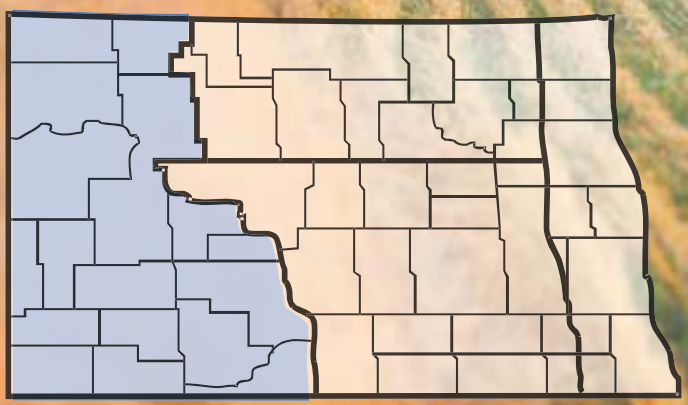
2015 ANNUAL REPORT
Western North Dakota

North Dakota Farm and Ranch Business
Management Education



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NORTH DAKOTA
FARM BUSINESS MANAGEMENT EDUCATION

REGION 4 – WESTERN NORTH DAKOTA
2015 ANNUAL REPORT

The Western North Dakota (Region 4) farm business analyses were submitted by the following instructors represented by their cooperating schools.

School	Instructor
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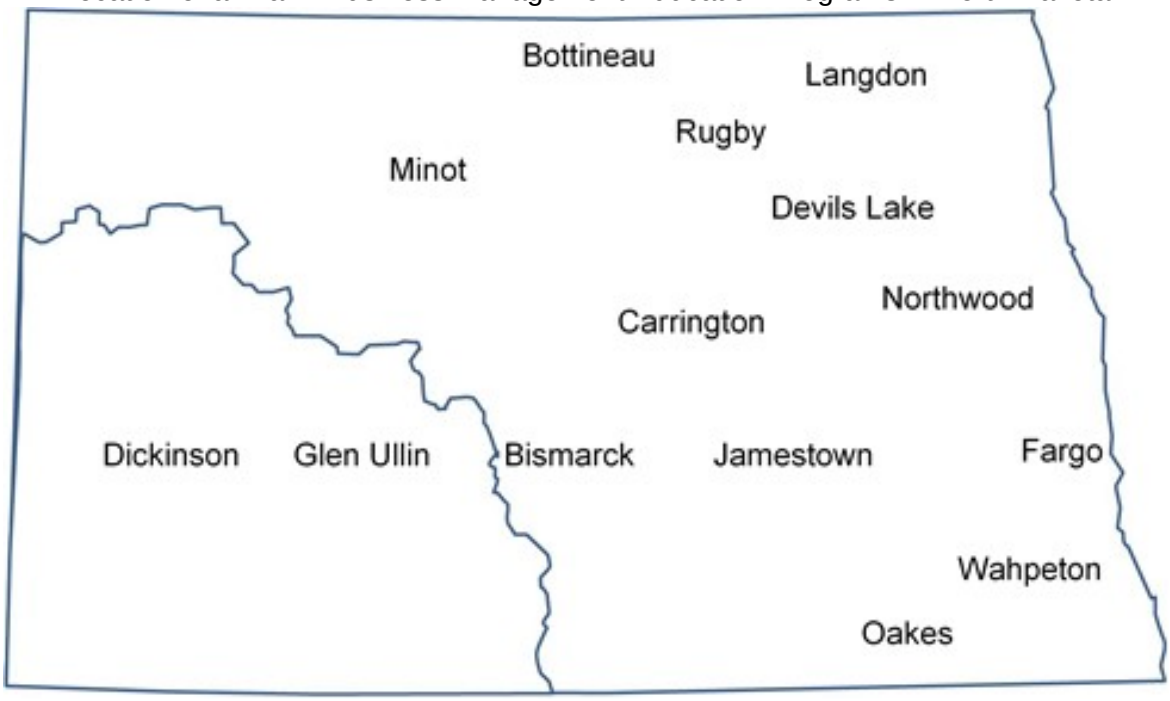
Glen Ullin High School	Donald Hagen

This report was made possible by the farm families who cooperated with their farm management instructors in getting the records for 2015 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.

Location of all Farm Business Management Education Programs in North Dakota



2015 Western North Dakota 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 2015 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 27th 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 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	76	15	15	16
Cash Farm Income				
Barley	4,447	8,660	2,322	4,117
Beans, Garbonzo	729	-	-	3,355
Beans, Pinto	4,123	7,302	-	-
Canola	3,154	-	-	39
Corn	45,630	128,627	13,247	15,149
Flax	6,692	1,802	-	10,941
Hay, Alfalfa	1,846	-	-	8,769
Hay, Mixed Alfalfa/Grass	3,328	8,915	1,868	4,261
Lentils	3,685	15,481	3,190	-
Oats	1,023	615	1,828	1,552
Peas, Field	8,302	95	2,075	24,019
Radishes	1,290	6,535	-	-
Rye	2,441	-	-	11,597
Soybeans	15,820	27,254	11,789	9,522
Straw	80	-	-	198
Sunflowers	46,455	67,785	30,678	61,237
Sunflowers, Confectionary	648	-	1,392	1,775
Wheat, Durum	18,928	20,122	18,244	41,664
Wheat, Spring	99,622	179,711	51,681	71,579
Wheat, Winter	4,638	4,762	5,738	8,996
Miscellaneous crop income	4	-	-	-
Beef Bulls	12,683	-	3,050	43,740
Beef Cow-Calf, Beef Calves	64,305	40,433	42,984	145,495
Beef Replacement Heifers	9,554	-	3,679	38,971
Beef Backgrounding	49,299	91,772	16,991	53,820
Beef Finishing	819	127	-	-
Beef Finish Yearlings	11,199	-	-	41,655
Dairy, Milk	52,265	-	42,093	208,797
Dairy, Dairy Calves	3,609	-	2,765	14,550
Hogs, Finish Feeder Pigs	47	140	-	-
Honey Production, Honey	526	-	-	2,500
Dairy Backgrounding	207	-	-	985
Cull breeding livestock	22,477	10,104	13,527	46,718
Misc. livestock income	2,834	11,471	97	478
Crop government payments	7,582	8,573	3,871	8,226
CRP payments	36	-	-	166
Other government payments	8,832	9,208	5,725	18,243
Custom work income	9,026	15,774	1,839	11,181
Patronage dividends, cash	3,721	4,608	1,823	4,237
Crop insurance income	18,118	24,704	11,988	29,870
Property insurance income	6,106	1,214	220	20,766
Other farm income	13,900	8,247	6,181	21,874
Gross Cash Farm Income	570,031	704,040	300,884	991,041

Farm Income Statement (continued)
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	76	15	15	16
Cash Farm Expense				
Seed	32,248	67,353	11,843	29,851
Fertilizer	68,950	122,180	40,239	62,223
Crop chemicals	34,820	62,726	30,294	37,514
Crop insurance	17,212	22,831	11,627	23,135
Storage	511	267	-	629
Irrigation energy	315	582	-	-
Crop marketing	142	203	94	170
Crop miscellaneous	863	2,109	51	1,910
Feeder livestock purchase	14,318	4,183	638	62,229
Purchased feed	38,635	15,939	22,774	127,034
Breeding fees	612	54	40	1,980
Veterinary	7,568	3,445	5,639	19,110
Supplies	2,094	454	1,833	6,289
Livestock leases	959	-	-	4,414
Grazing fees	123	-	-	341
Livestock marketing	5,009	1,537	1,352	19,271
Interest	30,711	54,269	18,256	42,591
Fuel & oil	22,604	25,781	13,203	33,648
Repairs	37,549	40,616	24,080	56,755
Custom hire	24,676	33,758	14,442	42,013
Hired labor	17,963	15,470	11,947	52,673
Land rent	55,978	93,312	42,689	70,141
Machinery leases	2,391	3,419	1,533	5,429
Building leases	230	638	-	4
Real estate taxes	2,232	2,698	876	2,301
Farm insurance	8,703	8,978	5,503	15,066
Utilities	7,428	7,454	4,347	13,963
Dues & professional fees	1,402	1,504	667	1,868
Miscellaneous	10,263	13,799	5,163	13,798
Total cash expense	446,509	605,559	269,132	746,348
Net cash farm income	123,522	98,480	31,752	244,693
Inventory Changes				
Prepaids and supplies	-2,838	-4,959	-5,177	-904
Accounts receivable	-5,043	-301	-7,262	-8,014
Hedging accounts	4,581	1,000	-20	20,842
Other current assets	574	-13,909	-22	16,724
Crops and feed	-31,191	-120,640	19,935	6,034
Market livestock	-886	-21,926	13,636	48,151
Breeding livestock	-15,401	-12,205	-21,509	-36,946
Other assets	-1,694	2,673	2,680	-17,335
Accounts payable	-5,393	-16,910	3,690	-22,723
Accrued interest	-2,932	-4,796	-1,295	-6,829
Total inventory change	-60,223	-191,974	4,654	-999
Net operating profit	63,299	-93,493	36,406	243,694
Depreciation				
Machinery and equipment	-35,132	-49,041	-18,076	-51,421
Titled vehicles	-5,939	-6,257	-2,800	-8,364
Buildings and improvements	-5,157	-4,898	-1,381	-11,173
Total depreciation	-46,229	-60,197	-22,258	-70,958
Net farm income from operations	17,070	-153,690	14,148	172,737
Gain or loss on capital sales	768	-	-	3,258
Net farm income	17,838	-153,690	14,148	175,995

Inventory Changes
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	76	15	15	16
Net cash farm income	123,522	98,480	31,752	244,693
Crops and Feed				
Ending inventory	251,382	380,939	139,972	318,205
Beginning inventory	282,573	501,579	120,037	312,171
Inventory change	-31,191	-120,640	19,935	6,034
Market Livestock				
Ending inventory	107,996	97,908	66,173	256,693
Beginning inventory	108,882	119,834	52,537	208,542
Inventory change	-886	-21,926	13,636	48,151
Accts Receivable				
Ending inventory	18,952	17,349	1,455	32,335
Beginning inventory	23,995	17,650	8,717	40,349
Inventory change	-5,043	-301	-7,262	-8,014
Prepaid Expenses and Supplies				
Ending inventory	21,229	22,240	5,262	45,723
Beginning inventory	24,067	27,199	10,440	46,628
Inventory change	-2,838	-4,959	-5,177	-904
Hedging Activities				
Ending inventory	2,211	1,000	-	9,563
Withdrawals	3,287	-	873	14,795
Beginning inventory	843	-	600	3,441
Deposits	74	-	293	75
Gain or loss	4,581	1,000	-20	20,842
Other Current Assets				
Ending inventory	5,092	-	-	22,941
Beginning inventory	4,517	13,909	22	6,216
Inventory change	574	-13,909	-22	16,724
Breeding Livestock				
Ending inventory	175,455	145,849	142,020	356,799
Capital sales	8,790	12,738	1,661	16,592
Beginning inventory	158,977	145,458	120,959	309,698
Capital purchases	40,669	25,334	44,231	100,639
Depreciation, capital adjust	-15,401	-12,205	-21,509	-36,946
Other Capital Assets				
Ending inventory	21,397	24,740	18,820	18,235
Capital sales	833	25	67	3,870
Beginning inventory	19,405	22,058	10,390	23,517
Capital purchases	4,519	33	5,817	15,923
Depreciation, capital adjust	-1,694	2,673	2,680	-17,335
Accounts Payable				
Beginning inventory	15,602	14,323	6,629	23,571
Ending inventory	20,994	31,233	2,939	46,294
Inventory change	-5,393	-16,910	3,690	-22,723
Accrued Interest				
Beginning inventory	11,139	19,049	6,840	13,518
Ending inventory	14,072	23,845	8,135	20,350
Inventory change	-2,932	-4,796	-1,295	-6,829
Total inventory change	-60,223	-191,974	4,654	-999
Net operating profit	63,299	-93,493	36,406	243,694

Depreciation
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	76	15	15	16
Net operating profit	63,299	-93,493	36,406	243,694
Machinery and Equipment				
Ending inventory	381,175	496,175	235,358	501,139
Capital sales	4,380	3,369	1,147	13,270
Beginning inventory	368,724	514,343	206,251	455,647
Capital purchases	51,963	34,242	48,330	110,183
Depreciation, capital adjust.	-35,132	-49,041	-18,076	-51,421
Titled Vehicles				
Ending inventory	56,718	68,924	37,827	75,655
Capital sales	1,001	220	2,067	640
Beginning inventory	56,183	73,857	39,026	64,198
Capital purchases	7,475	1,545	3,668	20,461
Depreciation, capital adjust.	-5,939	-6,257	-2,800	-8,364
Buildings and Improvements				
Ending inventory	127,818	112,825	60,325	260,876
Capital sales	263	-	-	1,250
Beginning inventory	124,167	107,777	60,271	260,236
Capital purchases	9,072	9,946	1,435	13,063
Depreciation, capital adjust.	-5,157	-4,898	-1,381	-11,173
Total depreciation, capital adj.	-46,229	-60,197	-22,258	-70,958
Net farm income from operations	17,070	-153,690	14,148	172,737
Gain or loss on capital sales	768	-	-	3,258
Net farm income	17,838	-153,690	14,148	175,995

Profitability Measures
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	76	15	15	16
Profitability (assets valued at cost)				
Net farm income from operations	17,070	-153,690	14,148	172,737
Rate of return on assets	0.6 %	-8.0 %	0.2 %	6.4 %
Rate of return on equity	-3.2 %	-34.2 %	-4.6 %	8.5 %
Operating profit margin	1.8 %	-27.0 %	0.6 %	19.2 %
Asset turnover rate	30.3 %	29.7 %	33.0 %	33.2 %
Farm interest expense	33,643	59,066	19,552	49,419
Value of operator lbr and mgmt.	42,047	49,389	31,863	62,124
Return on farm assets	8,667	-144,013	1,837	160,032
Average farm assets	1,558,379	1,792,808	863,407	2,512,873
Return on farm equity	-24,976	-203,079	-17,714	110,613
Average farm equity	772,522	593,530	386,646	1,308,229
Value of farm production	471,410	532,518	284,909	833,373

Liquidity & Repayment Capacity Measures
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	76	15	15	16
Liquidity				
Current ratio	1.53	1.06	1.35	2.06
Working capital	148,041	28,985	61,118	393,728
Working capital to gross inc	31.7 %	5.4 %	20.0 %	46.7 %
Current assets	426,684	535,251	233,371	763,940
Current liabilities	278,643	506,266	172,253	370,212
Gross revenues (accrual)	467,599	531,957	305,848	843,045
Repayment capacity				
Net farm income from operations	17,070	-153,690	14,148	172,737
Depreciation	46,229	60,197	22,258	70,958
Personal income	37,293	26,131	59,034	12,428
Family living/owner withdrawals	-55,968	-58,971	-51,073	-56,301
Cash discrepancy	-360	1,805	-2,871	-104
Payments on personal debt	-3,947	-4,077	-4,526	-3,965
Income taxes paid	-9,514	-4,431	-9,728	-9,678
Interest on term debt	20,613	29,401	13,193	35,116
Capital debt repayment capacity	51,778	-105,439	43,306	221,294
Scheduled term debt payments	-86,940	-107,393	-50,666	-139,839
Capital debt repayment margin	-35,162	-212,832	-7,360	81,455
Cash replacement allowance	-11,341	-11,552	-6,787	-14,581
Replacement margin	-46,503	-224,384	-14,146	66,874
Term debt coverage ratio	0.60	-0.98	0.85	1.58
Replacement coverage ratio	0.53	-0.89	0.75	1.43

Balance Sheet at Cost Values
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	70	13	14	13
Assets				
Current Farm Assets				
Cash and checking balance	28,435	2,917	21,024	70,508
Prepaid expenses & supplies	21,970	24,977	4,233	52,664
Growing crops	1,217	-	-	5,019
Accounts receivable	17,154	20,018	1,559	21,369
Hedging accounts	2,400	1,154	-	11,769
Crops held for sale or feed	246,230	364,735	135,655	338,098
Crops under government loan	4,479	24,118	-	-
Market livestock held for sale	104,799	97,331	70,899	264,512
Other current assets	-	-	-	-
Total current farm assets	426,684	535,251	233,371	763,940
Intermediate Farm Assets				
Breeding livestock	161,942	148,189	152,164	305,495
Machinery and equipment	365,066	423,149	229,497	527,895
Titled vehicles	54,784	62,980	38,793	74,939
Other intermediate assets	6,150	3,469	9,275	16,271
Total intermediate farm assets	587,941	637,787	429,730	924,601
Long Term Farm Assets				
Farm land	367,512	277,816	176,910	728,762
Buildings and improvements	98,286	99,095	60,684	138,410
Other long-term assets	14,827	17,038	8,107	5,071
Total long-term farm assets	480,625	393,949	245,701	872,244
Total Farm Assets	1,495,251	1,566,986	908,802	2,560,784
Total Nonfarm Assets	211,492	221,657	154,994	228,296
Total Assets	1,706,743	1,788,643	1,063,796	2,789,080
Liabilities				
Current Farm Liabilities				
Accrued interest	14,111	23,848	8,449	22,718
Accounts payable	14,494	36,038	3,149	12,286
Current notes	174,804	364,401	106,424	187,025
Government crop loans	2,877	15,489	-	-
Principal due on term debt	72,357	66,490	54,230	148,184
Total current farm liabilities	278,643	506,266	172,253	370,212
Total intermediate farm liabs	198,770	334,605	174,500	331,303
Total long term farm liabilities	275,220	282,786	161,665	498,984
Total farm liabilities	752,633	1,123,658	508,418	1,200,499
Total nonfarm liabilities	46,746	27,721	63,764	17,423
Total liabilities	799,379	1,151,379	572,182	1,217,922
Net worth (farm and nonfarm)	907,364	637,264	491,614	1,571,157
Net worth change	-11,023	-176,884	10,512	106,897
Percent net worth change	-1 %	-22 %	2 %	7 %
Ratio Analysis				
Current farm liabilities / assets	65 %	95 %	74 %	48 %
Intermediate farm liab. / assets	34 %	52 %	41 %	36 %
Long term farm liab. / assets	57 %	72 %	66 %	57 %
Total debt to asset ratio	47 %	64 %	54 %	44 %

Statement Of Cash Flows
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	76	15	15	16
Beginning cash (farm & nonfarm)	40,229	20,556	61,376	48,920
Cash Provided By Operating Activities				
Gross cash farm income	570,031	704,040	300,884	991,041
Total cash farm expense	-446,509	-605,559	-269,132	-746,348
Net cash from hedging transactions	3,213	-	580	14,720
Cash provided by operating	126,735	98,480	32,332	259,414
Cash Provided By Investing Activities				
Sale of breeding livestock	8,790	12,738	1,661	16,592
Sale of machinery & equipment	5,299	3,369	1,147	17,465
Sale of titled vehicles	1,047	220	2,067	640
Sale of farm land	-	-	-	-
Sale of farm buildings	66	-	-	313
Sale of other farm assets	833	25	67	3,870
Sale of nonfarm assets	1,082	-	3,571	-
Purchase of breeding livestock	-40,669	-25,334	-44,231	-100,639
Purchase of machinery & equip.	-51,963	-34,242	-48,330	-110,183
Purchase of titled vehicles	-7,475	-1,545	-3,668	-20,461
Purchase of farm land	-61,313	-30,662	-	-174,617
Purchase of farm buildings	-9,072	-9,946	-1,435	-13,063
Purchase of other farm assets	-4,519	-33	-5,817	-15,923
Purchase of nonfarm assets	-22,343	-32,495	-19,435	-9,280
Cash provided by investing	-180,238	-117,906	-114,404	-405,286
Cash Provided By Financing Activities				
Money borrowed	526,222	844,312	348,404	726,434
Principal payments	-450,693	-811,015	-279,528	-505,539
Personal income	37,293	26,131	59,034	12,428
Family living/owner withdrawals	-55,968	-58,971	-51,073	-56,301
Income and social security tax	-9,514	-4,431	-9,728	-9,678
Capital contributions	57	162	127	-
Capital distributions	-22	-	-	-106
Dividends paid	-	-	-	-
Cash gifts and inheritances	764	270	-	44
Gifts given	-162	-	-667	-58
Other cash flows	-	-	-	-
Cash provided by financing	47,977	-3,542	66,569	167,223
Net change in cash balance	-5,526	-22,968	-15,503	21,351
Ending cash (farm & nonfarm)	34,343	-607	43,002	70,167
Discrepancy	360	-1,805	2,871	104

Financial Standards Measures
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	76	15	15	16
Liquidity				
Current ratio	1.53	1.06	1.35	2.06
Working capital	148,041	28,985	61,118	393,728
Working capital to gross inc	31.7 %	5.4 %	20.0 %	46.7 %
Solvency (cost)				
Farm debt to asset ratio	50 %	72 %	56 %	47 %
Farm equity to asset ratio	50 %	28 %	44 %	53 %
Farm debt to equity ratio	1.01	2.53	1.27	0.88
Profitability (cost)				
Rate of return on farm assets	0.6 %	-8.0 %	0.2 %	6.4 %
Rate of return on farm equity	-3.2 %	-34.2 %	-4.6 %	8.5 %
Operating profit margin	1.8 %	-27.0 %	0.6 %	19.2 %
Net farm income	17,838	-153,690	14,148	175,995
EBITDA	96,943	-34,428	55,958	293,114
Repayment Capacity				
Capital debt repayment capacity	51,778	-105,439	43,306	221,294
Capital debt repayment margin	-35,162	-212,832	-7,360	81,455
Replacement margin	-46,503	-224,384	-14,146	66,874
Term debt coverage ratio	0.60	-0.98	0.85	1.58
Replacement coverage ratio	0.53	-0.89	0.75	1.43
Efficiency				
Asset turnover rate (cost)	30.3 %	29.7 %	33.0 %	33.2 %
Operating expense ratio	81.5 %	106.2 %	81.9 %	71.3 %
Depreciation expense ratio	8.8 %	10.9 %	7.2 %	6.9 %
Interest expense ratio	6.4 %	10.7 %	6.3 %	4.8 %
Net farm income ratio	3.4 %	-27.8 %	4.6 %	17.2 %

Crop Production and Marketing Summary
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	76	15	15	16
Acreage Summary				
Total acres owned	963	998	355	1,434
Total crop acres	1,564	2,463	923	1,869
Crop acres owned	397	501	153	359
Crop acres cash rented	1,083	1,832	719	1,456
Crop acres share rented	83	130	51	54
Total pasture acres	1,619	1,441	1,263	2,489
Percent crop acres owned	25 %	20 %	17 %	19 %
Mach invest/crop acre cost	273	234	278	292
Average Price Received (Cash Sales Only)				
Wheat, Spring per bushel	4.75	4.90	5.11	4.52
Sunflowers per cwt	18.27	17.25	-	19.68
Corn per bushel	3.24	3.25	-	3.26
Soybeans per bushel	8.49	-	-	-
Wheat, Durum per bushel	6.30	-	-	6.21
Barley per bushel	3.87	-	-	-
Hay, Mixed Alfalfa/Grass per ton	64.89	-	-	-
Flax per bushel	10.65	-	-	-
Oats per bushel	2.28	-	-	-
Wheat, Winter per bushel	4.27	-	-	-
Canola per cwt	16.06	-	-	-
Average Yield Per Acre				
Pasture (aum)	0.619	0.584	0.886	0.587
Wheat, Spring (bushel)	50.83	47.95	49.12	52.52
Hay, Mixed Alfalfa/Grass (ton)	1.45	1.40	1.23	1.30
Corn (bushel)	78.17	75.29	71.27	93.69
Sunflowers (cwt)	15.66	14.04	17.13	21.01
Hay, Small Grain (ton)	2.77	2.80	-	3.08
Hay, Grass (ton)	1.23	1.32	-	1.74
Hay, Alfalfa (ton)	1.81	1.86	-	1.70
Barley (bushel)	54.16	-	61.03	55.06
Corn Silage (ton)	14.54	-	-	15.64
Flax (bushel)	19.67	-	-	19.83
Oats (bushel)	78.90	60.81	-	-
Soybeans (bushel)	27.58	-	-	-

Household and Personal Expenses
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*
Number of farms	25	5	7
Average family size	2.8	1.8	2.3
Family Living Expenses			
Food and meals expense	9,221	5,717	9,499
Medical care	4,249	2,640	4,148
Health insurance	6,316	8,405	2,798
Cash donations	2,110	823	1,484
Household supplies	5,497	7,607	5,657
Clothing	1,287	174	1,506
Personal care	2,015	401	1,203
Child / Dependent care	279	-	627
Alimony and child support	-	-	-
Gifts	1,746	389	2,080
Education	629	10	361
Recreation	3,305	2,596	3,871
Utilities (household share)	3,175	3,178	2,397
Personal vehicle operating exp	3,893	3,219	4,231
Household real estate taxes	231	356	121
Dwelling rent	1,708	2,647	2,539
Household repairs	1,590	1,843	1,223
Personal interest	2,406	2,267	1,038
Disability / Long term care ins	500	-	-
Life insurance payments	1,125	1,074	581
Personal property insurance	421	407	293
Miscellaneous	5,175	5,727	4,575
Total cash family living expense	56,879	49,479	50,232
Family living from the farm	306	-	-
Total family living	57,185	49,479	50,232
Other Nonfarm Expenditures			
Income taxes	11,212	3,412	9,548
Furnishing & appliance purchases	-	-	-
Nonfarm vehicle purchases	1,013	-	-1,714
Nonfarm real estate purchases	38,578	83,534	-
Other nonfarm capital purchases	4,633	-	14,618
Nonfarm savings & investments	-6,279	-33,268	-841
Total other nonfarm expenditures	49,156	53,678	21,611
Total cash family living investment & nonfarm capital purch	106,035	103,157	71,843

Operator and Labor Information
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	76	15	15	16
Operator Information				
Average number of operators	1.1	1.1	1.1	1.2
Average age of operators	43.8	45.8	37.6	42.8
Average number of years farming	19.8	22.2	12.0	19.3
Results Per Operator				
Working capital	123,087	-8,825	51,155	284,883
Total assets (cost)	1,662,821	1,693,598	972,040	2,470,476
Total liabilities	811,897	1,110,661	531,090	1,160,620
Net worth (cost)	850,924	582,937	440,949	1,309,857
Gross farm income	485,995	487,624	289,051	861,167
Total farm expense	470,174	623,233	275,787	715,705
Net farm income from operations	15,821	-135,609	13,264	145,463
Net nonfarm income	34,564	23,057	55,345	10,466
Family living & tax withdrawals	61,023	54,351	59,693	55,649
Total acres owned	892.3	880.9	333.1	1,207.4
Total crop acres	1,449.2	2,172.9	865.1	1,573.9
Crop acres owned	367.8	442.2	143.2	302.0
Crop acres cash rented	1,004.2	1,616.4	673.7	1,226.4
Crop acres share rented	77.2	114.3	48.1	45.5
Total pasture acres	1,500.6	1,271.1	1,183.6	2,096.3
Labor Analysis				
Number of farms	76	15	15	16
Total unpaid labor hours	2,120	2,520	1,503	2,872
Total hired labor hours	836	757	348	2,621
Total labor hours per farm	2,956	3,277	1,852	5,493
Unpaid hours per operator	1,965	2,224	1,409	2,418

Nonfarm Summary
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	76	15	15	16
Nonfarm Income				
Personal wages & salary	30,000	19,995	48,151	8,372
Net nonfarm business income	1,388	4,435	5,343	584
Personal rental income	19	-	95	-
Personal interest income	221	1	14	983
Personal cash dividends	10	30	-	-
Tax refunds	1,343	652	2,815	156
Other nonfarm income	4,313	1,018	2,615	2,334
Total nonfarm income	37,293	26,131	59,034	12,428
Gifts and inheritances	764	270	-	44

Financial Summary
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Gross Farm Income)

	Avg. Of All Farms	*Less than 100,000*	*100,001 - 250,000*	*250,001 - 500,000*	*500,001 - 1,000,000*	*1,000,001- 2,000,000*
Number of farms	76	13	8	27	19	7
Income Statement						
Gross cash farm income	570,031	57,947	144,427	352,348	781,740	1,348,437
Total cash farm expense	446,509	51,831	122,779	258,830	581,135	1,126,159
Net cash farm income	123,522	6,115	21,648	93,517	200,604	222,277
Inventory change	-60,223	20,535	-14,549	-31,883	-113,720	-179,411
Depreciation	-46,229	-6,293	-11,477	-26,755	-63,622	-153,239
Net farm income from operations	17,070	20,357	-4,377	34,880	23,263	-110,372
Gain or loss on capital sales	768	115	7,109	-	-	-
Average net farm income	17,838	20,473	2,732	34,880	23,263	-110,372
Median net farm income	17,044	9,112	6,774	21,604	44,720	-8,991
Profitability (cost)						
Rate of return on assets	0.6 %	4.5 %	-1.6 %	2.1 %	0.3 %	-4.0 %
Rate of return on equity	-3.2 %	6.3 %	-12.1 %	0.0 %	-2.7 %	-11.3 %
Operating profit margin	1.8 %	18.9 %	-8.0 %	7.9 %	1.1 %	-10.2 %
Asset turnover rate	30.3 %	23.7 %	19.6 %	27.2 %	28.6 %	39.4 %
Liquidity & Repayment (end of year)						
Current assets	426,684	44,973	160,217	295,443	725,298	920,706
Current liabilities	278,643	27,527	125,947	189,130	401,875	702,028
Current ratio	1.53	1.63	1.27	1.56	1.80	1.31
Working capital	148,041	17,446	34,270	106,313	323,422	218,677
Working capital to gross inc	31.7 %	29.5 %	25.2 %	33.0 %	46.7 %	18.3 %
Term debt coverage ratio	0.60	2.19	0.48	0.72	0.46	0.08
Replacement coverage ratio	0.53	2.03	0.38	0.67	0.39	0.06
Term debt to EBITDA	4.75	4.37	11.29	4.25	4.42	5.67
Solvency (end of year at cost)						
Number of sole proprietors	70	12	8	26	16	7
Total assets	1,706,743	477,017	770,772	1,292,511	2,545,676	3,621,495
Total liabilities	799,379	299,567	437,923	626,212	1,049,158	1,441,034
Net worth	907,364	177,450	332,848	666,299	1,496,517	2,180,461
Net worth change	-11,023	26,411	2,342	8,146	-17,877	-159,982
Farm debt to asset ratio	50 %	63 %	64 %	51 %	44 %	47 %
Total debt to asset ratio	47 %	63 %	57 %	48 %	41 %	40 %
Change in earned net worth %	-1 %	17 %	1 %	1 %	-1 %	-7 %
Nonfarm Information						
Net nonfarm income	37,293	72,446	39,075	36,365	13,787	46,222
Farms reporting living expenses	25	4	3	12	3	3
Total family living expense	57,185	-	-	58,614	-	-
Crop Acres						
Total crop acres	1,564	152	628	1,139	2,367	3,906
Total crop acres owned	397	89	196	340	739	424
Total crop acres cash rented	1,083	62	257	716	1,494	3,460
Total crop acres share rented	83	-	175	83	134	22
Machinery value per crop acre	273	468	155	218	295	323

Financial Summary
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Age of Operator)

	Avg. Of All Farms	Less Than 31	31 - 40	41 - 50	51 - 60	Over 60
Number of farms	76	16	20	9	19	12
Income Statement						
Gross cash farm income	570,031	123,768	604,354	635,787	791,767	707,440
Total cash farm expense	446,509	96,923	469,653	487,805	617,523	572,304
Net cash farm income	123,522	26,845	134,701	147,982	174,244	135,137
Inventory change	-60,223	6,363	-80,913	-97,646	-96,680	-28,727
Depreciation	-46,229	-7,863	-38,925	-53,259	-83,414	-45,409
Net farm income from operations	17,070	25,345	14,863	-2,923	-5,850	61,001
Gain or loss on capital sales	768	391	2,606	-	-	-
Average net farm income	17,838	25,736	17,469	-2,923	-5,850	61,001
Median net farm income	17,044	15,123	13,086	62,416	18,686	20,235
Profitability (cost)						
Rate of return on assets	0.6 %	3.9 %	1.1 %	-1.5 %	-0.7 %	2.9 %
Rate of return on equity	-3.2 %	3.9 %	-5.1 %	-4.9 %	-4.9 %	1.9 %
Operating profit margin	1.8 %	14.1 %	3.9 %	-4.3 %	-2.4 %	8.6 %
Asset turnover rate	30.3 %	27.4 %	28.8 %	33.9 %	28.9 %	33.7 %
Liquidity & Repayment (end of year)						
Current assets	426,684	112,645	431,442	578,174	683,029	316,573
Current liabilities	278,643	85,989	346,458	392,753	366,153	187,311
Current ratio	1.53	1.31	1.25	1.47	1.87	1.69
Working capital	148,041	26,656	84,984	185,421	316,876	129,262
Working capital to gross inc	31.7 %	22.4 %	16.1 %	31.5 %	44.1 %	38.2 %
Term debt coverage ratio	0.60	1.56	0.49	0.00	0.55	0.92
Replacement coverage ratio	0.53	1.47	0.47	0.00	0.45	0.81
Term debt to EBITDA	4.75	3.13	6.26	3.82	5.09	3.53
Solvency (end of year at cost)						
Number of sole proprietors	70	15	19	9	17	10
Total assets	1,706,743	580,316	1,749,126	1,972,325	2,746,748	1,308,822
Total liabilities	799,379	353,960	1,113,021	806,759	1,081,286	385,705
Net worth	907,364	226,356	636,105	1,165,566	1,665,462	923,118
Net worth change	-11,023	26,665	-4,846	-76,347	-7,501	-26,484
Farm debt to asset ratio	50 %	61 %	66 %	42 %	43 %	36 %
Total debt to asset ratio	47 %	61 %	64 %	41 %	39 %	29 %
Change in earned net worth %	-1 %	13 %	-1 %	-6 %	0 %	-3 %
Nonfarm Information						
Net nonfarm income	37,293	50,614	34,211	19,493	43,307	28,497
Farms reporting living expenses	25	6	5	2	7	5
Total family living expense	57,185	42,501	53,933	-	69,417	54,867
Crop Acres						
Total crop acres	1,564	425	1,673	2,473	2,210	1,193
Total crop acres owned	397	60	287	448	741	446
Total crop acres cash rented	1,083	217	1,328	1,973	1,374	705
Total crop acres share rented	83	147	59	52	96	43
Machinery value per crop acre	273	190	203	233	353	307

Financial Summary
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Farm Type)

	Avg. Of All Farms	*Crop*	*Beef*	*Crop and Beef*	*Other*
Number of farms	76	22	18	24	10
Income Statement					
Gross cash farm income	570,031	752,641	255,123	597,504	312,938
Total cash farm expense	446,509	594,264	162,209	481,031	217,550
Net cash farm income	123,522	158,377	92,913	116,472	95,388
Inventory change	-60,223	-94,126	-27,195	-77,901	-19,902
Depreciation	-46,229	-80,365	-13,658	-43,782	-24,614
Net farm income from operations	17,070	-16,114	52,060	-5,211	50,872
Gain or loss on capital sales	768	2,369	83	198	-
Average net farm income	17,838	-13,745	52,144	-5,013	50,872
Median net farm income	17,044	19,237	17,198	-7,307	39,996
Profitability (cost)					
Rate of return on assets	0.6 %	-1.7 %	4.4 %	-0.4 %	4.7 %
Rate of return on equity	-3.2 %	-6.4 %	4.9 %	-6.6 %	5.8 %
Operating profit margin	1.8 %	-4.7 %	21.9 %	-1.4 %	14.8 %
Asset turnover rate	30.3 %	36.5 %	20.2 %	26.8 %	31.4 %
Liquidity & Repayment (end of year)					
Current assets	426,684	559,493	249,978	529,955	212,484
Current liabilities	278,643	370,728	98,847	391,262	175,602
Current ratio	1.53	1.51	2.53	1.35	1.21
Working capital	148,041	188,764	151,131	138,693	36,882
Working capital to gross inc	31.7 %	27.1 %	66.7 %	27.0 %	12.7 %
Term debt coverage ratio	0.60	0.35	1.82	0.23	1.12
Replacement coverage ratio	0.53	0.29	1.56	0.21	1.04
Term debt to EBITDA	4.75	3.98	3.90	6.68	3.31
Solvency (end of year at cost)					
Number of sole proprietors	70	20	18	22	9
Total assets	1,706,743	2,315,002	1,142,499	1,839,188	1,068,074
Total liabilities	799,379	858,762	529,016	1,034,454	599,501
Net worth	907,364	1,456,240	613,483	804,734	468,572
Net worth change	-11,023	-47,088	54,953	-36,139	-2,988
Farm debt to asset ratio	50 %	43 %	48 %	58 %	58 %
Total debt to asset ratio	47 %	37 %	46 %	56 %	56 %
Change in earned net worth %	-1 %	-3 %	10 %	-4 %	-1 %
Nonfarm Information					
Net nonfarm income	37,293	36,004	63,924	22,119	29,647
Farms reporting living expenses	25	6	11	4	4
Total family living expense	57,185	67,244	45,162	-	-
Crop Acres					
Total crop acres	1,564	2,441	487	1,947	806
Total crop acres owned	397	473	238	534	185
Total crop acres cash rented	1,083	1,890	215	1,246	621
Total crop acres share rented	83	78	34	167	-
Machinery value per crop acre	273	314	279	207	266

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 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Barley on Owned Land

	Avg. Of All Farms
Number of farms	7
Acres	46.19
Yield per acre (bu.)	52.40
Operators share of yield %	100.00
Value per bu.	3.17
Other product return per acre	1.63
Total product return per acre	167.69
Gross return per acre	167.69
Direct Expenses	
Seed	12.28
Fertilizer	47.60
Crop chemicals	23.56
Crop insurance	14.52
Fuel & oil	10.12
Repairs	17.11
Custom hire	0.94
Operating interest	3.02
Total direct expenses per acre	129.15
Return over direct exp per acre	38.54
Overhead Expenses	
Custom hire	0.04
Hired labor	1.63
Machinery leases	0.30
RE & pers. property taxes	2.54
Farm insurance	4.71
Utilities	2.26
Dues & professional fees	1.02
Interest	19.95
Mach & bldg depreciation	16.30
Miscellaneous	6.60
Total overhead expenses per acre	55.34
Total dir & ovhd expenses per acre	184.49
Net return per acre	-16.80
Government payments	4.75
Net return with govt pmts	-12.05
Labor & management charge	14.93
Net return over lbr & mgt	-26.98
Cost of Production	
Total direct expense per bu.	2.46
Total dir & ovhd exp per bu.	3.52
Less govt & other income	3.40
With labor & management	3.68
Net value per unit	3.17
Machinery cost per acre	46.42
Est. labor hours per acre	1.10

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Barley on Cash Rent

	Avg. Of All Farms
Number of farms	9
Acres	196.90
Yield per acre (bu.)	54.48
Operators share of yield %	100.00
Value per bu.	3.91
Other product return per acre	0.77
Total product return per acre	214.03
Crop insurance per acre	7.85
Other crop income per acre	1.11
Gross return per acre	222.98
Direct Expenses	
Seed	20.59
Fertilizer	45.74
Crop chemicals	34.62
Crop insurance	19.13
Fuel & oil	10.34
Repairs	17.70
Custom hire	2.62
Land rent	38.42
Operating interest	3.30
Miscellaneous	0.05
Total direct expenses per acre	192.50
Return over direct exp per acre	30.49
Overhead Expenses	
Hired labor	2.39
Machinery leases	0.55
Farm insurance	3.98
Utilities	1.87
Dues & professional fees	1.01
Interest	3.61
Mach & bldg depreciation	18.13
Miscellaneous	5.06
Total overhead expenses per acre	36.59
Total dir & ovhd expenses per acre	229.08
Net return per acre	-6.10
Government payments	7.65
Net return with govt pmts	1.55
Labor & management charge	19.91
Net return over lbr & mgt	-18.36
Cost of Production	
Total direct expense per bu.	3.53
Total dir & ovhd exp per bu.	4.20
Less govt & other income	3.89
With labor & management	4.25
Net value per unit	3.91
Machinery cost per acre	51.83
Est. labor hours per acre	1.25

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Corn on Owned Land

	Avg. Of All Farms
Number of farms	13
Acres	177.11
Yield per acre (bu.)	75.27
Operators share of yield %	100.00
Value per bu.	3.13
Total product return per acre	235.36
Crop insurance per acre	22.76
Gross return per acre	258.12
Direct Expenses	
Seed	71.92
Fertilizer	75.30
Crop chemicals	19.17
Crop insurance	13.05
Drying expense	1.46
Fuel & oil	13.63
Repairs	20.08
Custom hire	2.65
Operating interest	11.60
Total direct expenses per acre	229.11
Return over direct exp per acre	29.01
Overhead Expenses	
Custom hire	5.04
Hired labor	3.93
Machinery leases	0.42
RE & pers. property taxes	4.14
Farm insurance	5.35
Utilities	3.78
Dues & professional fees	0.43
Interest	30.63
Mach & bldg depreciation	43.96
Miscellaneous	7.39
Total overhead expenses per acre	105.09
Total dir & ovhd expenses per acre	334.20
Net return per acre	-76.08
Government payments	10.33
Net return with govt pmts	-65.76
Labor & management charge	29.22
Net return over lbr & mgt	-94.97
Cost of Production	
Total direct expense per bu.	3.04
Total dir & ovhd exp per bu.	4.44
Less govt & other income	4.00
With labor & management	4.39
Net value per unit	3.13
Machinery cost per acre	87.53
Est. labor hours per acre	1.63

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Corn on Cash Rent

	Avg. Of All Farms
Number of farms	17
Acres	427.67
Yield per acre (bu.)	79.09
Operators share of yield %	100.00
Value per bu.	3.40
Other product return per acre	0.12
Total product return per acre	269.02
Crop insurance per acre	4.11
Gross return per acre	273.12
Direct Expenses	
Seed	71.59
Fertilizer	72.57
Crop chemicals	13.65
Crop insurance	9.98
Drying expense	0.86
Fuel & oil	11.49
Repairs	20.77
Custom hire	3.66
Land rent	50.82
Machinery leases	0.83
Operating interest	15.75
Miscellaneous	0.38
Total direct expenses per acre	272.35
Return over direct exp per acre	0.78
Overhead Expenses	
Custom hire	10.42
Hired labor	12.59
Machinery leases	1.32
Building leases	0.93
Farm insurance	3.40
Utilities	3.18
Dues & professional fees	0.27
Interest	8.16
Mach & bldg depreciation	36.00
Miscellaneous	4.09
Total overhead expenses per acre	80.36
Total dir & ovhd expenses per acre	352.71
Net return per acre	-79.59
Government payments	9.94
Net return with govt pmts	-69.64
Labor & management charge	20.19
Net return over lbr & mgt	-89.83
Cost of Production	
Total direct expense per bu.	3.44
Total dir & ovhd exp per bu.	4.46
Less govt & other income	4.28
With labor & management	4.54
Net value per unit	3.40
Machinery cost per acre	88.46
Est. labor hours per acre	1.40

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Corn Silage on Owned Land

	Avg. Of All Farms
Number of farms	9
Acres	60.30
Yield per acre (ton)	15.99
Operators share of yield %	100.00
Value per ton	28.19
Total product return per acre	450.77
Crop insurance per acre	22.44
Gross return per acre	473.21
Direct Expenses	
Seed	54.94
Fertilizer	48.08
Crop chemicals	9.46
Crop insurance	10.67
Fuel & oil	19.07
Repairs	27.95
Custom hire	37.30
Operating interest	4.99
Total direct expenses per acre	212.46
Return over direct exp per acre	260.75
Overhead Expenses	
Custom hire	0.29
Hired labor	13.59
RE & pers. property taxes	2.47
Farm insurance	3.77
Utilities	2.34
Interest	21.90
Mach & bldg depreciation	31.46
Miscellaneous	6.64
Total overhead expenses per acre	82.47
Total dir & ovhd expenses per acre	294.92
Net return per acre	178.29
Government payments	13.51
Net return with govt pmts	191.79
Labor & management charge	31.06
Net return over lbr & mgt	160.74
Cost of Production	
Total direct expense per ton	13.28
Total dir & ovhd exp per ton	18.44
Less govt & other income	16.19
With labor & management	18.14
Net value per unit	28.19
Machinery cost per acre	116.98
Est. labor hours per acre	2.57

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Corn Silage on Cash Rent

	Avg. Of All Farms
Number of farms	8
Acres	65.81
Yield per acre (ton)	13.03
Operators share of yield %	100.00
Value per ton	30.83
Total product return per acre	401.85
Gross return per acre	401.85
Direct Expenses	
Seed	62.80
Fertilizer	52.29
Crop chemicals	18.91
Crop insurance	13.00
Fuel & oil	18.98
Repairs	28.06
Custom hire	31.12
Land rent	37.31
Operating interest	7.47
Miscellaneous	0.21
Total direct expenses per acre	270.16
Return over direct exp per acre	131.69
Overhead Expenses	
Hired labor	7.16
Machinery leases	0.16
Farm insurance	2.59
Utilities	1.99
Dues & professional fees	0.40
Interest	3.23
Mach & bldg depreciation	25.42
Miscellaneous	5.79
Total overhead expenses per acre	46.74
Total dir & ovhd expenses per acre	316.90
Net return per acre	84.95
Government payments	11.17
Net return with govt pmts	96.12
Labor & management charge	28.23
Net return over lbr & mgt	67.89
Cost of Production	
Total direct expense per ton	20.73
Total dir & ovhd exp per ton	24.32
Less govt & other income	23.46
With labor & management	25.63
Net value per unit	30.83
Machinery cost per acre	104.67
Est. labor hours per acre	2.09

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Flax on Cash Rent

	Avg. Of All Farms
Number of farms	5
Acres	306.77
Yield per acre (bu.)	19.84
Operators share of yield %	100.00
Value per bu.	9.08
Total product return per acre	180.03
Crop insurance per acre	1.95
Gross return per acre	181.97
Direct Expenses	
Seed	17.45
Fertilizer	50.74
Crop chemicals	21.75
Crop insurance	13.78
Fuel & oil	9.53
Repairs	15.05
Custom hire	1.30
Land rent	36.29
Operating interest	5.03
Total direct expenses per acre	170.92
Return over direct exp per acre	11.05
Overhead Expenses	
Custom hire	2.42
Hired labor	4.60
Building leases	0.26
Farm insurance	3.74
Utilities	1.58
Dues & professional fees	1.21
Interest	6.06
Mach & bldg depreciation	20.18
Miscellaneous	1.72
Total overhead expenses per acre	41.78
Total dir & ovhd expenses per acre	212.70
Net return per acre	-30.73
Government payments	8.94
Net return with govt pmts	-21.79
Labor & management charge	16.77
Net return over lbr & mgt	-38.56
Cost of Production	
Total direct expense per bu.	8.62
Total dir & ovhd exp per bu.	10.72
Less govt & other income	10.17
With labor & management	11.02
Net value per unit	9.08
Machinery cost per acre	53.10
Est. labor hours per acre	1.21

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Hay, Alfalfa on Owned Land

	Avg. Of All Farms
Number of farms	9
Acres	79.80
Yield per acre (ton)	1.94
Operators share of yield %	100.00
Value per ton	63.27
Total product return per acre	122.86
Crop insurance per acre	13.76
Gross return per acre	136.61
Direct Expenses	
Crop insurance	10.15
Fuel & oil	8.60
Repairs	13.18
Custom hire	1.44
Operating interest	1.37
Total direct expenses per acre	35.30
Return over direct exp per acre	101.31
Overhead Expenses	
Hired labor	0.88
RE & pers. property taxes	2.51
Farm insurance	4.24
Utilities	2.21
Dues & professional fees	0.33
Interest	16.28
Mach & bldg depreciation	12.54
Miscellaneous	3.85
Total overhead expenses per acre	42.84
Total dir & ovhd expenses per acre	78.14
Net return per acre	58.47
Government payments	4.40
Net return with govt pmts	62.87
Labor & management charge	12.36
Net return over lbr & mgt	50.51
Cost of Production	
Total direct expense per ton	18.18
Total dir & ovhd exp per ton	40.24
Less govt & other income	30.89
With labor & management	37.26
Net value per unit	63.27
Machinery cost per acre	35.87
Est. labor hours per acre	0.84

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Hay, Alfalfa on Cash Rent

	Avg. Of All Farms
Number of farms	11
Acres	122.66
Yield per acre (ton)	1.77
Operators share of yield %	100.00
Value per ton	64.54
Total product return per acre	114.05
Crop insurance per acre	23.23
Gross return per acre	137.27
Direct Expenses	
Fertilizer	3.25
Crop chemicals	0.56
Crop insurance	9.78
Fuel & oil	8.74
Repairs	15.12
Land rent	27.72
Operating interest	1.17
Total direct expenses per acre	66.69
Return over direct exp per acre	70.59
Overhead Expenses	
Hired labor	1.78
Farm insurance	3.26
Utilities	1.81
Dues & professional fees	0.61
Interest	2.33
Mach & bldg depreciation	16.97
Miscellaneous	3.62
Total overhead expenses per acre	30.37
Total dir & ovhd expenses per acre	97.06
Net return per acre	40.22
Government payments	5.22
Net return with govt pmts	45.44
Labor & management charge	13.98
Net return over lbr & mgt	31.46
Cost of Production	
Total direct expense per ton	37.74
Total dir & ovhd exp per ton	54.93
Less govt & other income	38.83
With labor & management	46.74
Net value per unit	64.54
Machinery cost per acre	40.56
Est. labor hours per acre	1.03

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Hay, Grass on Owned Land

	Avg. Of All Farms
Number of farms	5
Acres	20.44
Yield per acre (ton)	1.10
Operators share of yield %	100.00
Value per ton	51.18
Total product return per acre	56.44
Gross return per acre	56.44
Direct Expenses	
Fuel & oil	7.27
Repairs	10.25
Operating interest	1.59
Total direct expenses per acre	19.12
Return over direct exp per acre	37.32
Overhead Expenses	
Hired labor	1.18
RE & pers. property taxes	1.44
Farm insurance	1.23
Utilities	0.74
Interest	5.84
Mach & bldg depreciation	7.21
Miscellaneous	3.15
Total overhead expenses per acre	20.78
Total dir & ovhd expenses per acre	39.90
Net return per acre	16.54
Government payments	-
Net return with govt pmts	16.54
Labor & management charge	11.64
Net return over lbr & mgt	4.90
Cost of Production	
Total direct expense per ton	17.34
Total dir & ovhd exp per ton	36.18
Less govt & other income	36.18
With labor & management	46.74
Net value per unit	51.18
Machinery cost per acre	25.04
Est. labor hours per acre	0.74

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Hay, Grass on Cash Rent

	Avg. Of All Farms
Number of farms	9
Acres	153.76
Yield per acre (ton)	1.51
Operators share of yield %	100.00
Value per ton	54.49
Total product return per acre	82.39
Gross return per acre	82.39
Direct Expenses	
Fuel & oil	6.74
Repairs	9.16
Custom hire	1.73
Land rent	16.70
Operating interest	1.47
Total direct expenses per acre	35.93
Return over direct exp per acre	46.46
Overhead Expenses	
Hired labor	1.91
Farm insurance	1.07
Utilities	0.58
Interest	0.69
Mach & bldg depreciation	7.15
Miscellaneous	3.86
Total overhead expenses per acre	15.25
Total dir & ovhd expenses per acre	51.18
Net return per acre	31.21
Government payments	0.46
Net return with govt pmts	31.67
Labor & management charge	7.57
Net return over lbr & mgt	24.10
Cost of Production	
Total direct expense per ton	23.76
Total dir & ovhd exp per ton	33.85
Less govt & other income	33.55
With labor & management	38.55
Net value per unit	54.49
Machinery cost per acre	25.15
Est. labor hours per acre	0.66

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Hay, Mixed Alfalfa/Grass on Owned Land

	Avg. Of All Farms
Number of farms	16
Acres	154.05
Yield per acre (ton)	1.50
Operators share of yield %	100.00
Value per ton	59.90
Total product return per acre	89.59
Crop insurance per acre	1.19
Gross return per acre	90.78
Direct Expenses	
Crop insurance	3.07
Fuel & oil	7.22
Repairs	12.35
Custom hire	7.56
Operating interest	3.12
Miscellaneous	0.14
Total direct expenses per acre	33.47
Return over direct exp per acre	57.31
Overhead Expenses	
Custom hire	0.86
Hired labor	1.45
RE & pers. property taxes	2.73
Farm insurance	2.96
Utilities	1.91
Dues & professional fees	0.94
Interest	11.12
Mach & bldg depreciation	8.82
Miscellaneous	2.62
Total overhead expenses per acre	33.41
Total dir & ovhd expenses per acre	66.88
Net return per acre	23.90
Government payments	0.38
Net return with govt pmts	24.28
Labor & management charge	16.62
Net return over lbr & mgt	7.66
Cost of Production	
Total direct expense per ton	22.38
Total dir & ovhd exp per ton	44.72
Less govt & other income	43.67
With labor & management	54.78
Net value per unit	59.90
Machinery cost per acre	37.55
Est. labor hours per acre	1.08

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Hay, Mixed Alfalfa/Grass on Cash Rent

	Avg. Of All Farms
Number of farms	17
Acres	141.98
Yield per acre (ton)	1.38
Operators share of yield %	100.00
Value per ton	53.59
Total product return per acre	74.13
Crop insurance per acre	0.02
Gross return per acre	74.15
Direct Expenses	
Crop insurance	4.78
Fuel & oil	7.14
Repairs	11.57
Custom hire	0.21
Land rent	23.36
Operating interest	2.48
Total direct expenses per acre	49.55
Return over direct exp per acre	24.60
Overhead Expenses	
Custom hire	1.11
Hired labor	1.53
Farm insurance	3.51
Utilities	1.83
Dues & professional fees	0.83
Interest	1.98
Mach & bldg depreciation	10.32
Miscellaneous	4.43
Total overhead expenses per acre	25.54
Total dir & ovhd expenses per acre	75.09
Net return per acre	-0.94
Government payments	0.99
Net return with govt pmts	0.05
Labor & management charge	13.16
Net return over lbr & mgt	-13.11
Cost of Production	
Total direct expense per ton	35.82
Total dir & ovhd exp per ton	54.29
Less govt & other income	53.55
With labor & management	63.07
Net value per unit	53.59
Machinery cost per acre	31.51
Est. labor hours per acre	0.98

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Hay, Small Grain on Owned Land

	Avg. Of All Farms
Number of farms	12
Acres	65.15
Yield per acre (ton)	2.69
Operators share of yield %	100.00
Value per ton	57.14
Other product return per acre	0.95
Total product return per acre	154.86
Gross return per acre	154.86
Direct Expenses	
Seed	11.07
Fertilizer	36.71
Crop chemicals	7.95
Crop insurance	5.72
Fuel & oil	8.74
Repairs	12.63
Custom hire	1.09
Operating interest	2.70
Total direct expenses per acre	86.60
Return over direct exp per acre	68.26
Overhead Expenses	
Hired labor	2.19
Machinery leases	0.51
RE & pers. property taxes	3.27
Farm insurance	4.01
Utilities	2.29
Dues & professional fees	0.53
Interest	14.76
Mach & bldg depreciation	13.98
Miscellaneous	8.02
Total overhead expenses per acre	49.56
Total dir & ovhd expenses per acre	136.16
Net return per acre	18.70
Government payments	8.74
Net return with govt pmts	27.44
Labor & management charge	12.89
Net return over lbr & mgt	14.55
Cost of Production	
Total direct expense per ton	32.15
Total dir & ovhd exp per ton	50.55
Less govt & other income	46.95
With labor & management	51.73
Net value per unit	57.14
Machinery cost per acre	39.59
Est. labor hours per acre	0.96

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Hay, Small Grain on Cash Rent

	Avg. Of All Farms
Number of farms	13
Acres	83.61
Yield per acre (ton)	2.60
Operators share of yield %	100.00
Value per ton	52.80
Total product return per acre	137.45
Gross return per acre	137.45
Direct Expenses	
Seed	16.20
Fertilizer	28.93
Crop chemicals	9.55
Crop insurance	5.24
Fuel & oil	9.16
Repairs	13.49
Custom hire	8.21
Land rent	37.65
Operating interest	3.81
Total direct expenses per acre	132.24
Return over direct exp per acre	5.21
Overhead Expenses	
Custom hire	0.69
Hired labor	3.16
Farm insurance	4.50
Utilities	2.78
Dues & professional fees	0.92
Interest	3.66
Mach & bldg depreciation	12.06
Miscellaneous	6.83
Total overhead expenses per acre	34.60
Total dir & ovhd expenses per acre	166.84
Net return per acre	-29.39
Government payments	8.42
Net return with govt pmts	-20.97
Labor & management charge	16.48
Net return over lbr & mgt	-37.45
Cost of Production	
Total direct expense per ton	50.80
Total dir & ovhd exp per ton	64.09
Less govt & other income	60.86
With labor & management	67.19
Net value per unit	52.80
Machinery cost per acre	46.67
Est. labor hours per acre	1.35

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Oats on Owned Land

	Avg. Of All Farms
Number of farms	5
Acres	83.51
Yield per acre (bu.)	63.01
Operators share of yield %	100.00
Value per bu.	1.95
Other product return per acre	12.75
Total product return per acre	135.71
Gross return per acre	135.71
Direct Expenses	
Seed	7.47
Fertilizer	28.89
Crop chemicals	10.28
Crop insurance	9.72
Fuel & oil	7.85
Repairs	13.76
Custom hire	6.90
Operating interest	7.35
Total direct expenses per acre	92.21
Return over direct exp per acre	43.50
Overhead Expenses	
Hired labor	3.99
RE & pers. property taxes	3.19
Farm insurance	1.79
Utilities	1.90
Dues & professional fees	0.48
Interest	26.84
Mach & bldg depreciation	9.86
Miscellaneous	6.05
Total overhead expenses per acre	54.10
Total dir & ovhd expenses per acre	146.31
Net return per acre	-10.61
Government payments	6.43
Net return with govt pmts	-4.17
Labor & management charge	11.32
Net return over lbr & mgt	-15.49
Cost of Production	
Total direct expense per bu.	1.46
Total dir & ovhd exp per bu.	2.32
Less govt & other income	2.02
With labor & management	2.20
Net value per unit	1.95
Machinery cost per acre	42.03
Est. labor hours per acre	1.11

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Pasture on Owned Land

	Avg. Of All Farms	***Low 20%***	***40 - 60%***	***High 20%***
Number of farms	28	5	5	6
Acres	779.51	538.09	1,366.00	440.00
Yield per acre (aum)	0.65	0.46	0.50	0.81
Operators share of yield %	100.00	100.00	100.00	100.00
Value per aum	22.53	20.98	21.89	25.07
Total product return per acre	14.69	9.61	10.94	20.22
Crop insurance per acre	0.19	-	0.23	-
Gross return per acre	14.88	9.61	11.18	20.22
Direct Expenses				
Repairs	0.59	0.40	0.64	0.53
Total direct expenses per acre	1.28	0.92	1.41	1.31
Return over direct exp per acre	13.60	8.69	9.77	18.91
Overhead Expenses				
RE & pers. property taxes	1.37	1.48	1.08	1.87
Interest	6.31	13.49	2.83	3.69
Mach & bldg depreciation	0.53	0.41	0.61	0.45
Miscellaneous	0.89	0.40	0.66	0.59
Total overhead expenses per acre	9.11	15.78	5.17	6.61
Total dir & ovhd expenses per acre	10.39	16.70	6.58	7.92
Net return per acre	4.50	-7.09	4.59	12.30

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Pasture on Cash Rent

	Avg. Of All Farms	***Low 20%***	***40 - 60%***	***High 20%***
Number of farms	28	5	5	6
Acres	1,624.14	1,305.06	1,275.12	721.92
Yield per acre (aum)	0.61	0.51	0.54	1.02
Operators share of yield %	100.00	100.00	100.00	100.00
Value per aum	22.29	20.82	20.77	21.63
Total product return per acre	13.60	10.52	11.19	22.09
Crop insurance per acre	0.28	-	-	1.60
Gross return per acre	13.88	10.52	11.19	23.68
Direct Expenses				
Crop insurance	0.19	-	-	1.16
Repairs	0.55	0.53	0.58	0.47
Land rent	13.08	18.13	10.31	14.24
Total direct expenses per acre	14.37	19.22	11.28	16.39
Return over direct exp per acre	-0.50	-8.70	-0.09	7.29
Overhead Expenses				
Mach & bldg depreciation	0.51	0.59	0.44	0.72
Miscellaneous	0.65	0.93	0.61	0.79
Total overhead expenses per acre	1.17	1.52	1.06	1.51
Total dir & ovhd expenses per acre	15.54	20.74	12.33	17.91
Net return per acre	-1.66	-10.22	-1.14	5.78

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Prevented Planting on Cash Rent

	Avg. Of All Farms
Number of farms	6
Acres	112.14
Yield per acre	-
Operators share of yield %	100.00
Value	-
Total product return per acre	-
Crop insurance per acre	107.26
Gross return per acre	107.26
Direct Expenses	
Seed	7.86
Fertilizer	32.61
Crop chemicals	8.92
Crop insurance	11.18
Fuel & oil	2.52
Repairs	5.17
Land rent	24.96
Operating interest	3.61
Total direct expenses per acre	96.84
Return over direct exp per acre	10.43
Overhead Expenses	
Custom hire	2.72
Hired labor	2.28
Farm insurance	1.29
Utilities	1.14
Interest	9.23
Mach & bldg depreciation	7.68
Miscellaneous	3.68
Total overhead expenses per acre	28.02
Total dir & ovhd expenses per acre	124.86
Net return per acre	-17.59
Government payments	11.08
Net return with govt pmts	-6.52
Labor & management charge	4.39
Net return over lbr & mgt	-10.91

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Soybeans on Owned Land

	Avg. Of All Farms
Number of farms	5
Acres	101.84
Yield per acre (bu.)	24.07
Operators share of yield %	100.00
Value per bu.	8.10
Total product return per acre	195.06
Gross return per acre	195.06
Direct Expenses	
Seed	75.45
Fertilizer	12.50
Crop chemicals	13.88
Crop insurance	9.72
Fuel & oil	8.48
Repairs	15.32
Custom hire	5.20
Operating interest	4.98
Miscellaneous	1.26
Total direct expenses per acre	146.80
Return over direct exp per acre	48.27
Overhead Expenses	
Hired labor	3.45
RE & pers. property taxes	4.10
Farm insurance	5.31
Utilities	3.86
Dues & professional fees	0.53
Interest	34.61
Mach & bldg depreciation	29.09
Miscellaneous	3.65
Total overhead expenses per acre	84.59
Total dir & ovhd expenses per acre	231.39
Net return per acre	-36.32
Government payments	15.91
Net return with govt pmts	-20.41
Labor & management charge	22.02
Net return over lbr & mgt	-42.43
Cost of Production	
Total direct expense per bu.	6.10
Total dir & ovhd exp per bu.	9.61
Less govt & other income	8.95
With labor & management	9.87
Net value per unit	8.10
Machinery cost per acre	58.53
Est. labor hours per acre	1.26

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Soybeans on Cash Rent

	Avg. Of All Farms
Number of farms	7
Acres	462.83
Yield per acre (bu.)	28.13
Operators share of yield %	100.00
Value per bu.	8.18
Total product return per acre	230.19
Crop insurance per acre	2.64
Gross return per acre	232.83
Direct Expenses	
Seed	79.16
Fertilizer	23.00
Crop chemicals	20.60
Crop insurance	12.33
Fuel & oil	10.58
Repairs	16.08
Custom hire	12.93
Land rent	54.51
Machinery leases	1.87
Operating interest	5.48
Miscellaneous	0.99
Total direct expenses per acre	237.52
Return over direct exp per acre	-4.70
Overhead Expenses	
Hired labor	9.10
Machinery leases	0.76
Farm insurance	3.26
Utilities	2.12
Interest	2.65
Mach & bldg depreciation	26.56
Miscellaneous	2.96
Total overhead expenses per acre	47.42
Total dir & ovhd expenses per acre	284.94
Net return per acre	-52.12
Government payments	7.29
Net return with govt pmts	-44.83
Labor & management charge	19.22
Net return over lbr & mgt	-64.05
Cost of Production	
Total direct expense per bu.	8.44
Total dir & ovhd exp per bu.	10.13
Less govt & other income	9.78
With labor & management	10.46
Net value per unit	8.18
Machinery cost per acre	68.72
Est. labor hours per acre	0.99

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Sunflowers on Owned Land

	Avg. Of All Farms
Number of farms	11
Acres	157.35
Yield per acre (cwt.)	15.75
Operators share of yield %	100.00
Value per cwt.	17.74
Total product return per acre	279.28
Crop insurance per acre	4.38
Gross return per acre	283.65
Direct Expenses	
Seed	36.92
Fertilizer	50.44
Crop chemicals	28.51
Crop insurance	12.58
Fuel & oil	12.82
Repairs	20.77
Custom hire	13.13
Machinery leases	0.29
Operating interest	5.21
Miscellaneous	0.37
Total direct expenses per acre	181.06
Return over direct exp per acre	102.60
Overhead Expenses	
Custom hire	3.05
Hired labor	2.56
Machinery leases	0.60
RE & pers. property taxes	4.66
Farm insurance	3.33
Utilities	2.26
Interest	18.42
Mach & bldg depreciation	18.85
Miscellaneous	5.05
Total overhead expenses per acre	58.77
Total dir & ovhd expenses per acre	239.83
Net return per acre	43.82
Government payments	7.24
Net return with govt pmts	51.06
Labor & management charge	21.13
Net return over lbr & mgt	29.93
Cost of Production	
Total direct expense per cwt.	11.50
Total dir & ovhd exp per cwt.	15.23
Less govt & other income	14.49
With labor & management	15.84
Net value per unit	17.74
Machinery cost per acre	70.72
Est. labor hours per acre	1.23

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Sunflowers on Cash Rent

	Avg. Of All Farms
Number of farms	18
Acres	322.23
Yield per acre (cwt.)	15.64
Operators share of yield %	100.00
Value per cwt.	18.58
Total product return per acre	290.63
Crop insurance per acre	2.41
Gross return per acre	293.04
Direct Expenses	
Seed	32.14
Fertilizer	48.82
Crop chemicals	32.62
Crop insurance	11.82
Fuel & oil	10.44
Repairs	15.61
Custom hire	11.50
Land rent	40.67
Machinery leases	0.45
Operating interest	6.50
Miscellaneous	0.23
Total direct expenses per acre	210.80
Return over direct exp per acre	82.24
Overhead Expenses	
Custom hire	1.81
Hired labor	3.97
Machinery leases	1.22
Farm insurance	3.03
Utilities	1.77
Dues & professional fees	0.38
Interest	3.35
Mach & bldg depreciation	22.29
Miscellaneous	2.82
Total overhead expenses per acre	40.64
Total dir & ovhd expenses per acre	251.44
Net return per acre	41.60
Government payments	5.77
Net return with govt pmts	47.37
Labor & management charge	21.62
Net return over lbr & mgt	25.75
Cost of Production	
Total direct expense per cwt.	13.48
Total dir & ovhd exp per cwt.	16.08
Less govt & other income	15.55
With labor & management	16.94
Net value per unit	18.58
Machinery cost per acre	64.65
Est. labor hours per acre	1.11

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Wheat, Spring on Owned Land

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	28	5	5	6
Acres	299.66	286.46	212.00	491.48
Yield per acre (bu.)	49.04	40.68	47.64	55.84
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	4.48	4.21	4.31	4.73
Other product return per acre	0.33	-	-	0.44
Total product return per acre	220.25	171.28	205.49	264.28
Crop insurance per acre	1.80	2.02	8.40	1.13
Other crop income per acre	0.18	-	-	-
Gross return per acre	222.24	173.30	213.90	265.41
Direct Expenses				
Seed	13.16	18.35	13.71	11.06
Fertilizer	59.44	63.74	49.86	59.33
Crop chemicals	28.79	31.61	32.21	26.48
Crop insurance	14.74	17.83	12.64	14.34
Fuel & oil	10.48	12.11	9.42	9.50
Repairs	15.85	20.72	15.07	14.63
Custom hire	9.24	31.31	9.86	5.82
Operating interest	3.48	2.63	3.13	1.30
Miscellaneous	0.25	-	-	0.64
Total direct expenses per acre	155.43	198.30	145.89	143.10
Return over direct exp per acre	66.80	-25.00	68.00	122.31
Overhead Expenses				
Custom hire	1.53	4.38	-	0.99
Hired labor	2.61	2.15	0.91	4.64
Machinery leases	0.20	-	1.15	0.13
RE & pers. property taxes	3.30	4.01	2.76	3.06
Farm insurance	4.82	4.41	5.01	6.50
Utilities	2.67	3.12	3.38	2.67
Dues & professional fees	0.44	0.84	0.50	0.05
Interest	14.92	16.38	13.88	11.66
Mach & bldg depreciation	23.56	18.60	18.92	29.64
Miscellaneous	5.44	5.77	11.56	4.40
Total overhead expenses per acre	59.50	59.66	58.07	63.74
Total dir & ovhd expenses per acre	214.94	257.96	203.97	206.84
Net return per acre	7.30	-84.66	9.93	58.57
Government payments	9.41	28.33	6.38	4.35
Net return with govt pmts	16.71	-56.33	16.31	62.92
Labor & management charge	20.22	24.42	18.50	21.34
Net return over lbr & mgt	-3.51	-80.75	-2.19	41.58
Cost of Production				
Total direct expense per bu.	3.17	4.87	3.06	2.56
Total dir & ovhd exp per bu.	4.38	6.34	4.28	3.70
Less govt & other income	4.14	5.59	3.97	3.60
With labor & management	4.56	6.20	4.36	3.98
Net value per unit	4.48	4.21	4.31	4.73
Machinery cost per acre	61.51	86.85	55.09	59.58
Est. labor hours per acre	1.10	1.35	1.10	1.03

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Wheat, Spring on Cash Rent

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	27	5	6	6
Acres	603.86	461.44	793.69	598.03
Yield per acre (bu.)	51.00	37.83	46.95	54.38
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	4.59	4.75	4.48	4.82
Other product return per acre	0.18	-	0.24	0.50
Total product return per acre	234.19	179.71	210.78	262.60
Crop insurance per acre	4.71	11.88	2.63	7.72
Gross return per acre	238.90	191.60	213.41	270.32
Direct Expenses				
Seed	12.44	11.82	12.17	13.14
Fertilizer	64.33	70.67	57.88	62.43
Crop chemicals	35.90	40.37	32.54	33.60
Crop insurance	14.47	12.92	14.74	13.99
Fuel & oil	9.63	8.96	9.91	8.92
Repairs	14.21	7.89	15.12	16.71
Custom hire	6.41	4.83	4.49	6.01
Land rent	45.59	39.74	40.81	40.27
Machinery leases	0.89	-	0.61	-
Operating interest	5.38	8.27	6.13	3.73
Miscellaneous	0.38	0.02	0.61	0.49
Total direct expenses per acre	209.63	205.48	195.02	199.28
Return over direct exp per acre	29.27	-13.88	18.40	71.04
Overhead Expenses				
Custom hire	1.01	2.86	-	-
Hired labor	4.15	0.46	3.12	3.47
Machinery leases	0.62	0.05	0.20	2.23
Farm insurance	3.46	3.70	2.95	4.31
Utilities	1.98	1.36	1.53	2.01
Dues & professional fees	0.40	0.75	0.48	0.60
Interest	3.04	4.90	1.87	3.07
Mach & bldg depreciation	24.14	27.78	23.81	23.08
Miscellaneous	3.83	2.72	3.64	2.28
Total overhead expenses per acre	42.63	44.57	37.61	41.04
Total dir & ovhd expenses per acre	252.27	250.05	232.62	240.33
Net return per acre	-13.36	-58.45	-19.21	29.99
Government payments	6.98	3.35	4.77	9.64
Net return with govt pmts	-6.38	-55.10	-14.44	39.63
Labor & management charge	18.78	26.34	15.68	17.40
Net return over lbr & mgt	-25.16	-81.44	-30.12	22.23
Cost of Production				
Total direct expense per bu.	4.11	5.43	4.15	3.66
Total dir & ovhd exp per bu.	4.95	6.61	4.95	4.42
Less govt & other income	4.71	6.21	4.79	4.09
With labor & management	5.08	6.90	5.13	4.41
Net value per unit	4.59	4.75	4.48	4.82
Machinery cost per acre	58.03	55.57	54.57	57.46
Est. labor hours per acre	0.95	0.82	0.88	0.94

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 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Beef Cow-Calf -- Average Per Cwt. Produced

	Avg. Of All Farms		*Low 20%*		*40 - 60%*		*High 20%*	
Number of farms	25		5		5		5	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Beef Calves sold (lb)	31.85	64.09	20.03	33.04	23.28	44.20	53.16	115.53
Transferred out (lb)	68.15	124.84	79.97	138.50	76.72	142.02	46.84	93.80
Cull sales (lb)		30.20		17.34		24.18		33.74
Other income		0.27		-		-		0.65
Purchased (lb)		-19.38		-33.34		-16.88		-11.93
Transferred in (lb)		-26.05		-		-9.29		-4.45
Inventory change (lb)		0.22		-19.70		-3.22		-22.22
Gross margin		174.19		135.84		181.01		205.12
Direct Expenses								
Protein Vit Minerals (lb.)	18.05	5.13	22.59	4.60	18.85	5.95	15.84	5.82
Complete Ration (lb.)	22.79	0.90	-	-	140.53	5.46	0.72	0.07
Aftermath Grazing (aum)	0.18	4.05	0.23	5.06	0.25	6.57	0.05	1.33
Corn Silage (lb.)	250.17	3.35	89.46	1.12	449.08	6.49	199.14	1.99
Hay, Alfalfa (lb.)	20.38	0.60	76.79	1.92	56.13	1.96	-	-
Hay, Grass (lb.)	1,083.25	30.09	1,421.06	45.05	728.44	20.25	1,106.76	29.93
Pasture (aum)	1.33	30.59	1.00	22.78	1.31	33.51	1.78	40.66
Other feed stuffs (lb)	47.95	1.42	66.56	0.81	26.74	0.92	31.27	0.63
Breeding fees		0.74		0.89		-		-
Veterinary		4.13		2.93		3.80		5.18
Supplies		0.66		0.71		-		0.48
Fuel & oil		4.82		6.05		4.05		5.35
Repairs		6.39		7.07		5.47		5.56
Custom hire		2.30		2.89		2.67		1.46
Marketing		1.48		1.03		1.29		1.36
Operating interest		2.35		3.47		2.27		1.55
Total direct expenses		99.01		106.37		100.69		101.37
Return over direct expense		75.18		29.48		80.32		103.75
Overhead Expenses								
Hired labor		0.89		0.08		0.15		1.49
Farm insurance		2.78		3.07		3.99		2.12
Utilities		2.33		2.32		3.03		2.11
Interest		2.98		4.83		5.26		1.53
Mach & bldg depreciation		7.37		9.16		9.55		5.00
Miscellaneous		4.14		3.20		3.38		3.83
Total overhead expenses		20.48		22.67		25.35		16.07
Total dir & ovhd expenses		119.49		129.03		126.05		117.45
Net return		54.70		6.81		54.96		87.67
Labor & management charge		15.75		14.16		17.83		14.95
Net return over lbr & mgt		38.95		-7.35		37.13		72.73
Cost of Production Per Cwt. Produced								
Total direct expense per unit		99.00		106.32		100.69		101.37
Total dir& ovhd expense per unit		119.48		128.98		126.05		117.45
With other revenue adjustments		134.43		164.66		131.26		122.31
With labor and management		150.18		178.82		149.09		137.25
Est. labor hours per unit		1.09		1.17		1.10		1.19
Other Information								
Number of cows		126.6		91.8		100.0		199.4
Pregnancy percentage		97.5		95.0		96.6		99.3
Pregnancy loss percentage		2.8		0.6		3.3		4.2
Culling percentage		11.5		8.3		9.8		14.0
Calving percentage		94.8		94.4		93.3		95.2
Weaning percentage		90.1		90.1		90.3		91.5
Calves sold per cow		0.94		0.92		0.95		0.95
Calf death loss percent		4.1		4.7		4.2		3.5
Cow death loss percent		1.6		1.5		1.0		1.7
Average weaning weight		541		562		541		522
Lb. weaned/exposed female		488		507		488		477
Feed cost per cow		383.68		418.70		415.70		395.44
Avg wgt/ Beef Calves sold		544		599		641		543
Avg price / cwt.		201.21		165.00		189.84		217.34

Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Beef Cow-Calf -- Average Per Cow

	Avg. Of All Farms		*Low 20%*		*40 - 60%*		*High 20%*	
Number of farms	25		5		5		5	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Beef Calves sold (lb)	160.5	323.01	103.1	170.12	119.3	226.45	261.3	567.98
Transferred out (lb)	343.4	629.16	411.7	713.01	393.1	727.66	230.3	461.13
Cull sales (lb)		152.21		89.26		123.89		165.87
Other income		1.36		-		-		3.21
Purchased (lb)		-97.67		-171.65		-86.50		-58.66
Transferred in (lb)		-131.30		-		-47.60		-21.87
Inventory change (lb)		1.09		-101.40		-16.48		-109.24
Gross margin		877.85		699.34		927.43		1,008.43
Direct Expenses								
Protein Vit Minerals (lb.)	91.0	25.87	116.3	23.70	96.6	30.49	77.9	28.60
Complete Ration (lb.)	114.8	4.54	-	-	720.0	28.00	3.6	0.36
Aftermath Grazing (aum)	0.9	20.40	1.2	26.04	1.3	33.67	0.2	6.55
Corn Silage (lb.)	1,260.8	16.90	460.6	5.76	2,300.9	33.26	979.0	9.79
Hay, Alfalfa (lb.)	102.7	3.02	395.3	9.88	287.6	10.07	-	-
Hay, Grass (lb.)	5,459.2	151.63	7,315.8	231.92	3,732.2	103.78	5,441.1	147.16
Pasture (aum)	6.7	154.17	5.1	117.25	6.7	171.71	8.7	199.88
Other feed stuffs (lb)	241.7	7.14	342.7	4.16	137.0	4.72	153.7	3.09
Breeding fees		3.75		4.59		-		-
Veterinary		20.84		15.08		19.48		25.48
Supplies		3.31		3.63		-		2.34
Fuel & oil		24.28		31.17		20.77		26.28
Repairs		32.21		36.39		28.03		27.34
Custom hire		11.57		14.86		13.66		7.15
Marketing		7.47		5.31		6.63		6.70
Operating interest		11.87		17.85		11.64		7.64
Total direct expenses		498.98		547.58		515.91		498.38
Return over direct expense		378.88		151.76		411.52		510.05
Overhead Expenses								
Hired labor		4.46		0.44		0.77		7.33
Farm insurance		14.00		15.82		20.43		10.41
Utilities		11.74		11.95		15.51		10.37
Interest		14.99		24.85		26.93		7.51
Mach & bldg depreciation		37.15		47.14		48.95		24.58
Miscellaneous		20.88		16.50		17.33		18.83
Total overhead expenses		103.22		116.69		129.90		79.02
Total dir & ovhd expenses		602.20		664.28		645.81		577.40
Net return		275.65		35.06		281.61		431.03
Labor & management charge		79.37		72.91		91.37		73.49
Net return over lbr & mgt		196.28		-37.84		190.25		357.54
Cost of Production Per Cwt. Produced								
Total direct expense per unit		99.00		106.32		100.69		101.37
Total dir& ovhd expense per unit		119.48		128.98		126.05		117.45
With other revenue adjustments		134.43		164.66		131.26		122.31
With labor and management		150.18		178.82		149.09		137.25
Est. labor hours per unit		5.48		6.02		5.61		5.84
Other Information								
Number of cows		126.6		91.8		100.0		199.4
Pregnancy percentage		97.5		95.0		96.6		99.3
Pregnancy loss percentage		2.8		0.6		3.3		4.2
Culling percentage		11.5		8.3		9.8		14.0
Calving percentage		94.8		94.4		93.3		95.2
Weaning percentage		90.1		90.1		90.3		91.5
Calves sold per cow		0.94		0.92		0.95		0.95
Calf death loss percent		4.1		4.7		4.2		3.5
Cow death loss percent		1.6		1.5		1.0		1.7
Average weaning weight		541		562		541		522
Lb. weaned/exposed female		488		507		488		477
Feed cost per cow		383.68		418.70		415.70		395.44
Avg wgt/ Beef Calves sold		544		599		641		543
Avg price / cwt.		201.21		165.00		189.84		217.34

Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Beef Cow-Calf (Shares) -- Average Per Cwt. Produced

	Avg. Of All Farms	
Number of farms	5	
	Quantity	Value
Beef Calves sold (lb)	13.28	23.15
Transferred out (lb)	86.72	141.76
Other income		-
Gross margin		164.92
Direct Expenses		
Protein Vit Minerals (lb.)	18.07	5.34
Aftermath Grazing (aum)	0.12	2.69
Corn Silage (lb.)	559.55	7.36
Hay, Grass (lb.)	1,007.03	32.92
Pasture (aum)	0.83	18.37
DDGS, dry (lb.)	10.13	1.71
Other feed stuffs (lb)	16.31	0.18
Veterinary		3.36
Supplies		0.22
Fuel & oil		5.61
Repairs		6.74
Custom hire		3.00
Livestock leases		54.60
Operating interest		2.73
Total direct expenses		144.82
Return over direct expense		20.10
Overhead Expenses		
Hired labor		1.08
Farm insurance		1.43
Utilities		1.78
Dues & professional fees		0.28
Interest		2.02
Mach & bldg depreciation		5.08
Miscellaneous		1.30
Total overhead expenses		12.98
Total dir & ovhd expenses		157.80
Net return		7.12
Labor & management charge		10.68
Net return over lbr & mgt		-3.56
Cost of Production Per Cwt. Produced		
Total direct expense per unit		144.82
Total dir& ovhd expense per unit		157.80
With other revenue adjustments		157.80
With labor and management		168.48
Est. labor hours per unit		0.87
Other Information		
Number of cows		89.2
Pregnancy percentage		92.6
Pregnancy loss percentage		0.7
Culling percentage		2.9
Calving percentage		92.0
Weaning percentage		88.7
Calves sold per cow		0.96
Calf death loss percent		5.8
Cow death loss percent		0.2
Average weaning weight		532
Lb. weaned/exposed female		472
Feed cost per cow		394.55
Avg wgt/ Beef Calves sold		631
Avg price / cwt.		174.34

Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Beef Cow-Calf (Shares) -- Average Per Cow

	Avg. Of All Farms	
Number of farms	5	
	Quantity	Value
Beef Calves sold (lb)	76.4	133.22
Transferred out (lb)	499.0	815.68
Other income		-
Gross margin		948.90
Direct Expenses		
Protein Vit Minerals (lb.)	103.9	30.70
Aftermath Grazing (aum)	0.7	15.48
Corn Silage (lb.)	3,219.5	42.37
Hay, Grass (lb.)	5,794.2	189.40
Pasture (aum)	4.8	105.71
DDGS, dry (lb.)	58.3	9.87
Other feed stuffs (lb)	93.9	1.03
Veterinary		19.31
Supplies		1.25
Fuel & oil		32.27
Repairs		38.79
Custom hire		17.29
Livestock leases		314.13
Operating interest		15.68
Total direct expenses		833.27
Return over direct expense		115.62
Overhead Expenses		
Hired labor		6.24
Farm insurance		8.22
Utilities		10.25
Dues & professional fees		1.59
Interest		11.62
Mach & bldg depreciation		29.24
Miscellaneous		7.49
Total overhead expenses		74.66
Total dir & ovhd expenses		907.93
Net return		40.96
Labor & management charge		61.47
Net return over lbr & mgt		-20.51
Cost of Production Per Cwt. Produced		
Total direct expense per unit		144.82
Total dir& ovhd expense per unit		157.80
With other revenue adjustments		157.80
With labor and management		168.48
Est. labor hours per unit		5.01
Other Information		
Number of cows		89.2
Pregnancy percentage		92.6
Pregnancy loss percentage		0.7
Culling percentage		2.9
Calving percentage		92.0
Weaning percentage		88.7
Calves sold per cow		0.96
Calf death loss percent		5.8
Cow death loss percent		0.2
Average weaning weight		532
Lb. weaned/exposed female		472
Feed cost per cow		394.55
Avg wgt/ Beef Calves sold		631
Avg price / cwt.		174.34

Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Beef Replacement Heifers -- Average Per Head Sold/Trans

	Avg. Of All Farms	
Number of farms	19	
	Quantity	Value
Beef Replace sold (hd)	0.1	219.77
Transferred out (hd)	0.9	1,363.97
Cull sales (hd)	0.0	6.55
Other income		-
Transferred in (hd)	0.5	-462.07
Inventory change (hd)	-0.6	-795.10
Gross margin		333.12
Direct Expenses		
Protein Vit Minerals (lb.)	342.6	13.91
Complete Ration (lb.)	91.7	3.71
Aftermath Grazing (aum)	0.3	6.58
Corn (bu.)	5.5	15.92
Corn Silage (lb.)	2,896.4	16.20
Hay, Alfalfa (lb.)	18.3	0.64
Hay, Grass (lb.)	2,028.4	56.74
Oats (bu.)	1.8	4.69
Pasture (aum)	2.4	56.57
DDGS, dry (lb.)	74.5	6.07
Other feed stuffs (lb)	149.2	2.29
Veterinary		15.87
Supplies		0.33
Fuel & oil		8.85
Repairs		10.05
Custom hire		3.19
Operating interest		3.95
Total direct expenses		225.57
Return over direct expense		107.55
Overhead Expenses		
Hired labor		1.03
Farm insurance		4.33
Utilities		3.85
Dues & professional fees		0.98
Interest		5.55
Mach & bldg depreciation		11.98
Miscellaneous		3.07
Total overhead expenses		30.81
Total dir & ovhd expenses		256.38
Net return		76.74
Labor & management charge		22.59
Net return over lbr & mgt		54.16
Est. labor hours per unit		1.54
Other Information		
No. purchased or trans in		22
Number sold or trans out		48
Average number of head		31
Percentage death loss		0.3
Feed cost/head sold/trans		183.33

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

Beef Backgrounding -- Average Per Cwt. Produced

	Avg. Of All Farms	
Number of farms	6	
	Quantity	Value
Backgnd Beef sold (lb)	390.05	730.19
Transferred out (lb)	77.03	124.87
Other income		-
Transferred in (lb)	-242.46	-468.21
Inventory change (lb)	-124.62	-271.82
Gross margin		115.03
Direct Expenses		
Protein Vit Minerals (lb.)	78.42	6.68
Barley (bu.)	1.41	3.87
Corn (bu.)	8.65	22.16
Corn Silage (lb.)	764.80	13.00
Hay, Grass (lb.)	413.79	11.38
Oats (bu.)	3.68	8.78
DDGS, dry (lb.)	24.62	1.48
DDGS, wet (lb.)	92.43	2.81
Other feed stuffs (lb)	0.22	0.43
Veterinary		9.44
Fuel & oil		2.90
Repairs		3.53
Custom hire		3.94
Marketing		7.61
Operating interest		1.70
Total direct expenses		99.72
Return over direct expense		15.31
Overhead Expenses		
Hired labor		0.37
Farm insurance		1.47
Utilities		1.10
Dues & professional fees		0.46
Interest		2.14
Mach & bldg depreciation		4.54
Miscellaneous		1.04
Total overhead expenses		11.13
Total dir & ovhd expenses		110.84
Net return		4.19
Labor & management charge		7.98
Net return over lbr & mgt		-3.79
Cost of Production Per Cwt. Produced		
Total direct expense per unit		179.79
Total dir& ovhd expense per unit		182.17
With other revenue adjustments		182.17
With labor and management		183.88
Est. labor hours per unit		0.53
Other Information		
No. purchased or trans in		87
Number sold or trans out		128
Percentage death loss		0.4
Avg. daily gain (lb.)		1.74
Lb. of conc / lb. of gain		8.78
Lb. of feed / lb. of gain		15.47
Feed cost per cwt. of gain		70.59
Feed cost per head		109.30
Avg wgt / Backgnd Beef sold		728
Avg sales price / cwt.		187.20

Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2015
(Farms Sorted By Net Return)

Beef Backgrounding -- Average Per Head

	Avg. Of All Farms	
Number of farms	6	
	Quantity	Value
Backgnd Beef sold (lb)	604.0	1,130.65
Transferred out (lb)	119.3	193.35
Other income		-
Transferred in (lb)	-375.4	-725.00
Inventory change (lb)	-193.0	-420.89
Gross margin		178.12
Direct Expenses		
Protein Vit Minerals (lb.)	121.4	10.34
Barley (bu.)	2.2	6.00
Corn (bu.)	13.4	34.32
Corn Silage (lb.)	1,184.2	20.13
Hay, Grass (lb.)	640.7	17.62
Oats (bu.)	5.7	13.60
DDGS, dry (lb.)	38.1	2.29
DDGS, wet (lb.)	143.1	4.35
Other feed stuffs (lb)	0.3	0.67
Veterinary		14.62
Fuel & oil		4.50
Repairs		5.47
Custom hire		6.10
Marketing		11.79
Operating interest		2.63
Total direct expenses		154.41
Return over direct expense		23.71
Overhead Expenses		
Hired labor		0.58
Farm insurance		2.28
Utilities		1.71
Interest		3.31
Mach & bldg depreciation		7.03
Miscellaneous		2.32
Total overhead expenses		17.23
Total dir & ovhd expenses		171.63
Net return		6.48
Labor & management charge		12.35
Net return over lbr & mgt		-5.87
Cost of Production Per Cwt. Produced		
Total direct expense per unit		179.79
Total dir& ovhd expense per unit		182.17
With other revenue adjustments		182.17
With labor and management		183.88
Est. labor hours per unit		0.82
Other Information		
No. purchased or trans in		87
Number sold or trans out		128
Percentage death loss		0.4
Avg. daily gain (lb.)		1.74
Lb. of conc / lb. of gain		8.78
Lb. of feed / lb. of gain		15.47
Feed cost per cwt. of gain		70.59
Feed cost per head		109.30
Avg wgt / Backgnd Beef sold		728
Avg sales price / cwt.		187.20

Figure 1. Gross Cash Income Per Farm

N.D. Farm Business Management Education Program – West Region

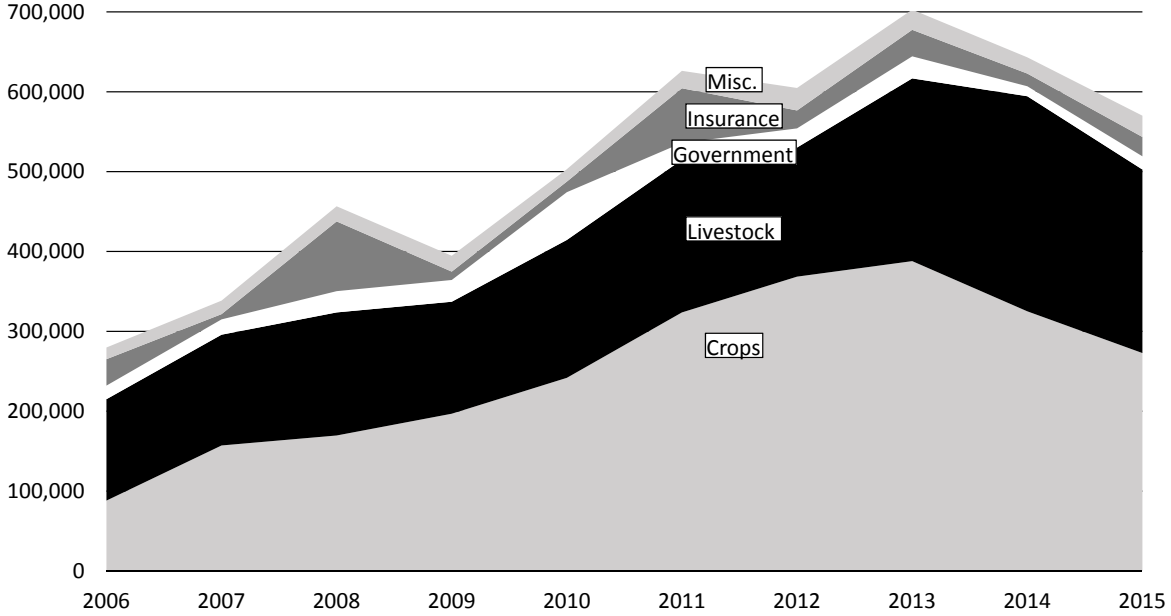
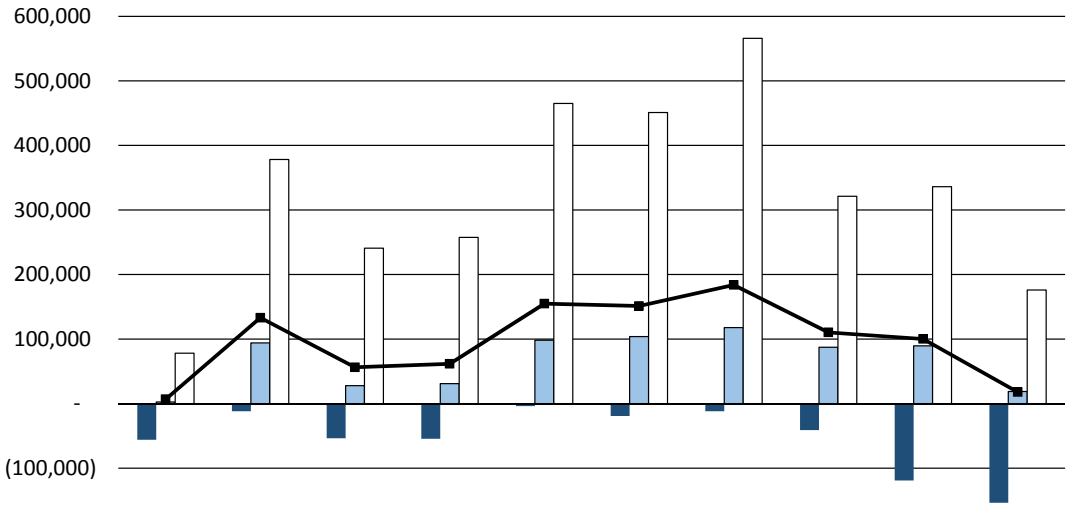


Figure 2. Net Farm Income (Accrual) Per Farm

N.D. Farm Business Management Education Program – West Region



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
20% Low Profit	(56,074)	(11,874)	(53,651)	(54,455)	(3,912)	(19,132)	(11,839)	(41,038)	(119,185)	(153,690)
Middle 60% Profit	2,578	94,092	27,879	30,862	98,236	103,851	117,677	87,315	89,422	18,780
20% High Profit	78,011	378,203	240,757	257,480	465,002	450,998	565,893	321,189	335,974	175,995
Average of All	6,805	132,990	56,199	61,573	154,809	151,100	183,863	110,311	100,155	17,838

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

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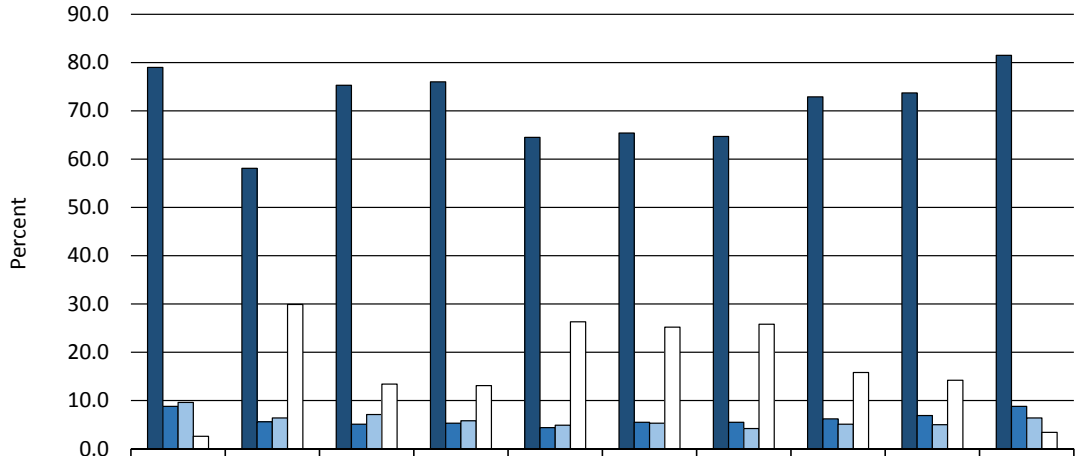

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Operating Exp. %	79.0	58.1	75.3	76.0	64.5	65.4	64.7	72.9	73.7	81.5
Depreciation %	8.8	5.6	5.1	5.3	4.4	5.5	5.5	6.2	6.9	8.8
Interest Exp. %	9.6	6.4	7.1	5.8	4.9	5.3	4.2	5.1	5	6.4
Net Farm Inc. %	2.6	29.9	13.4	13.1	26.3	25.2	25.8	15.8	14.2	3.4

Figure 4. Profitability Measures Per Farm

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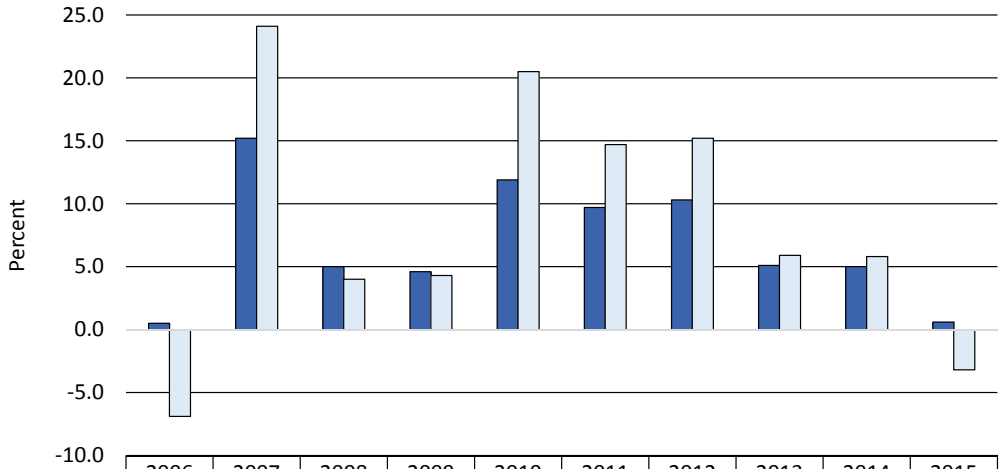

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rate of Return on Assets	0.5	15.2	5.0	4.6	11.9	9.7	10.3	5.1	5.0	0.6
Rate of Return on Equity	-6.9	24.1	4.0	4.3	20.5	14.7	15.2	5.9	5.8	-3.2

Figure 5. Assets and Liabilities Per Farm, 2015

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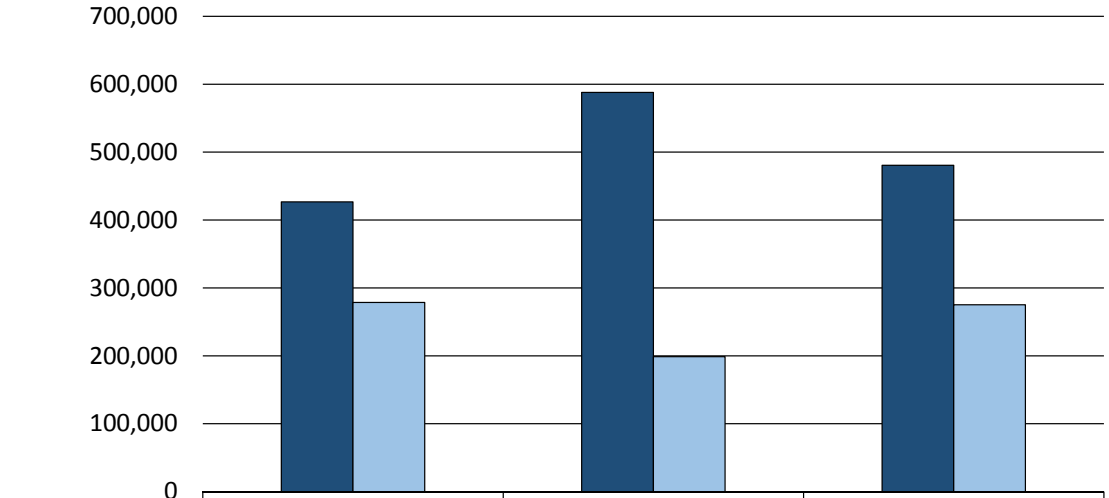

	Current	Intermediate	Longterm
Farm Assets	426,684	587,941	480,625
Farm Liabilities	278,643	198,770	275,220

Figure 6. Total Farm Assets and Liabilities

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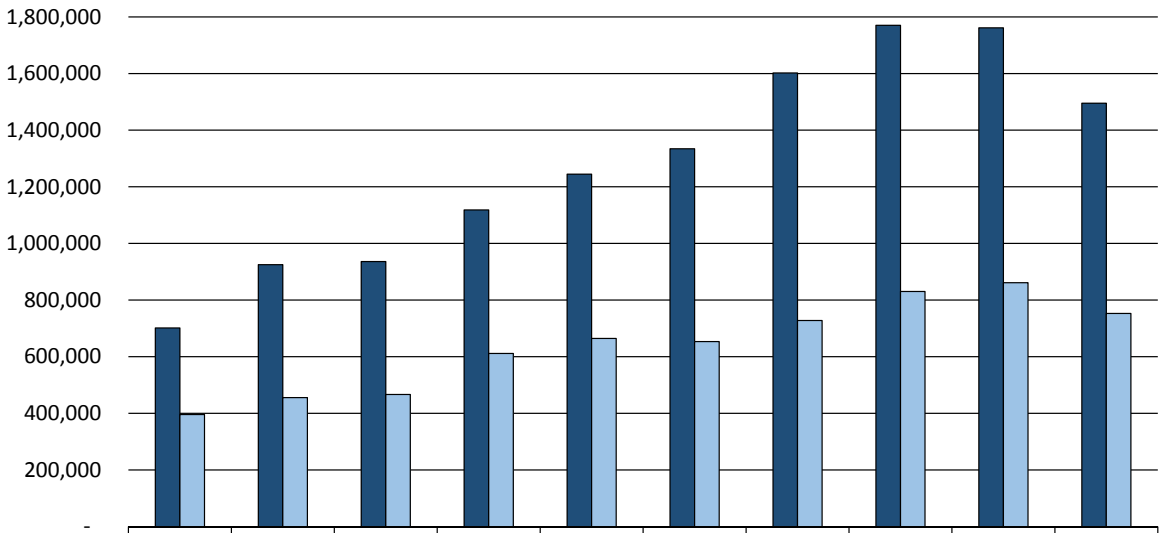

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Assets	701,668	924,998	935,938	1,118,216	1,244,548	1,334,181	1,601,819	1,770,209	1,761,446	1,495,251
Liabilities	395,779	455,534	466,526	611,677	664,488	653,439	727,843	830,487	861,337	752,633

Figure 7. Household and Personal Expenses

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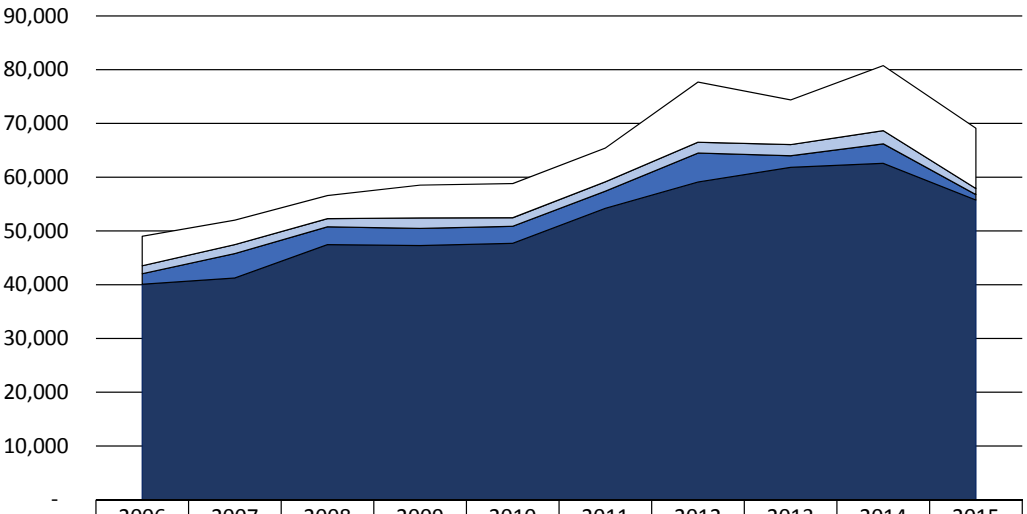

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Income Taxes	5,487	4,545	4,291	6,101	6,356	6,280	11,183	8,311	12,099	11,212
Life Insurance	1,482	1,671	1,515	1,958	1,587	1,740	2,021	2,069	2,451	1,125
Furnishings & Vehicle	1,952	4,543	3,315	3,189	3,168	3,193	5,383	2,153	3,627	1,013
Family Living	40,090	41,251	47,458	47,277	47,706	54,212	59,105	61,841	62,581	55,754

Figure 8. Crop Acreage Per Farm

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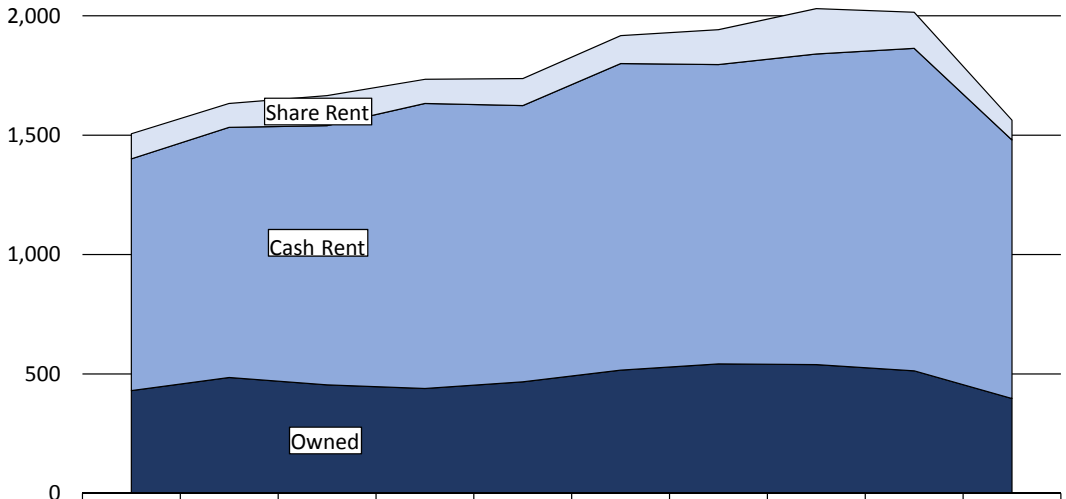

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Share Rent	105	100	126	101	113	117	146	190	151	83
Cash Rent	971	1,048	1,086	1,194	1,157	1,284	1,254	1,301	1,351	1,083
Owned	430	485	454	439	467	516	542	539	513	397

Figure 9. Spring Wheat Costs Per Acre

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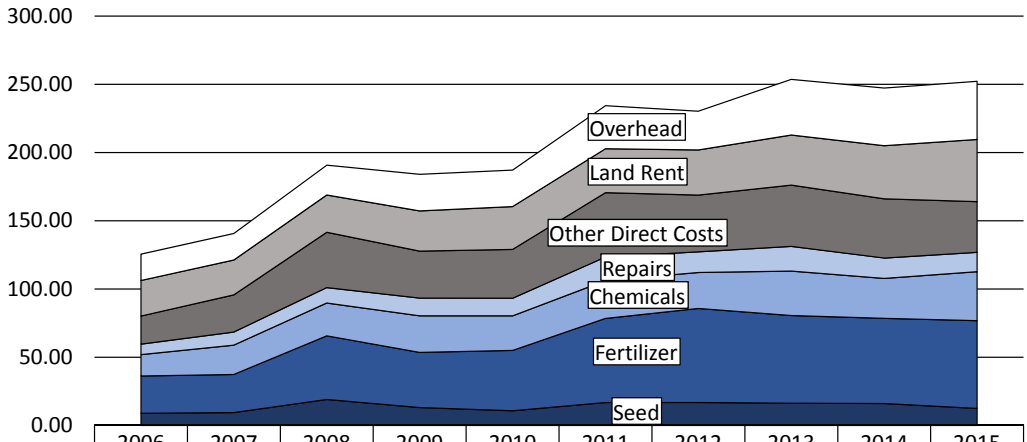

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Overhead	19.32	19.45	21.81	26.85	26.76	31.52	28.37	40.80	42.26	42.63
Land Rent	26.06	25.54	27.37	29.47	31.36	32.21	33.08	36.72	38.91	45.59
Other Direct Costs	20.57	27.23	40.51	34.40	35.77	47.15	41.61	44.88	43.40	37.16
Repairs	7.67	9.61	11.32	13.02	12.94	17.34	15.12	18.13	14.93	14.21
Chemicals	15.69	21.50	24.05	26.80	25.34	27.67	26.43	32.58	29.27	35.90
Fertilizer	27.34	27.91	46.63	40.42	44.22	61.63	68.87	64.24	62.44	64.33
Seed	8.90	9.46	19.06	13.13	10.77	16.82	16.84	16.31	16.07	12.44

Figure 10. Average Net Return Per Beef Cow

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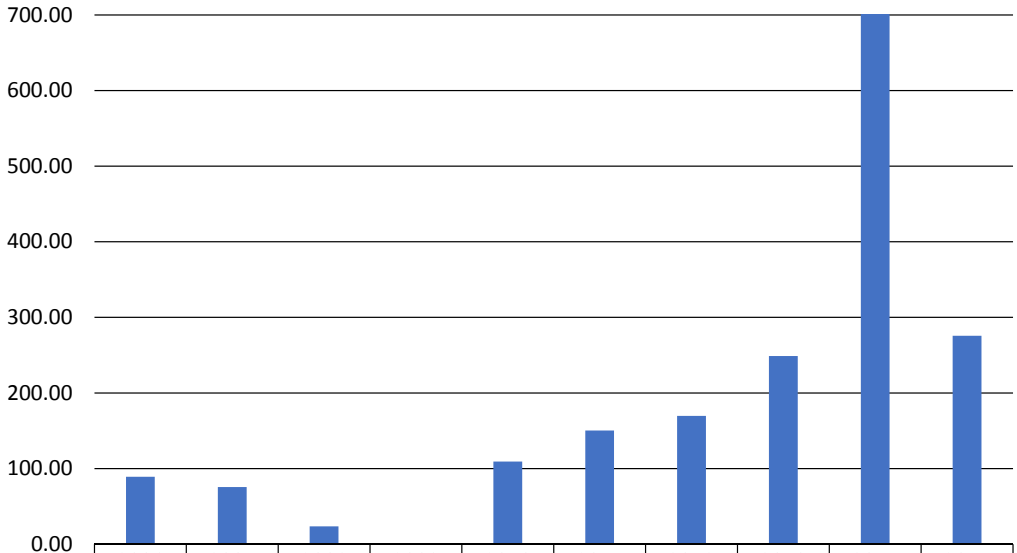

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Avg. Net Return	89.16	75.63	23.58	-0.05	109.34	150.32	169.69	248.8	708.53	275.65

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