.84	0.12	0.45
Farm insurance	4.19	4.61	4.54	3.89
Utilities	2.92	3.11	2.73	2.90
Dues & professional fees	1.82	1.90	0.48	1.01
Interest	3.24	7.18	3.53	2.53
Mach & bldg depreciation	31.89	28.28	38.29	32.70
Miscellaneous	4.83	5.06	4.60	4.39
Total overhead expenses per acre	63.15	74.28	66.10	57.82
Total dir & ovhd expenses per acre	285.60	340.33	293.00	262.03
Net return per acre	114.03	16.02	103.67	183.16
Government payments	26.81	23.93	24.33	26.92
Net return with govt pmts	140.84	39.95	128.01	210.07
Labor & management charge	22.18	21.67	22.58	21.81
Net return over lbr & mgt	118.66	18.28	105.42	188.27
Cost of Production				
Total direct expense per bu.	5.21	7.03	5.28	4.31
Total dir & ovhd exp per bu.	6.69	8.99	6.81	5.53
Less govt & other income	5.84	8.00	6.02	4.87
With labor & management	6.36	8.57	6.55	5.33
Net value per unit	9.14	9.05	9.00	9.31
Machinery cost per acre	66.36	87.76	71.83	57.93
Est. labor hours per acre	0.98	1.05	0.94	0.93

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Sunflowers on Owned Land

	<u>Avg. Of All Farms</u>
Number of farms	5
Acres	81.43
Yield per acre (cwt.)	21.35
Operators share of yield %	100.00
Value per cwt.	16.57
Total product return per acre	353.90
Gross return per acre	353.90
Direct Expenses	
Seed	41.44
Fertilizer	23.74
Crop chemicals	46.51
Crop insurance	12.01
Fuel & oil	10.90
Repairs	14.23
Custom hire	15.08
Operating interest	7.66
Total direct expenses per acre	171.57
Return over direct exp per acre	182.33
Overhead Expenses	
Custom hire	0.13
Hired labor	5.72
Machinery leases	3.53
RE & pers. property taxes	6.21
Farm insurance	3.23
Utilities	1.79
Dues & professional fees	1.80
Interest	17.74
Mach & bldg depreciation	29.29
Miscellaneous	5.47
Total overhead expenses per acre	74.91
Total dir & ovhd expenses per acre	246.48
Net return per acre	107.42
Government payments	25.55
Net return with govt pmts	132.97
Labor & management charge	18.78
Net return over lbr & mgt	114.19
Cost of Production	
Total direct expense per cwt.	8.03
Total dir & ovhd exp per cwt.	11.54
Less govt & other income	10.35
With labor & management	11.23
Net value per unit	16.57
Machinery cost per acre	76.18
Est. labor hours per acre	0.88

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
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(Farms Sorted By Net Return)

Sunflowers on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	394.07
Yield per acre (cwt.)	19.01
Operators share of yield %	100.00
Value per cwt.	17.04
Total product return per acre	323.93
Crop insurance per acre	25.90
Gross return per acre	349.83
Direct Expenses	
Seed	35.80
Fertilizer	27.13
Crop chemicals	42.63
Crop insurance	13.74
Fuel & oil	7.80
Repairs	11.07
Custom hire	7.86
Land rent	58.80
Operating interest	5.75
Total direct expenses per acre	210.74
Return over direct exp per acre	139.08
Overhead Expenses	
Custom hire	0.11
Hired labor	4.91
Machinery leases	4.23
Farm insurance	3.31
Utilities	2.30
Interest	4.16
Mach & bldg depreciation	22.44
Miscellaneous	4.34
Total overhead expenses per acre	45.80
Total dir & ovhd expenses per acre	256.54
Net return per acre	93.29
Government payments	18.55
Net return with govt pmts	111.83
Labor & management charge	17.64
Net return over lbr & mgt	94.19
Cost of Production	
Total direct expense per cwt.	11.08
Total dir & ovhd exp per cwt.	13.49
Less govt & other income	11.16
With labor & management	12.08
Net value per unit	17.04
Machinery cost per acre	55.67
Est. labor hours per acre	0.93

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Wheat, Spring on Owned Land

	<u>Avg. Of</u> <u>All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	40	8	8	8
Acres	308.77	368.53	293.50	362.79
Yield per acre (bu.)	53.31	46.69	51.80	62.26
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	4.81	4.71	4.73	4.87
Total product return per acre	256.42	220.03	245.12	303.40
Crop insurance per acre	9.02	7.27	1.68	0.25
Other crop income per acre	0.37	-	-	-
Gross return per acre	265.80	227.30	246.80	303.65
Direct Expenses				
Seed	15.76	15.14	14.93	16.36
Fertilizer	65.09	69.23	65.12	58.44
Crop chemicals	28.60	32.22	29.54	26.12
Crop insurance	13.18	11.33	14.45	10.46
Fuel & oil	9.57	12.39	8.00	8.71
Repairs	18.24	21.27	18.40	12.88
Custom hire	7.10	11.14	7.22	4.06
Operating interest	3.75	2.63	6.44	4.57
Miscellaneous	1.19	0.56	0.61	0.59
Total direct expenses per acre	162.50	175.92	164.72	142.19
Return over direct exp per acre	103.31	51.39	82.09	161.46
Overhead Expenses				
Custom hire	0.63	2.37	-	0.19
Hired labor	6.17	3.23	4.73	9.00
Machinery leases	1.57	1.54	0.90	0.65
Building leases	0.54	-	0.32	0.06
RE & pers. property taxes	6.68	5.32	7.34	6.35
Farm insurance	4.34	4.61	4.15	4.13
Utilities	3.41	3.39	2.91	3.51
Dues & professional fees	0.66	0.19	1.04	0.67
Interest	20.28	32.19	8.52	17.33
Mach & bldg depreciation	31.99	41.18	24.62	29.87
Miscellaneous	3.97	4.03	2.56	3.93
Total overhead expenses per acre	80.24	98.04	57.10	75.71
Total dir & ovhd expenses per acre	242.73	273.95	221.82	217.89
Net return per acre	23.07	-46.65	24.99	85.76
Government payments	24.88	24.81	34.20	21.22
Net return with govt pmts	47.95	-21.84	59.19	106.98
Labor & management charge	20.82	22.70	21.38	18.87
Net return over lbr & mgt	27.13	-44.54	37.81	88.11
Cost of Production				
Total direct expense per bu.	3.05	3.77	3.18	2.28
Total dir & ovhd exp per bu.	4.55	5.87	4.28	3.50
Less govt & other income	3.91	5.18	3.59	3.15
With labor & management	4.30	5.67	4.00	3.46
Net value per unit	4.81	4.71	4.73	4.87
Machinery cost per acre	70.34	90.14	58.77	56.98
Est. labor hours per acre	0.96	1.03	1.02	0.82

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Wheat, Spring on Cash Rent

	<u>Avg. Of</u> <u>All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	49	9	10	10
Acres	669.09	299.44	917.30	617.87
Yield per acre (bu.)	58.44	40.03	59.03	65.26
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	4.86	4.48	4.91	4.86
Total product return per acre	284.15	179.24	289.90	316.84
Crop insurance per acre	5.78	13.19	1.24	4.97
Other crop income per acre	0.34	-	0.08	-
Gross return per acre	290.27	192.44	291.22	321.81
Direct Expenses				
Seed	16.59	15.79	15.71	14.60
Fertilizer	65.51	69.47	71.64	60.36
Crop chemicals	29.61	27.26	27.45	35.93
Crop insurance	12.76	9.40	17.63	10.65
Fuel & oil	7.74	8.50	7.03	9.14
Repairs	15.23	16.35	17.50	15.81
Custom hire	3.31	5.92	0.89	2.89
Land rent	59.82	63.76	54.82	50.71
Machinery leases	1.96	-	0.51	0.29
Operating interest	5.46	5.05	6.65	4.43
Miscellaneous	1.22	0.66	2.01	0.06
Total direct expenses per acre	219.22	222.17	221.83	204.88
Return over direct exp per acre	71.05	-29.74	69.39	116.93
Overhead Expenses				
Hired labor	9.34	5.86	9.53	6.73
Machinery leases	2.93	0.40	4.71	0.12
Building leases	1.19	-	1.04	-
Farm insurance	3.89	4.26	4.08	3.14
Utilities	2.93	2.46	2.58	2.98
Dues & professional fees	0.70	0.50	0.31	1.10
Interest	2.84	3.49	1.65	2.00
Mach & bldg depreciation	28.11	22.82	33.80	25.62
Miscellaneous	4.54	6.73	3.32	4.48
Total overhead expenses per acre	56.47	46.52	61.00	46.17
Total dir & ovhd expenses per acre	275.69	268.69	282.83	251.05
Net return per acre	14.58	-76.25	8.39	70.76
Government payments	23.44	23.32	25.56	22.17
Net return with govt pmts	38.02	-52.94	33.96	92.93
Labor & management charge	20.56	22.00	19.58	22.52
Net return over lbr & mgt	17.46	-74.94	14.38	70.41
Cost of Production				
Total direct expense per bu.	3.75	5.55	3.76	3.14
Total dir & ovhd exp per bu.	4.72	6.71	4.79	3.85
Less govt & other income	4.21	5.80	4.34	3.43
With labor & management	4.56	6.35	4.67	3.78
Net value per unit	4.86	4.48	4.91	4.86
Machinery cost per acre	58.99	55.28	61.63	52.27
Est. labor hours per acre	0.93	1.09	0.93	0.92

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Wheat, Spring on Share Rent

	<u>Avg. Of All Farms</u>
Number of farms	9
Acres	221.50
Yield per acre (bu.)	54.30
Operators share of yield %	70.52
Value per bu.	4.69
Total product return per acre	179.42
Gross return per acre	179.42
Direct Expenses	
Seed	13.70
Fertilizer	62.89
Crop chemicals	30.63
Crop insurance	8.56
Fuel & oil	8.97
Repairs	13.38
Custom hire	6.53
Operating interest	3.70
Miscellaneous	0.39
Total direct expenses per acre	148.76
Return over direct exp per acre	30.67
Overhead Expenses	
Hired labor	5.16
Machinery leases	2.78
Farm insurance	3.40
Utilities	1.68
Dues & professional fees	0.70
Interest	1.93
Mach & bldg depreciation	23.35
Miscellaneous	6.27
Total overhead expenses per acre	45.28
Total dir & ovhd expenses per acre	194.04
Net return per acre	-14.61
Government payments	14.21
Net return with govt pmts	-0.41
Labor & management charge	20.48
Net return over lbr & mgt	-20.89
Cost of Production	
Total direct expense per bu.	3.88
Total dir & ovhd exp per bu.	5.07
Less govt & other income	4.70
With labor & management	5.23
Net value per unit	4.69
Machinery cost per acre	54.41
Est. labor hours per acre	1.06

EXPLANATORY NOTES FOR LIVESTOCK TABLES

The "Livestock Enterprise Analysis" table shows the average physical production, gross returns, direct costs, overhead costs, and net return per unit. All costs are actual costs; no opportunity costs are included. The "Net Return" to the enterprise is the "Gross Margin" minus the direct and overhead costs. "Net Return" represents the return to the operators and family's unpaid labor, management, and equity. It represents the return to all of the resources, which are owned by the farm family and hence, not purchased or paid a wage. The last section of each livestock table contains both economic and technical efficiency measures, which are particularly useful to individual managers in assessing their performance as compared to their peers.

When there are less than five farms with a particular livestock enterprise, that enterprise is not included in the report. When there is a sufficient number (i.e., more than 24), farms are divided into low 20%, middle 20% and high 20% on the basis of returns to overhead costs. The classification is done separately for each livestock enterprise.

The "Dairy" enterprise contains the information for only the milking herd (which includes dry cows). "Dairy Replacement Heifers" are those heifers kept for replacement into the milking herd. "Dairy Heifers (for sale)" are heifers intended for feeding and sale. "Dairy Steers" includes only steers for feeding. The "Dairy and Replacement Heifers" table includes both "Dairy" and "Dairy Replacement Heifers."

"Lbs. feed per lb. of gain" is the lbs. of total feed divided by total gain. The total feed is calculated by adding total pounds of feed. For grains, these pounds per unit are used: corn, 56; oats, 32; barley, 48; grain sorghum, 56; wheat, 60; and millet, 48. For these roughages, the pounds are calculated by these factors: alfalfa haylage, 0.5; corn silage, 0.33; oatlage, 0.5; and sorghum silage, 0.33; and small grain silage, 0.33.

The calving and weaning percentages are calculated as the number of calves, which are calved and weaned, respectively, divided by the number of cows, which are supposed to bear young.

Rounding of individual items for the report has caused minor discrepancies with the calculated totals.

Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Beef Cow-Calf -- Average Per Cwt. Produced

	<u>Avg. Of All Farms</u>	
Number of farms	15	
	Quantity	Value
Beef Calves sold (lb)	25.69	33.62
Transferred out (lb)	74.31	96.68
Cull sales		23.54
Other income		1.24
Purchased		-17.04
Transferred in		-39.66
Inventory change		21.84
Gross margin		120.32
Direct Expenses		
Protein Vit Minerals (lb.)	12.55	2.68
Creep / Starter (lb.)	18.74	1.60
Complete Ration (lb.)	78.91	3.65
Corn Silage (lb.)	418.40	6.60
Hay, Alfalfa (lb.)	39.52	1.08
Hay, Grass (lb.)	966.00	21.63
Pasture (aum)	1.47	24.96
Screenings, Heavy (lb.)	12.15	0.39
Other feed stuffs (lb)	117.65	2.23
Veterinary		4.46
Supplies		2.25
Fuel & oil		2.25
Repairs		5.53
Custom hire		1.20
Operating interest		1.82
Total direct expenses		82.34
Return over direct expense		37.98
Overhead Expenses		
Hired labor		4.10
Farm insurance		2.39
Utilities		1.69
Dues & professional fees		0.78
Interest		1.53
Mach & bldg depreciation		7.38
Miscellaneous		3.17
Total overhead expenses		21.04
Total dir & ovhd expenses		103.38
Net return		16.94
Labor & management charge		11.17
Net return over lbr & mgt		5.77
Cost of Production Per Cwt. Produced		
Total direct expense per unit		82.34
Total dir & ovhd expense per unit		103.38
With other revenue adjustments		113.44
With labor and management		124.61
Est. labor hours per unit		0.71
Other Information		
Number of cows		264.9
Pregnancy percentage		96.4
Pregnancy loss percentage		0.8
Culling percentage		13.8
Calving percentage		95.7
Weaning percentage		90.2
Calves sold per cow		0.93
Calf death loss percent		5.6
Cow death loss percent		2.2
Average weaning weight		569
Lb. weaned/exposed female		513
Feed cost per cow		351.73
Avg wgt/ Beef Calves sold		633
Avg price / cwt.		130.84

Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Beef Cow-Calf -- Average Per Cow

	<u>Avg. Of All Farms</u>	
Number of farms	15	
	Quantity	Value
Beef Calves sold (lb)	139.4	182.36
Transferred out (lb)	403.1	524.48
Cull sales		127.68
Other income		6.74
Purchased		-92.44
Transferred in		-215.12
Inventory change		118.50
Gross margin		652.71
Direct Expenses		
Protein Vit Minerals (lb.)	68.1	14.56
Creep / Starter (lb.)	101.7	8.69
Complete Ration (lb.)	428.1	19.83
Corn Silage (lb.)	2,269.7	35.82
Hay, Alfalfa (lb.)	214.4	5.88
Hay, Grass (lb.)	5,240.4	117.34
Pasture (aum)	8.0	135.40
Screenings, Heavy (lb.)	65.9	2.14
Other feed stuffs (lb)	638.3	12.08
Veterinary		24.19
Supplies		12.21
Fuel & oil		12.20
Repairs		30.01
Custom hire		6.49
Operating interest		9.86
Total direct expenses		446.68
Return over direct expense		206.03
Overhead Expenses		
Hired labor		22.25
Farm insurance		12.98
Utilities		9.15
Dues & professional fees		4.25
Interest		8.29
Mach & bldg depreciation		40.02
Miscellaneous		17.20
Total overhead expenses		114.13
Total dir & ovhd expenses		560.81
Net return		91.90
Labor & management charge		60.60
Net return over lbr & mgt		31.29
Cost of Production Per Cwt. Produced		
Total direct expense per unit		82.34
Total dir & ovhd expense per unit		103.38
With other revenue adjustments		113.44
With labor and management		124.61
Est. labor hours per unit		3.87
Other Information		
Number of cows		264.9
Pregnancy percentage		96.4
Pregnancy loss percentage		0.8
Culling percentage		13.8
Calving percentage		95.7
Weaning percentage		90.2
Calves sold per cow		0.93
Calf death loss percent		5.6
Cow death loss percent		2.2
Average weaning weight		569
Lb. weaned/exposed female		513
Feed cost per cow		351.73
Avg wgt/ Beef Calves sold		633
Avg price / cwt.		130.84

Livestock Enterprise Analysis
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(Farms Sorted By Net Return)

Beef Cow-Calf Whole Herd w/backgrounding -- Average Per Cwt. Produced

	<u>Avg. Of All Farms</u>	
Number of farms	13	
	Quantity	Value
Beef Calves sold (lb)	42.85	67.18
Transferred out (lb)	42.59	59.07
Cull sales		23.96
Other income		0.39
Purchased		-10.95
Transferred in		-22.71
Inventory change		9.59
Gross margin		126.53
Direct Expenses		
Protein Vit Minerals (lb.)	26.86	3.08
Corn (bu.)	1.41	4.27
Corn Silage (lb.)	863.50	12.72
Hay, Alfalfa (lb.)	161.72	6.00
Hay, Grass (lb.)	786.12	20.62
Pasture (aum)	1.24	24.49
Stover (lb.)	79.83	1.50
Straw (lb.)	67.19	1.01
DDGS, dry (lb.)	1,158.75	16.79
Other feed stuffs (lb)	0.13	0.29
Breeding fees		1.28
Veterinary		5.06
Supplies		7.15
Fuel & oil		3.28
Repairs		5.27
Machinery leases		0.73
Operating interest		2.15
Total direct expenses		115.69
Return over direct expense		10.84
Overhead Expenses		
Farm insurance		2.26
Utilities		1.65
Interest		1.23
Mach & bldg depreciation		6.81
Miscellaneous		3.43
Total overhead expenses		15.38
Total dir & ovhd expenses		131.07
Net return		-4.54
Labor & management charge		12.85
Net return over lbr & mgt		-17.39
Cost of Production Per Cwt. Produced		
Total direct expense per unit		115.69
Total dir & ovhd expense per unit		131.07
With other revenue adjustments		138.01
With labor and management		150.86
Est. labor hours per unit		0.79
Other Information		
Number of cows		137.8
Pregnancy percentage		94.6
Pregnancy loss percentage		2.8
Culling percentage		10.7
Calving percentage		92.0
Weaning percentage		88.2
Calves sold per cow		0.69
Calf death loss percent		5.3
Cow death loss percent		1.4
Average weaning weight		487
Lb. weaned/exposed female		429
Feed cost per cow		464.50
Avg wgt/ Beef Calves sold		676
Avg price / cwt.		156.77

Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Beef Cow-Calf Whole Herd w/backgrounding -- Average Per Cow

	<u>Avg. Of All Farms</u>	
Number of farms	13	
	Quantity	Value
Beef Calves sold (lb)	219.3	343.77
Transferred out (lb)	217.9	302.27
Cull sales		122.61
Other income		2.01
Purchased		-56.04
Transferred in		-116.22
Inventory change		49.08
Gross margin		647.48
Direct Expenses		
Protein Vit Minerals (lb.)	137.5	15.77
Corn (bu.)	7.2	21.83
Corn Silage (lb.)	4,418.8	65.10
Hay, Alfalfa (lb.)	827.5	30.70
Hay, Grass (lb.)	4,022.8	105.52
Pasture (aum)	6.3	125.34
Stover (lb.)	408.5	7.67
DDGS, dry (lb.)	5,929.6	85.94
Other feed stuffs (lb)	344.5	6.63
Breeding fees		6.56
Veterinary		25.91
Supplies		36.61
Fuel & oil		16.76
Repairs		26.96
Machinery leases		3.76
Operating interest		10.98
Total direct expenses		592.03
Return over direct expense		55.45
Overhead Expenses		
Machinery leases		2.08
Farm insurance		11.54
Utilities		8.44
Interest		6.31
Mach & bldg depreciation		34.86
Miscellaneous		15.47
Total overhead expenses		78.70
Total dir & ovhd expenses		670.73
Net return		-23.25
Labor & management charge		65.74
Net return over lbr & mgt		-88.99
Cost of Production Per Cwt. Produced		
Total direct expense per unit		115.69
Total dir & ovhd expense per unit		131.07
With other revenue adjustments		138.01
With labor and management		150.86
Est. labor hours per unit		4.06
Other Information		
Number of cows		137.8
Pregnancy percentage		94.6
Pregnancy loss percentage		2.8
Culling percentage		10.7
Calving percentage		92.0
Weaning percentage		88.2
Calves sold per cow		0.69
Calf death loss percent		5.3
Cow death loss percent		1.4
Cows per FTE		689.3
Average weaning weight		487
Lb. weaned/exposed female		429
Feed cost per cow		464.50
Avg wgt/ Beef Calves sold		676
Avg price / cwt.		156.77

Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
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(Farms Sorted By Net Return)

Beef Replacement Heifers -- Average Per Head

	<u>Avg. Of All Farms</u>	
Number of farms	12	
	Quantity	Value
Beef Replace sold (hd)	0.14	176.94
Transferred out (hd)	0.89	1,267.26
Cull sales (hd)	0.00	1.65
Other income		1.65
Purchased (hd)	0.12	-139.63
Transferred in (hd)	0.68	-644.24
Inventory change (hd)	-0.24	-248.24
Gross margin		415.37
Direct Expenses		
Protein Vit Minerals (lb.)	44.41	8.39
Complete Ration (lb.)	230.41	7.31
Corn (bu.)	3.35	10.21
Corn Silage (lb.)	3,218.47	57.18
Hay, Alfalfa (lb.)	186.52	4.61
Hay, Grass (lb.)	2,746.69	66.78
Pasture (aum)	4.64	79.04
Straw (lb.)	532.97	5.32
Screenings, Heavy (lb.)	72.41	2.93
DDGS, dry (lb.)	486.59	19.40
Other feed stuffs (lb)	27.10	0.75
Breeding fees		3.97
Veterinary		12.43
Supplies		3.71
Fuel & oil		3.30
Repairs		7.00
Custom hire		4.16
Hired labor		0.55
Operating interest		2.18
Total direct expenses		299.23
Return over direct expense		116.14
Overhead Expenses		
Hired labor		6.26
Farm insurance		3.05
Interest		1.89
Mach & bldg depreciation		9.81
Miscellaneous		10.05
Total overhead expenses		31.05
Total dir & ovhd expenses		330.29
Net return		85.08
Labor & management charge		17.71
Net return over lbr & mgt		67.37
Est. labor hours per unit		0.92
Other Information		
No. purchased or trans in		36
Number sold or trans out		47
Average number of head		46
Percentage death loss		0.4
Feed cost per average head		261.93
Feed cost/head sold/trans		254.42

Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 3 - South Central North Dakota, 2016
(Farms Sorted By Net Return)

Beef Replacement Heifers -- Average Per Head Sold/Trans

	<u>Avg. Of All Farms</u>	
Number of farms	12	
	Quantity	Value
Beef Replace sold (hd)	0.1	171.86
Transferred out (hd)	0.9	1,230.91
Cull sales (hd)	0.0	1.60
Other income		1.60
Purchased (hd)	0.1	-135.63
Transferred in (hd)	0.7	-625.76
Inventory change (hd)	-0.2	-241.12
Gross margin		403.45
Direct Expenses		
Protein Vit Minerals (lb.)	43.1	8.15
Complete Ration (lb.)	223.8	7.10
Corn (bu.)	3.3	9.92
Corn Silage (lb.)	3,126.1	55.54
Hay, Alfalfa (lb.)	181.2	4.48
Hay, Grass (lb.)	2,667.9	64.87
Pasture (aum)	4.5	76.77
Straw (lb.)	517.7	5.17
Screenings, Heavy (lb.)	70.3	2.84
DDGS, dry (lb.)	472.6	18.84
Other feed stuffs (lb)	26.3	0.73
Breeding fees		3.86
Veterinary		12.07
Supplies		3.60
Fuel & oil		3.20
Repairs		6.80
Custom hire		4.04
Hired labor		0.53
Operating interest		2.12
Total direct expenses		290.65
Return over direct expense		112.80
Overhead Expenses		
Hired labor		6.08
Farm insurance		2.96
Interest		1.83
Mach & bldg depreciation		9.53
Miscellaneous		9.76
Total overhead expenses		30.16
Total dir & ovhd expenses		320.81
Net return		82.64
Labor & management charge		17.20
Net return over lbr & mgt		65.44
Est. labor hours per unit		0.89
Other Information		
No. purchased or trans in		36
Number sold or trans out		47
Average number of head		46
Percentage death loss		0.4
Feed cost per average head		261.93
Feed cost/head sold/trans		254.42

Figure 1. Gross Cash Income Per Farm

N.D. Farm Business Management Education Program – South Central Region

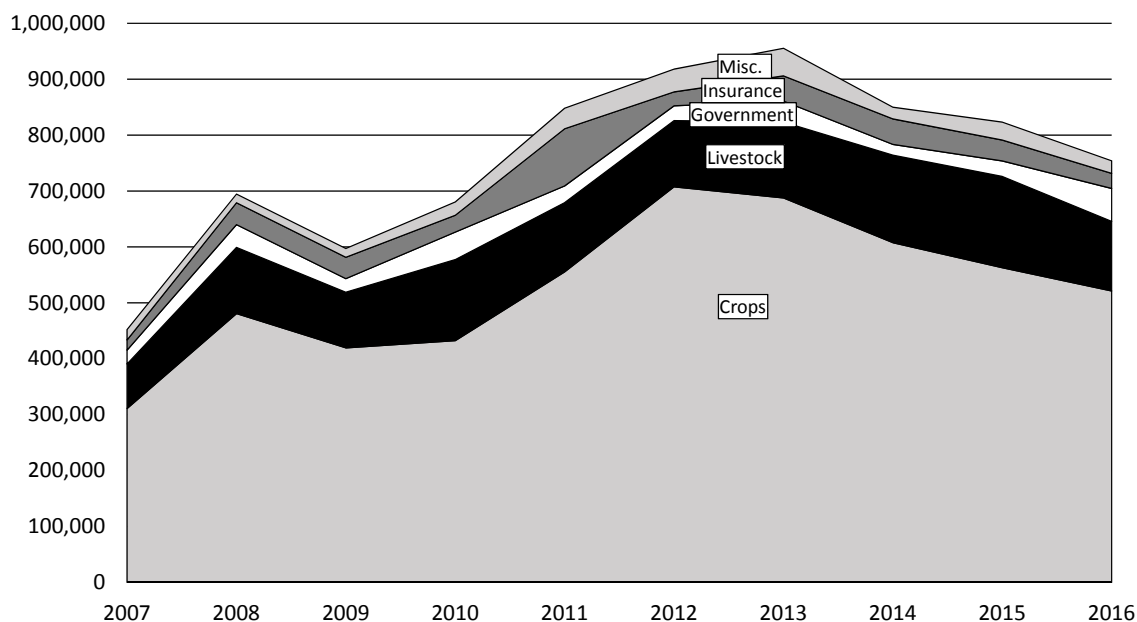


Figure 2. Net Farm Income (Accrual) Per Farm

N.D. Farm Business Management Education Program – South Central Region

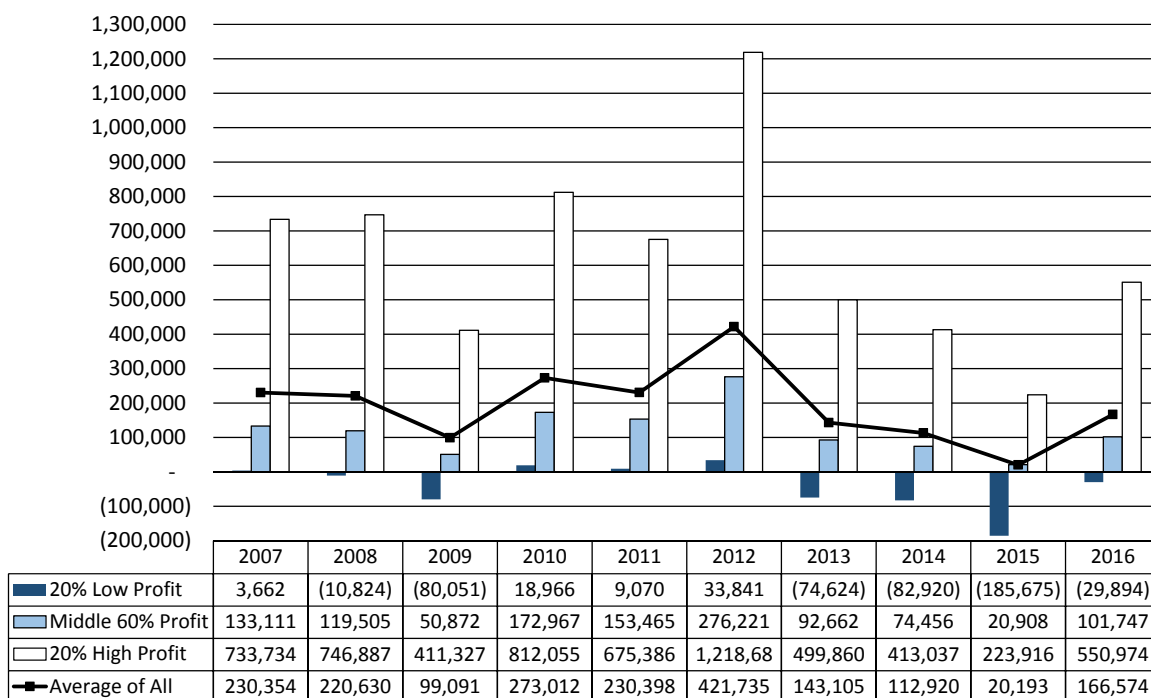


Figure 3. Financial Efficiency Measures (As Percent of Gross Revenue)

N.D. Farm Business Management Education Program – South Central Region

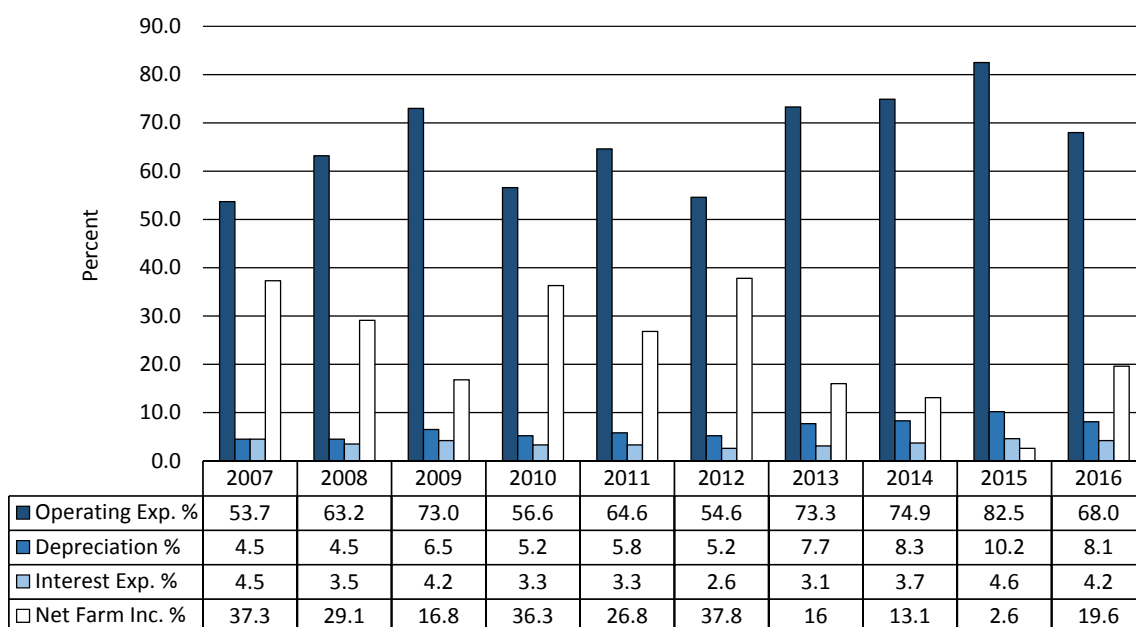


Figure 4. Profitability Measures Per Farm

N.D. Farm Business Management Education Program – South Central Region

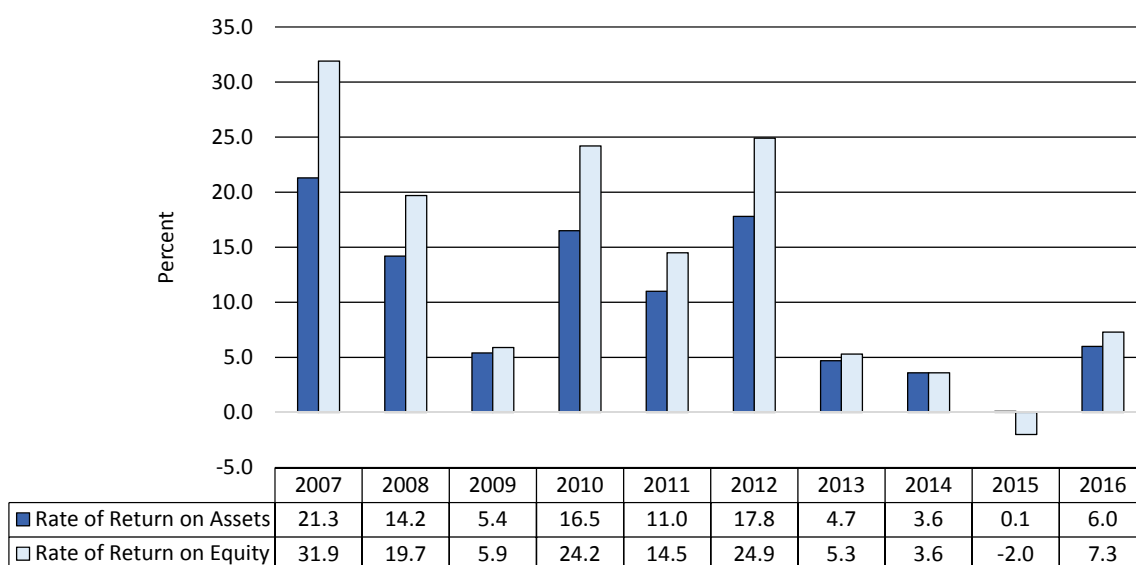


Figure 5. Assets and Liabilities Per Farm, 2016

N.D. Farm Business Management Education Program – South Central Region

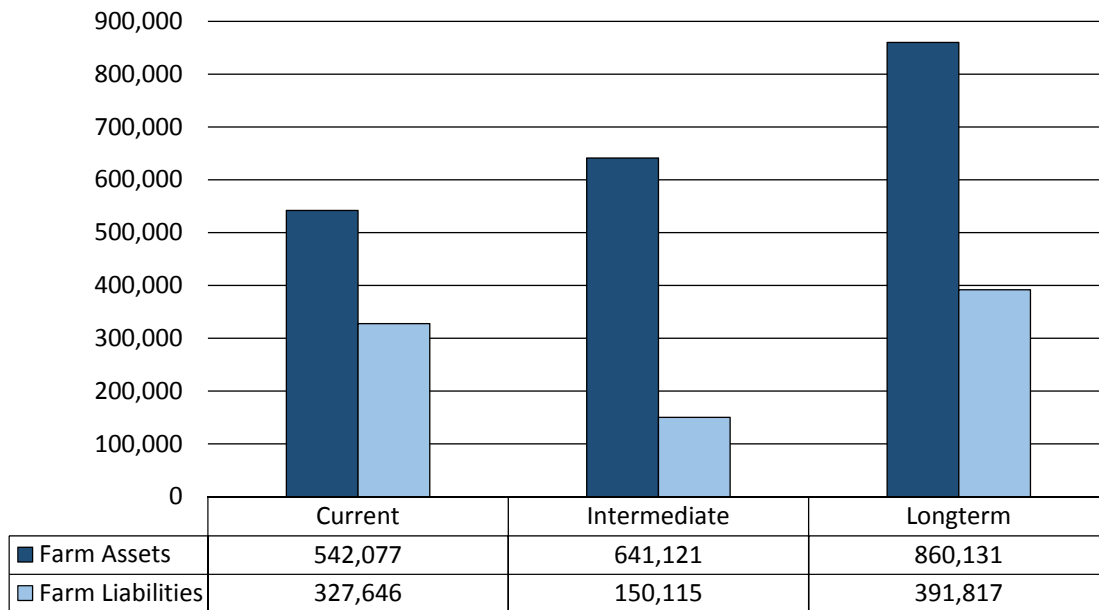


Figure 6. Total Farm Assets and Liabilities

N.D. Farm Business Management Education Program – South Central Region

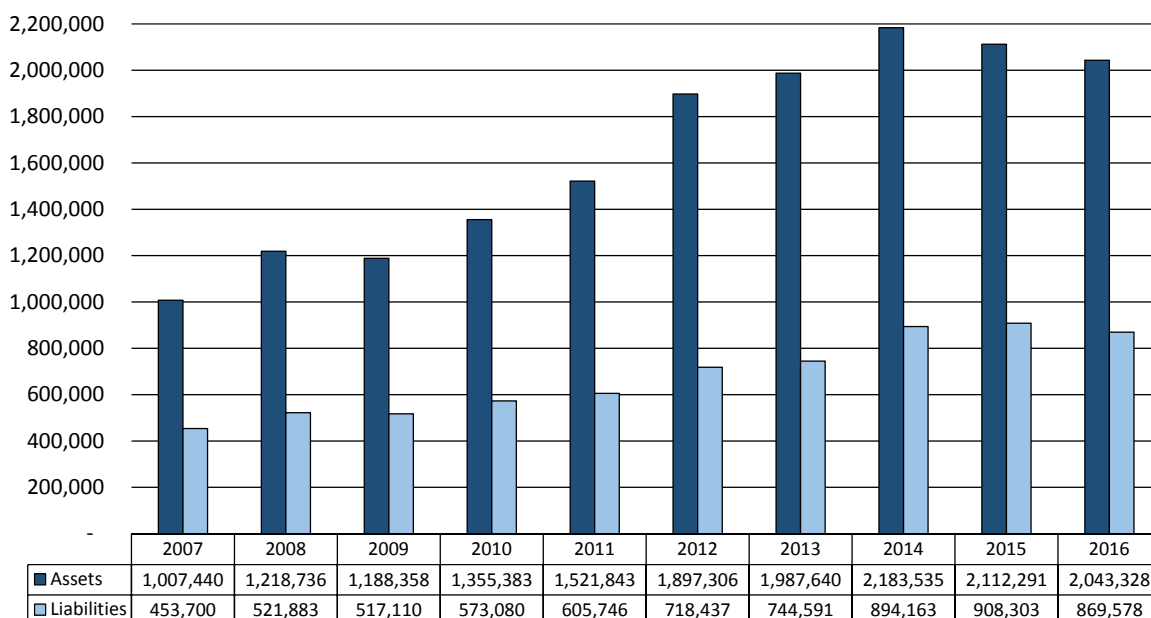


Figure 7. Household and Personal Expenses

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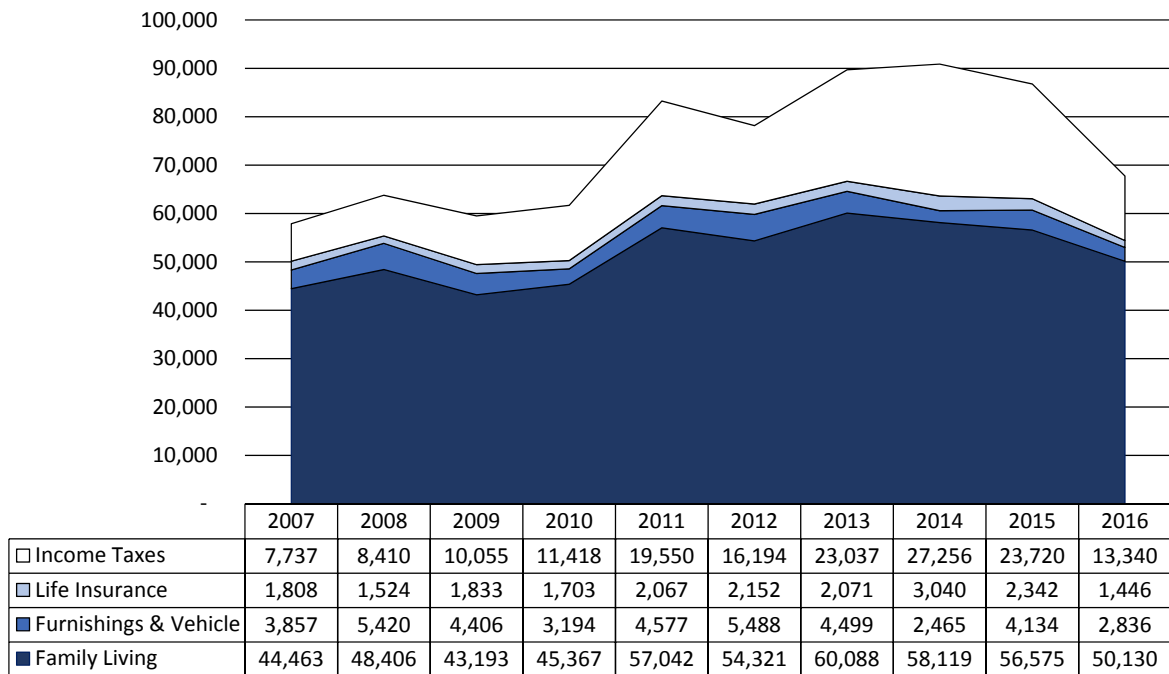


Figure 8. Crop Acreage Per Farm

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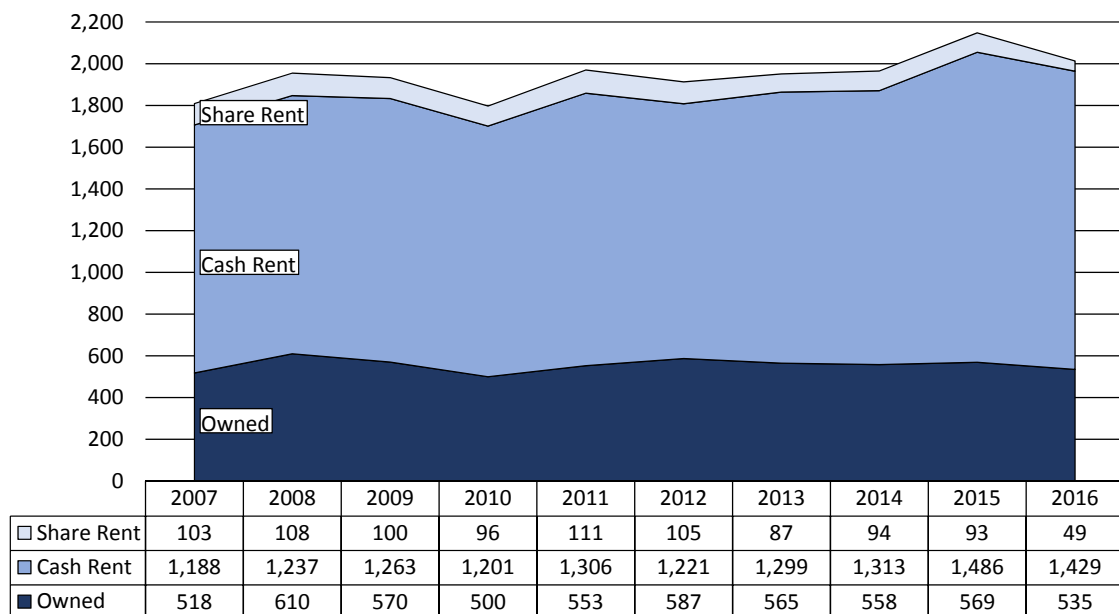


Figure 9. Spring Wheat Costs Per Acre

N.D. Farm Business Management Education Program – South Central Region

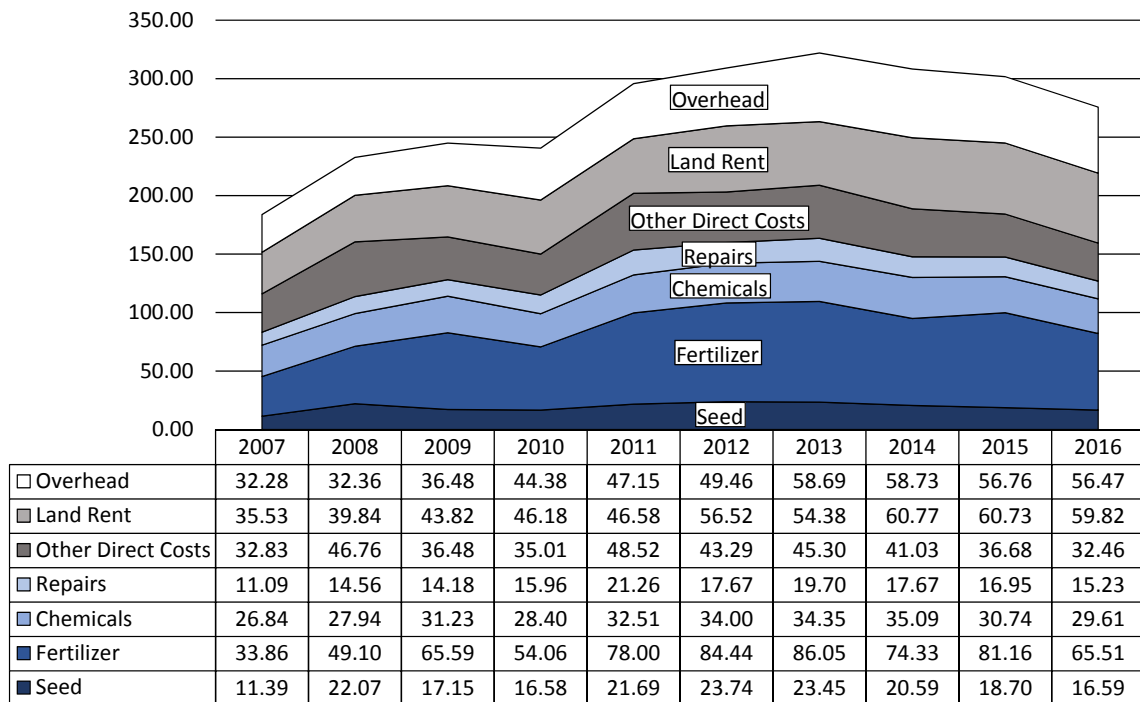
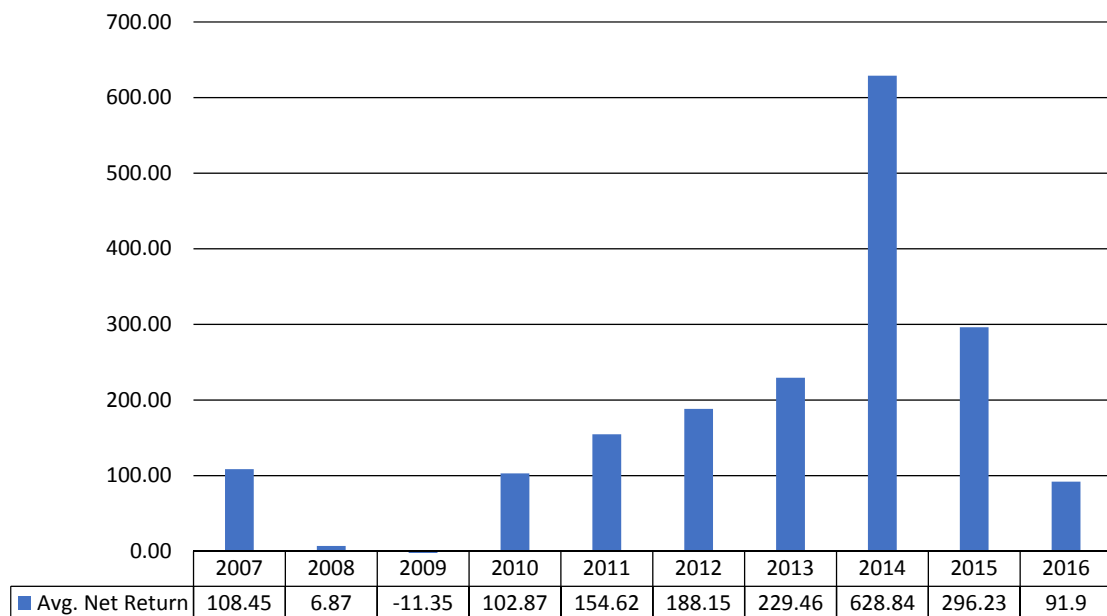
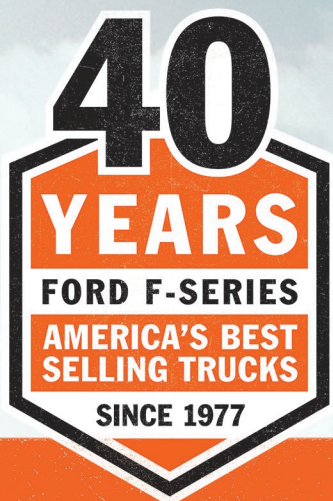


Figure 10. Average Net Return Per Beef Cow

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