

# 2018 ANNUAL REPORT

## North Central North Dakota

North Dakota Farm and Ranch Business  
Management Education





North Dakota Department of Career  
and Technical Education

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# NORTH DAKOTA

## FARM BUSINESS MANAGEMENT EDUCATION

### REGION 2 – NORTH CENTRAL AVERAGES

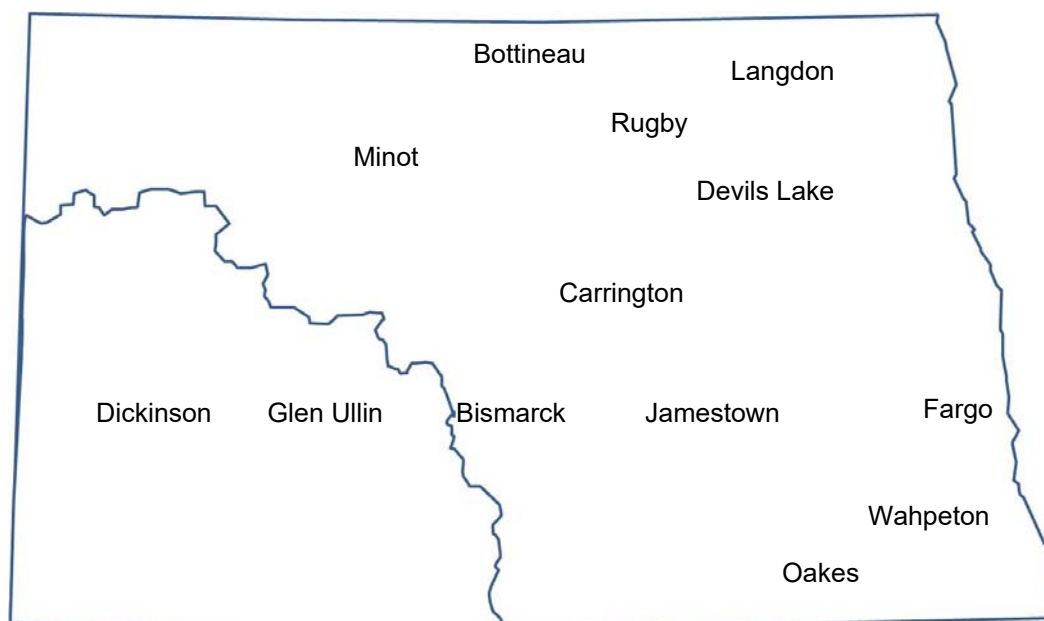
### 2018 ANNUAL REPORT

The North Central (Region 2) farm business analyses were submitted by the following instructors represented by their cooperating schools.

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This report was made possible by the farm families who cooperated with their farm management instructors in getting the records for 2018 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





# 2018 North Central Report

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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 2018 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 30th 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](http://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 income statement is a table which lists cash farm income. There are several sources of cash farm income. Cash sales of crops are listed first followed by cash sales of livestock.

Government payments are categorized. "Crop government payments" are Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC) payments. "LDP payments" are loan deficiency payments that may be received on production when local prices are below the county loan rate for the crop. "Livestock government payments" include dairy MPP payments and other livestock related payments. "CRP payments" are funds received for land enrolled in the Conservation Reserve Program. "Other government payments" refers to all other government payments such as disaster payments, EQIP, CSP, and Market Facilitation Payments (MFP).

Lastly, cash income is categorized by sources such as custom work, cash patronage dividends, crop and property insurance indemnities, sale of resale items, and other.

The second section of the income statement lists cash expenses. "Hired labor" includes only labor which was hired and paid. "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 operators 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 \$25,000 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 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
<b>Cash Farm Income</b>				
Barley	32,477	24,558	12,658	86,723
Beans, Black Turtle	708	-	3,457	-
Beans, Garbonzo	791	4,017	-	-
Beans, Navy	1,659	5,092	-	-
Beans, Pinto	17,303	6,206	3,992	56,791
Canola	62,088	52,414	39,616	84,371
Corn	35,452	29,966	15,662	65,561
Oats	1,341	-	-	2,126
Peas, Field	7,745	7,394	3,298	24,014
Potatoes	4,819	24,287	-	-
Soybeans	160,487	127,762	113,705	315,226
Sunflowers	7,251	11,058	3,295	13,446
Wheat, Durum	6,188	8,404	-	10,872
Wheat, Spring	162,913	144,240	126,502	285,379
Wheat, Winter	1,012	-	214	1,698
Soybeans, Natto	638	-	-	-
Hay	519	-	507	1,430
Other Crops	630	-	-	3,077
Miscellaneous crop income	3,741	153	279	13,777
Beef Bulls	146	740	-	-
Beef Cow-Calf, Beef Calves	24,476	26,492	41,501	8,619
Beef Replacement Heifers	2,078	3,100	2,372	-
Beef Backgrounding	10,005	9,113	10,474	12,787
Beef Finish Cull Cows	561	-	2,638	-
Cull breeding livestock	4,739	3,095	4,168	2,979
Misc. livestock income	294	-	416	52
Crop government payments	32,959	25,033	20,894	70,235
CRP payments	1,147	1,501	43	1,415
Other government payments	40,473	38,088	30,313	72,619
Custom work income	9,737	6,512	10,947	18,939
Patronage dividends, cash	5,595	5,892	2,747	8,332
Crop insurance income	35,188	34,984	28,868	51,482
Property insurance income	1,312	1,941	465	1,977
Sale of resale items	312	-	-	1,523
Livestock insurance inc	61	200	-	-
Other farm income	9,785	9,332	2,892	22,796
Gross Cash Farm Income	686,629	611,576	481,925	1,238,246

**Farm Income Statement (continued)**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
<b>Cash Farm Expense</b>				
Seed and plants	82,916	78,433	57,425	149,190
Fertilizer	87,568	86,187	58,410	145,038
Crop chemicals	66,880	63,977	43,165	124,116
Crop insurance	32,408	36,159	20,606	58,451
Drying expense	614	1,496	364	189
Storage	114	466	-	46
Crop miscellaneous	1,804	5,022	520	1,947
Consultants	2,420	1,781	1,533	5,634
Feeder livestock purchase	1,525	2,351	5,088	98
Purchased feed	5,221	5,852	6,323	2,881
Veterinary	1,825	1,600	2,694	1,494
Supplies	1,139	1,012	2,313	639
Livestock leases	79	32	23	317
Interest	32,829	42,061	31,457	36,346
Fuel & oil	32,075	27,243	24,740	54,814
Repairs	56,158	64,728	39,346	81,029
Custom hire	14,144	12,231	11,052	21,345
Hired labor	16,987	16,968	7,727	40,219
Land rent	85,024	74,398	55,992	156,340
Machinery leases	9,467	11,553	6,094	17,595
Building leases	989	708	346	3,274
Real estate taxes	4,688	3,730	4,228	7,488
Farm insurance	10,680	12,705	7,904	16,916
Utilities	6,996	7,741	4,638	12,033
Marketing	319	373	115	117
Dues & professional fees	1,703	2,940	954	2,416
Purchase of resale items	199	-	-	973
Miscellaneous	6,990	6,454	7,125	12,417
Total cash expense	563,760	568,200	400,182	953,361
Net cash farm income	122,869	43,375	81,743	284,885
<b>Inventory Changes</b>				
Prepays and supplies	3,334	-4,242	3,175	-358
Accounts receivable	22,595	22,760	3,483	65,775
Hedging accounts	3,852	-980	-375	20,766
Other current assets	-123	0	110	-949
Crops and feed	37,323	-15,257	19,744	138,889
Market livestock	-1,252	-1,849	5,276	-445
Breeding livestock	-1,497	-3,692	-3,638	1,747
Other assets	3,775	3,063	3,343	10,905
Accounts payable	-2,964	-7,424	-5,688	-654
Accrued interest	-1,834	-2,484	-194	-4,514
Total inventory change	63,209	-10,104	25,236	231,161
Net operating profit	186,078	33,271	106,979	516,046
<b>Depreciation</b>				
Machinery and equipment	-55,870	-53,435	-32,840	-111,234
Titled vehicles	-5,384	-5,528	-3,839	-7,108
Buildings and improvements	-4,591	-2,467	-1,083	-12,342
Total depreciation	-65,845	-61,431	-37,762	-130,684
Net farm income from operations	120,233	-28,160	69,217	385,362
Gain or loss on capital sales	1,285	-5,013	2,226	8,643
Net farm income	121,518	-33,173	71,443	394,005

**Inventory Changes**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
Net cash farm income	122,869	43,375	81,743	284,885
<b>Crops and Feed</b>				
Ending inventory	459,596	381,982	256,663	1,071,336
Beginning inventory	422,273	397,239	236,919	932,447
Inventory change	37,323	-15,257	19,744	138,889
<b>Market Livestock</b>				
Ending inventory	27,537	27,060	39,753	15,834
Beginning inventory	28,788	28,909	34,477	16,279
Inventory change	-1,252	-1,849	5,276	-445
<b>Accts Receivable</b>				
Ending inventory	35,540	31,824	20,338	86,054
Beginning inventory	12,946	9,064	16,855	20,279
Inventory change	22,595	22,760	3,483	65,775
<b>Prepaid Expenses and Supplies</b>				
Ending inventory	51,315	11,627	19,846	148,234
Beginning inventory	47,981	15,869	16,671	148,592
Inventory change	3,334	-4,242	3,175	-358
<b>Hedging Activities</b>				
Ending inventory	4,843	420	515	21,472
Withdrawals	3,809	17	-	18,475
Beginning inventory	2,932	843	506	11,319
Deposits	1,869	573	385	7,862
Gain or loss	3,852	-980	-375	20,766
<b>Other Current Assets</b>				
Ending inventory	1,420	0	710	4,757
Beginning inventory	1,543	-	601	5,706
Inventory change	-123	0	110	-949
<b>Breeding Livestock</b>				
Ending inventory	70,428	75,940	92,756	45,245
Capital sales	824	1,150	1,559	-
Beginning inventory	66,931	74,700	85,587	42,325
Capital purchases	5,818	6,082	12,366	1,173
Depreciation, capital adjust	-1,497	-3,692	-3,638	1,747
<b>Other Capital Assets</b>				
Ending inventory	70,425	78,165	58,957	113,103
Capital sales	826	381	585	1,965
Beginning inventory	66,030	73,757	55,836	102,551
Capital purchases	1,447	1,725	364	1,612
Depreciation, capital adjust	3,775	3,063	3,343	10,905
<b>Accounts Payable</b>				
Beginning inventory	18,409	29,124	5,748	17,381
Ending inventory	21,373	36,548	11,436	18,035
Inventory change	-2,964	-7,424	-5,688	-654
<b>Accrued Interest</b>				
Beginning inventory	15,000	22,067	16,531	17,252
Ending inventory	16,833	24,551	16,725	21,767
Inventory change	-1,834	-2,484	-194	-4,514
Total inventory change	63,209	-10,104	25,236	231,161
Net operating profit	186,078	33,271	106,979	516,046



**Depreciation**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
Net operating profit	186,078	33,271	106,979	516,046
<b>Machinery and Equipment</b>				
Ending inventory	638,624	572,280	383,948	1,221,981
Capital sales	34,187	21,957	10,113	87,629
Beginning inventory	618,268	580,091	386,461	1,132,107
Capital purchases	110,413	67,583	40,439	288,736
Depreciation, capital adjust.	-55,870	-53,435	-32,840	-111,234
<b>Titled Vehicles</b>				
Ending inventory	54,023	64,573	34,358	92,409
Capital sales	2,091	552	-	3,591
Beginning inventory	52,828	59,607	35,501	88,134
Capital purchases	8,671	11,047	2,696	14,975
Depreciation, capital adjust.	-5,384	-5,528	-3,839	-7,108
<b>Buildings and Improvements</b>				
Ending inventory	144,592	153,555	62,229	337,423
Capital sales	1,154	-	-	5,635
Beginning inventory	134,392	146,951	59,294	314,496
Capital purchases	15,945	9,071	4,018	40,904
Depreciation, capital adjust.	-4,591	-2,467	-1,083	-12,342
Total depreciation, capital adj.	-65,845	-61,431	-37,762	-130,684
Net farm income from operations	120,233	-28,160	69,217	385,362
Gain or loss on capital sales	1,285	-5,013	2,226	8,643
Net farm income	121,518	-33,173	71,443	394,005

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**Profitability Measures**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

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	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
<b>Profitability (assets valued at cost)</b>				
Net farm income from operations	120,233	-28,160	69,217	385,362
Rate of return on assets	4.9 %	-1.9 %	3.9 %	8.7 %
Rate of return on equity	5.2 %	-10.4 %	3.3 %	10.5 %
Operating profit margin	13.1 %	-5.5 %	11.4 %	22.3 %
Asset turnover rate	37.2 %	34.7 %	34.3 %	38.8 %
Farm interest expense	34,662	44,545	31,651	40,860
Value of operator lbr and mgmt.	57,568	50,066	44,038	97,294
Return on farm assets	97,327	-33,680	56,831	328,928
Average farm assets	2,000,489	1,751,160	1,453,884	3,798,106
Return on farm equity	62,665	-78,225	25,179	288,068
Average farm equity	1,209,737	754,406	755,735	2,731,809
Value of farm production	744,491	607,420	498,558	1,471,852

**Liquidity & Repayment Capacity Measures**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
<b>Liquidity</b>				
Current ratio	1.71	1.02	1.43	2.41
Working capital	265,608	11,367	120,980	856,976
Working capital to gross inc	35.3 %	1.8 %	23.7 %	58.1 %
Current assets	642,291	483,611	399,980	1,465,279
Current liabilities	376,682	472,244	279,000	608,303
Gross revenues (accrual)	751,436	615,622	509,969	1,475,803
<b>Repayment capacity</b>				
Net farm income from operations	120,233	-28,160	69,217	385,362
Depreciation	65,845	61,431	37,762	130,684
Personal income	35,930	41,714	28,257	55,645
Family living/owner withdrawals	-69,049	-65,606	-58,137	-104,478
Cash discrepancy	-177	-146	-456	37
Payments on personal debt	-4,514	-6,858	-4,552	-3,813
Income taxes paid	-14,061	-4,361	-5,292	-40,832
Interest on term debt	21,945	31,553	24,391	22,104
Capital debt repayment capacity	156,151	29,567	91,190	444,709
Scheduled term debt payments	-83,664	-98,375	-72,530	-120,704
Capital debt repayment margin	72,487	-68,809	18,660	324,006
Cash replacement allowance	-32,031	-32,647	-13,099	-65,446
Replacement margin	40,457	-101,456	5,561	258,560
Term debt coverage ratio	1.87	0.30	1.26	3.68
Replacement coverage ratio	1.35	0.23	1.06	2.39

**Balance Sheet at Cost Values**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
<b>Assets</b>				
Current Farm Assets				
Cash and checking balance	62,040	30,699	62,155	117,593
Prepaid expenses & supplies	51,315	11,627	19,846	148,234
Growing crops	782	-	63	3,208
Accounts receivable	35,540	31,824	20,338	86,054
Hedging accounts	4,843	420	515	21,472
Crops held for sale or feed	459,596	381,982	256,663	1,071,336
Market livestock held for sale	27,537	27,060	39,753	15,834
Other current assets	637	0	647	1,550
Total current farm assets	642,291	483,611	399,980	1,465,279
Intermediate Farm Assets				
Breeding livestock	70,428	75,940	92,756	45,245
Machinery and equipment	638,624	572,280	383,948	1,221,981
Titled vehicles	54,023	64,573	34,358	92,409
Other intermediate assets	44,556	45,660	45,616	52,894
Total intermediate farm assets	807,631	758,454	556,677	1,412,528
Long Term Farm Assets				
Farm land	453,405	332,544	489,803	738,753
Buildings and improvements	144,592	153,555	62,229	337,423
Other long-term assets	25,870	32,504	13,341	60,210
Total long-term farm assets	623,866	518,603	565,373	1,136,386
Total Farm Assets	2,073,788	1,760,668	1,522,030	4,014,193
Total Nonfarm Assets	348,945	311,853	214,116	670,201
Total Assets	2,422,733	2,072,521	1,736,147	4,684,394
<b>Liabilities</b>				
Current Farm Liabilities				
Accrued interest	16,833	24,551	16,725	21,767
Accounts payable	21,373	36,548	11,436	18,035
Current notes	274,011	345,294	200,395	471,328
Principal due on term debt	64,465	65,851	50,443	97,173
Total current farm liabilities	376,682	472,244	279,000	608,303
Total intermediate farm liabs	186,072	216,774	139,487	274,389
Total long term farm liabilities	267,884	337,682	325,767	268,339
Total farm liabilities	830,639	1,026,700	744,254	1,151,031
Total nonfarm liabilities	75,715	96,150	86,750	74,982
Total liabilities	906,354	1,122,850	831,004	1,226,013
Net worth (farm and nonfarm)	1,516,380	949,671	905,143	3,458,381
Net worth change	85,350	-30,266	49,343	302,742
Percent net worth change	6 %	-3 %	6 %	10 %
<b>Ratio Analysis</b>				
Current farm liabilities / assets	59 %	98 %	70 %	42 %
Intermediate farm liab. / assets	23 %	29 %	25 %	19 %
Long term farm liab. / assets	43 %	65 %	58 %	24 %
Total debt to asset ratio	37 %	54 %	48 %	26 %

**Statement Of Cash Flows**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
Beginning cash (farm & nonfarm)	57,097	38,470	34,743	106,636
<b>Cash Provided By Operating Activities</b>				
Gross cash farm income	686,629	611,576	481,925	1,238,246
Total cash farm expense	-563,760	-568,200	-400,182	-953,361
Net cash from hedging transactions	1,940	-557	-385	10,614
Cash provided by operating	124,809	42,819	81,358	295,499
<b>Cash Provided By Investing Activities</b>				
Sale of breeding livestock	1,253	1,150	3,686	-
Sale of machinery & equipment	34,339	18,785	10,212	91,035
Sale of titled vehicles	1,927	722	-	2,858
Sale of farm land	1,947	7,200	-	1,923
Sale of farm buildings	1,154	-	-	5,635
Sale of other farm assets	1,820	771	585	6,380
Sale of nonfarm assets	3,721	5,346	2,979	5,777
Purchase of breeding livestock	-5,818	-6,082	-12,366	-1,173
Purchase of machinery & equip.	-110,413	-67,583	-40,439	-288,736
Purchase of titled vehicles	-8,671	-11,047	-2,696	-14,975
Purchase of farm land	-30,006	-24,623	-63,665	-43,356
Purchase of farm buildings	-15,945	-9,071	-4,018	-40,904
Purchase of other farm assets	-1,447	-1,725	-364	-1,612
Purchase of nonfarm assets	-20,191	-8,832	-35,848	-36,593
Cash provided by investing	-146,331	-94,989	-141,934	-313,740
<b>Cash Provided By Financing Activities</b>				
Money borrowed	638,615	662,839	564,095	1,077,804
Principal payments	-558,871	-610,490	-452,346	-911,816
Personal income	35,930	41,714	28,257	55,645
Family living/owner withdrawals	-69,049	-65,606	-58,137	-104,478
Income and social security tax	-14,189	-5,705	-6,941	-37,612
Capital contributions	147	745	-	-
Capital distributions	-745	-745	-	-
Dividends paid	-	-	-	-
Cash gifts and inheritances	12,465	40,433	17,769	1,545
Gifts given	-302	-3	-	-1,448
Other cash flows	-	-	-	-
Cash provided by financing	44,001	63,183	92,699	79,640
Net change in cash balance	22,478	11,013	32,123	61,399
Ending cash (farm & nonfarm)	79,398	49,337	66,411	168,072
Discrepancy	177	146	456	-37

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**Financial Standards Measures**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

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	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
<b>Liquidity</b>				
Current ratio	1.71	1.02	1.43	2.41
Working capital	265,608	11,367	120,980	856,976
Working capital to gross inc	35.3 %	1.8 %	23.7 %	58.1 %
<b>Solvency (cost)</b>				
Farm debt to asset ratio	40 %	58 %	49 %	29 %
Farm equity to asset ratio	60 %	42 %	51 %	71 %
Farm debt to equity ratio	0.67	1.40	0.96	0.40
<b>Profitability (cost)</b>				
Rate of return on farm assets	4.9 %	-1.9 %	3.9 %	8.7 %
Rate of return on farm equity	5.2 %	-10.4 %	3.3 %	10.5 %
Operating profit margin	13.1 %	-5.5 %	11.4 %	22.3 %
Net farm income	121,518	-33,173	71,443	394,005
EBITDA	220,740	77,816	138,630	556,906
<b>Repayment Capacity</b>				
Capital debt repayment capacity	156,151	29,567	91,190	444,709
Capital debt repayment margin	72,487	-68,809	18,660	324,006
Replacement margin	40,457	-101,456	5,561	258,560
Term debt coverage ratio	1.87	0.30	1.26	3.68
Replacement coverage ratio	1.35	0.23	1.06	2.39
<b>Efficiency</b>				
Asset turnover rate (cost)	37.2 %	34.7 %	34.3 %	38.8 %
Operating expense ratio	70.6 %	87.4 %	72.8 %	62.3 %
Depreciation expense ratio	8.8 %	10.0 %	7.4 %	8.9 %
Interest expense ratio	4.6 %	7.2 %	6.2 %	2.8 %
Net farm income ratio	16.2 %	-5.4 %	14.0 %	26.7 %

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**Crop Production and Marketing Summary**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
<b>Acreage Summary</b>				
Total acres owned	814	619	642	1,346
Total crop acres	2,216	1,937	1,485	3,969
Crop acres owned	516	443	398	818
Crop acres cash rented	1,541	1,421	1,070	2,874
Crop acres share rented	160	73	18	277
Total pasture acres	337	357	316	292
Percent crop acres owned	23 %	23 %	27 %	21 %
Mach invest/crop acre cost	308	329	283	319
<b>Average Price Received (Cash Sales Only)</b>				
Wheat, Spring per bushel	5.39	5.38	5.33	5.47
Soybeans per bushel	8.71	8.37	8.57	8.90
Canola per cwt	16.67	16.65	16.08	17.14
Barley per bushel	4.10	3.71	4.36	4.28
Corn per bushel	2.98	3.02	2.99	3.02
Sunflowers per cwt	16.94	-	-	-
Beans, Pinto per cwt	22.68	-	-	23.28
Peas, Field per bushel	6.32	-	-	-
Wheat, Durum per bushel	5.47	-	-	-
Flax per bushel	9.52	-	-	-
<b>Average Yield Per Acre</b>				
Wheat, Spring (bushel)	58.86	53.93	54.47	62.71
Soybeans (bushel)	28.78	29.65	29.60	28.29
Canola (cwt)	19.64	16.33	16.65	20.81
Corn (bushel)	116.33	124.78	-	113.98
Barley (bushel)	78.89	65.16	-	86.55
Hay, Grass (ton)	1.04	1.18	-	1.01
Hay, Mixed Alfalfa/Grass (ton)	1.25	-	-	0.854
Hay, Small Grain (ton)	1.92	1.58	-	2.44
Beans, Pinto (cwt)	17.56	-	-	17.61
Hay, Alfalfa (ton)	1.65	-	-	-
Corn Silage (ton)	14.87	-	-	-
Flax (bushel)	27.72	-	-	26.32
Wheat, Durum (bushel)	63.44	-	-	67.54
Peas, Field (bushel)	50.75	-	-	-
Sunflowers (cwt)	19.78	-	-	-

**Household and Personal Expenses**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	62	15	11	11
Average family size	3.0	3.0	3.3	3.3
Family Living Expenses				
Food and meals expense	8,725	9,853	9,107	9,894
Medical care	5,151	3,955	6,258	7,176
Health insurance	9,742	9,990	5,438	13,663
Cash donations	2,553	1,829	1,099	4,501
Household supplies	7,462	8,647	7,939	9,658
Clothing	2,160	2,260	2,400	3,234
Personal care	5,620	3,692	6,204	8,013
Child / Dependent care	1,017	133	1,016	320
Alimony and child support	-	-	-	-
Gifts	2,269	1,786	1,286	2,948
Education	1,066	2,110	646	1,138
Recreation	4,356	5,444	4,441	4,477
Utilities (household share)	4,652	4,106	3,649	5,796
Personal vehicle operating exp	3,858	3,611	4,027	3,612
Household real estate taxes	420	366	-	394
Dwelling rent	189	-	1,064	-
Household repairs	2,250	1,662	5,128	2,335
Personal interest	2,332	2,794	2,981	1,604
Disability / Long term care ins	346	-	-	331
Life insurance payments	3,226	3,251	824	7,435
Personal property insurance	418	351	357	995
Miscellaneous	5,033	8,657	3,665	5,509
Total cash family living expense	72,847	74,497	67,527	93,031
Family living from the farm	50	-	-	213
Total family living	72,897	74,497	67,527	93,244
Other Nonfarm Expenditures				
Income taxes	15,323	4,991	10,773	38,736
Furnishing & appliance purchases	14	57	-	-
Nonfarm vehicle purchases	4,384	2,991	43	7,700
Nonfarm real estate purchases	13,279	581	73,882	173
Other nonfarm capital purchases	-130	-	-3,273	-
Nonfarm savings & investments	10,468	24,394	2,846	7,725
Total other nonfarm expenditures	43,337	33,014	84,271	54,334
Total cash family living investment & nonfarm capital purch	116,184	107,511	151,798	147,365

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**Operator and Labor Information**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

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	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
<b>Operator Information</b>				
Average number of operators	1.1	1.1	1.0	1.4
Average age of operators	45.1	48.1	40.5	46.3
Average number of years farming	21.0	21.9	16.2	23.4
<b>Results Per Operator</b>				
Working capital	239,236	10,525	120,980	618,927
Total assets (cost)	2,182,178	1,919,001	1,736,147	3,383,174
Total liabilities	816,361	1,039,676	831,004	885,454
Net worth (cost)	1,365,817	879,325	905,143	2,497,719
Gross farm income	676,825	570,020	509,969	1,065,858
Total farm expense	568,530	596,094	440,752	787,541
Net farm income from operations	108,295	-26,074	69,217	278,317
Net nonfarm income	32,363	38,624	28,257	40,188
Family living & tax withdrawals	75,018	64,919	63,885	104,919
Total acres owned	732.8	573.4	642.0	972.0
Total crop acres	1,996.2	1,793.4	1,485.4	2,866.2
Crop acres owned	464.3	410.4	397.6	590.8
Crop acres cash rented	1,387.6	1,315.7	1,069.5	2,075.5
Crop acres share rented	144.2	67.3	18.2	199.8
Total pasture acres	303.4	330.3	315.8	210.9
<b>Labor Analysis</b>				
Number of farms	127	25	26	26
Total unpaid labor hours	2,307	2,218	2,112	2,969
Total hired labor hours	722	841	308	1,560
Total labor hours per farm	3,029	3,059	2,419	4,529
Unpaid hours per operator	2,078	2,054	2,112	2,144

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**Nonfarm Summary**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

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	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	127	25	26	26
<b>Nonfarm Income</b>				
Personal wages & salary	20,998	26,882	22,068	22,730
Net nonfarm business income	4,487	3,991	80	14,289
Personal rental income	2,790	3,551	-	6,329
Personal interest income	274	10	98	1,111
Personal cash dividends	12	-	1	-
Tax refunds	1,347	2,361	1,328	830
Other nonfarm income	6,023	4,918	4,682	10,356
Total nonfarm income	35,930	41,714	28,257	55,645
Gifts and inheritances	12,465	40,433	17,769	1,545

**Financial Summary**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Gross Farm Income)**

	<u>Avg. Of All Farms</u>	<u>Less than 100,000</u>	<u>100,001 - 250,000</u>	<u>250,001 - 500,000</u>	<u>500,001 - 1,000,000</u>	<u>1,000,001- 2,000,000</u>
Number of farms	127	7	18	26	53	21
<b>Income Statement</b>						
Gross cash farm income	686,629	69,123	184,349	385,087	748,997	1,362,127
Total cash farm expense	563,760	49,334	148,377	321,923	628,241	1,075,314
Net cash farm income	122,869	19,789	35,972	63,165	120,756	286,813
Inventory change	63,209	3,638	2,671	26,198	77,816	97,622
Depreciation	-65,845	-3,217	-9,776	-28,826	-71,141	-122,243
Net farm income from operations	120,233	20,210	28,868	60,536	127,430	262,191
Gain or loss on capital sales	1,285	-	429	-2,687	73	9,979
Average net farm income	121,518	20,210	29,297	57,850	127,504	272,170
Median net farm income	75,569	13,261	24,532	53,432	97,255	326,113
<b>Profitability (cost)</b>						
Rate of return on assets	4.9 %	3.0 %	2.6 %	4.0 %	4.8 %	6.2 %
Rate of return on equity	5.2 %	3.6 %	0.4 %	3.7 %	5.1 %	6.8 %
Operating profit margin	13.1 %	9.1 %	6.9 %	10.9 %	12.6 %	15.8 %
Asset turnover rate	37.2 %	32.9 %	37.3 %	36.9 %	37.8 %	39.1 %
<b>Liquidity &amp; Repayment (end of year)</b>						
Current assets	642,291	87,346	131,475	288,544	660,598	1,286,327
Current liabilities	376,682	24,654	92,208	193,667	408,525	645,888
Current ratio	1.71	3.54	1.43	1.49	1.62	1.99
Working capital	265,608	62,691	39,267	94,877	252,073	640,439
Change in working capital	25,323	12,516	7,239	27,669	21,552	32,081
Working capital to gross inc	35.3 %	85.0 %	20.0 %	23.2 %	30.4 %	43.9 %
Term debt coverage ratio	1.87	2.56	0.97	1.49	1.75	2.38
Replacement coverage ratio	1.35	2.36	0.84	1.16	1.26	1.57
Term debt to EBITDA	1.94	2.30	3.60	2.82	2.05	1.44
<b>Solvency (end of year at cost)</b>						
Number of farms	127	7	18	26	53	21
Total assets	2,422,733	284,797	627,658	1,338,016	2,614,497	4,526,213
Total liabilities	906,354	111,632	347,910	640,209	994,211	1,390,529
Net worth	1,516,380	173,165	279,748	697,807	1,620,286	3,135,684
Net worth change	85,350	36,183	17,224	46,630	85,240	195,818
Farm debt to asset ratio	40 %	41 %	57 %	50 %	40 %	34 %
Total debt to asset ratio	37 %	39 %	55 %	48 %	38 %	31 %
Change in earned net worth %	6 %	26 %	7 %	7 %	6 %	7 %
<b>Nonfarm Information</b>						
Net nonfarm income	35,930	31,442	34,606	34,822	27,293	52,320
Farms reporting living expenses	62	2	6	16	31	6
Total family living expense	72,897	-	52,723	62,697	81,969	86,608
<b>Crop Acres</b>						
Total crop acres	2,216	325	663	1,359	2,526	3,914
Total crop acres owned	516	-	138	303	765	640
Total crop acres cash rented	1,541	314	459	924	1,571	3,017
Total crop acres share rented	160	11	66	132	191	257
Machinery value per crop acre	308	80	196	256	299	330

**Financial Summary**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Age of Operator)**

	<u>Avg. Of All Farms</u>	<u>Less Than 31</u>	<u>31 - 40</u>	<u>41 - 50</u>	<u>51 - 60</u>	<u>Over 60</u>
Number of farms	127	22	25	27	32	21
<b>Income Statement</b>						
Gross cash farm income	686,629	323,136	617,025	811,529	733,317	918,563
Total cash farm expense	563,760	260,263	512,918	692,105	580,978	750,984
Net cash farm income	122,869	62,873	104,107	119,424	152,340	167,579
Inventory change	63,209	21,952	76,181	98,262	15,422	118,738
Depreciation	-65,845	-12,662	-49,941	-68,409	-71,882	-128,002
Net farm income from operations	120,233	72,163	130,347	149,277	95,880	158,315
Gain or loss on capital sales	1,285	35	-233	1,414	995	4,677
Average net farm income	121,518	72,199	130,114	150,691	96,875	162,993
Median net farm income	75,569	55,024	75,569	85,131	65,165	97,255
<b>Profitability (cost)</b>						
Rate of return on assets	4.9 %	9.2 %	6.8 %	5.7 %	3.7 %	3.4 %
Rate of return on equity	5.2 %	15.8 %	8.5 %	7.0 %	2.8 %	3.4 %
Operating profit margin	13.1 %	13.9 %	15.7 %	14.9 %	10.7 %	11.2 %
Asset turnover rate	37.2 %	66.0 %	43.1 %	38.5 %	34.6 %	30.7 %
<b>Liquidity &amp; Repayment (end of year)</b>						
Current assets	642,291	202,108	509,911	737,938	647,718	1,129,783
Current liabilities	376,682	110,726	313,913	469,011	386,173	596,858
Current ratio	1.71	1.83	1.62	1.57	1.68	1.89
Working capital	265,608	91,382	195,998	268,927	261,545	532,925
Change in working capital	25,323	10,797	31,937	43,888	7,306	36,251
Working capital to gross inc	35.3 %	26.7 %	28.0 %	29.4 %	35.2 %	51.0 %
Term debt coverage ratio	1.87	2.24	2.28	1.90	1.31	2.08
Replacement coverage ratio	1.35	2.02	1.65	1.43	0.94	1.37
Term debt to EBITDA	1.94	1.83	1.82	2.49	2.13	1.27
<b>Solvency (end of year at cost)</b>						
Number of farms	127	22	25	27	32	21
Total assets	2,422,733	662,670	1,907,708	3,016,623	2,453,022	4,070,007
Total liabilities	906,354	376,446	838,783	1,295,213	873,114	1,092,625
Net worth	1,516,380	286,224	1,068,925	1,721,410	1,579,909	2,977,382
Net worth change	85,350	49,085	92,502	163,200	25,653	105,702
Farm debt to asset ratio	40 %	54 %	44 %	48 %	39 %	29 %
Total debt to asset ratio	37 %	57 %	44 %	43 %	36 %	27 %
Change in earned net worth %	6 %	21 %	9 %	10 %	2 %	4 %
<b>Nonfarm Information</b>						
Net nonfarm income	35,930	33,097	31,457	50,098	22,884	45,888
Farms reporting living expenses	62	8	12	9	18	15
Total family living expense	72,897	66,266	65,289	88,366	66,619	80,773
<b>Crop Acres</b>						
Total crop acres	2,216	979	2,044	2,495	2,387	3,097
Total crop acres owned	516	29	228	573	644	1,098
Total crop acres cash rented	1,541	908	1,446	1,812	1,653	1,795
Total crop acres share rented	160	43	370	110	90	204
Machinery value per crop acre	308	174	278	282	319	388



**Financial Summary**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Farm Type)**

	<u>Avg. Of All Farms</u>	<u>Crop</u>	<u>Beef</u>	<u>Crop and Beef</u>	<u>Other</u>
Number of farms	127	94	9	17	7
<b>Income Statement</b>					
Gross cash farm income	686,629	784,386	223,179	422,240	611,844
Total cash farm expense	563,760	643,230	152,850	350,914	541,824
Net cash farm income	122,869	141,156	70,330	71,326	70,020
Inventory change	63,209	78,500	-20,183	23,713	61,009
Depreciation	-65,845	-77,234	-14,892	-34,075	-55,583
Net farm income from operations	120,233	142,423	35,255	60,964	75,446
Gain or loss on capital sales	1,285	52	142	-1,004	24,866
Average net farm income	121,518	142,475	35,396	59,960	100,312
Median net farm income	75,569	86,334	-3,683	73,213	40,827
<b>Profitability (cost)</b>					
Rate of return on assets	4.9 %	5.1 %	2.2 %	3.7 %	5.0 %
Rate of return on equity	5.2 %	5.5 %	1.0 %	2.9 %	6.5 %
Operating profit margin	13.1 %	13.4 %	11.5 %	11.8 %	9.3 %
Asset turnover rate	37.2 %	37.9 %	19.4 %	31.3 %	53.8 %
<b>Liquidity &amp; Repayment (end of year)</b>					
Current assets	642,291	767,530	191,115	310,382	346,655
Current liabilities	376,682	430,611	79,116	261,772	314,153
Current ratio	1.71	1.78	2.42	1.19	1.10
Working capital	265,608	336,919	111,998	48,611	32,503
Change in working capital	25,323	27,401	-10,868	30,045	32,475
Working capital to gross inc	35.3 %	39.0 %	53.4 %	10.7 %	4.9 %
Term debt coverage ratio	1.87	2.02	1.36	1.17	1.45
Replacement coverage ratio	1.35	1.41	1.19	1.10	0.98
Term debt to EBITDA	1.94	1.71	4.01	3.11	3.46
<b>Solvency (end of year at cost)</b>					
Number of farms	127	94	9	17	7
Total assets	2,422,733	2,766,150	1,049,143	1,626,496	1,510,898
Total liabilities	906,354	969,341	391,010	787,424	1,011,938
Net worth	1,516,380	1,796,809	658,133	839,072	498,960
Net worth change	85,350	96,277	38,862	60,158	59,561
Farm debt to asset ratio	40 %	38 %	38 %	50 %	70 %
Total debt to asset ratio	37 %	35 %	37 %	48 %	67 %
Change in earned net worth %	6 %	6 %	6 %	8 %	14 %
<b>Nonfarm Information</b>					
Net nonfarm income	35,930	39,457	35,961	23,233	19,369
Farms reporting living expenses	62	49	3	8	2
Total family living expense	72,897	77,600	-	57,464	-
<b>Crop Acres</b>					
Total crop acres	2,216	2,543	728	1,365	1,810
Total crop acres owned	516	545	368	495	356
Total crop acres cash rented	1,541	1,807	355	735	1,440
Total crop acres share rented	160	190	4	135	14
Machinery value per crop acre	308	316	275	242	291

## 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 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. 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.

Market Facilitation Payments, a 2018 USDA FSA program for commodities directly impacted by retaliatory tariffs, are included under "Other crop income per acre." "Government payments" are ARC and PLC payments which are not associated with specific crop planting.

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.

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Barley on Owned Land**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	13
Acres	157.38
Yield per acre (bu.)	71.67
Operators share of yield %	100.00
Value per bu.	4.21
Total product return per acre	301.44
Crop insurance per acre	13.41
Gross return per acre	314.84
<b>Direct Expenses</b>	
Seed and plants	16.36
Fertilizer	50.61
Crop chemicals	34.24
Crop insurance	15.87
Fuel & oil	15.66
Repairs	27.39
Custom hire	3.08
Machinery leases	2.66
Operating interest	6.73
Miscellaneous	1.44
Total direct expenses per acre	174.05
Return over direct exp per acre	140.80
<b>Overhead Expenses</b>	
Hired labor	10.72
Building leases	1.14
RE & pers. property taxes	9.84
Farm insurance	4.64
Utilities	4.43
Dues & professional fees	0.42
Interest	25.29
Mach & bldg depreciation	28.34
Miscellaneous	5.41
Total overhead expenses per acre	90.22
Total dir & ovhd expenses per acre	264.27
Net return per acre	50.58
Government payments	21.02
Net return with govt pmts	71.60
Labor & management charge	23.26
Net return over lbr & mgt	48.34
<b>Cost of Production</b>	
Total direct expense per bu.	2.43
Total dir & ovhd exp per bu.	3.69
Less govt & other income	3.21
With labor & management	3.53
Net value per unit	4.21
Machinery cost per acre	78.74
Est. labor hours per acre	1.29

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Barley on Cash Rent**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	23
Acres	287.61
Yield per acre (bu.)	80.36
Operators share of yield %	100.00
Value per bu.	4.14
Total product return per acre	332.57
Crop insurance per acre	6.89
Other crop income per acre	0.25
Gross return per acre	339.72
<b>Direct Expenses</b>	
Seed and plants	16.33
Fertilizer	53.21
Crop chemicals	34.56
Crop insurance	14.57
Fuel & oil	15.26
Repairs	23.54
Custom hire	1.70
Land rent	52.21
Machinery leases	0.17
Operating interest	7.10
Miscellaneous	0.66
Total direct expenses per acre	219.31
Return over direct exp per acre	120.41
<b>Overhead Expenses</b>	
Custom hire	1.94
Hired labor	10.39
Machinery leases	1.63
Building leases	0.42
Farm insurance	3.86
Utilities	3.43
Dues & professional fees	0.41
Interest	2.46
Mach & bldg depreciation	42.87
Miscellaneous	4.20
Total overhead expenses per acre	71.60
Total dir & ovhd expenses per acre	290.91
Net return per acre	48.81
Government payments	14.41
Net return with govt pmts	63.22
Labor & management charge	25.61
Net return over lbr & mgt	37.61
<b>Cost of Production</b>	
Total direct expense per bu.	2.73
Total dir & ovhd exp per bu.	3.62
Less govt & other income	3.35
With labor & management	3.67
Net value per unit	4.14
Machinery cost per acre	86.89
Est. labor hours per acre	1.15

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Beans, Pinto on Cash Rent**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	7
Acres	440.18
Yield per acre (cwt.)	17.50
Operators share of yield %	100.00
Value per cwt.	21.81
Total product return per acre	381.66
Crop insurance per acre	10.85
Gross return per acre	392.51
<b>Direct Expenses</b>	
Seed and plants	52.30
Fertilizer	46.70
Crop chemicals	67.78
Crop insurance	27.20
Fuel & oil	18.05
Repairs	22.53
Custom hire	2.22
Land rent	56.10
Operating interest	8.30
Miscellaneous	0.83
Total direct expenses per acre	302.02
Return over direct exp per acre	90.49
<b>Overhead Expenses</b>	
Custom hire	0.06
Hired labor	13.00
Machinery leases	3.55
Building leases	1.12
Farm insurance	4.55
Utilities	3.92
Interest	1.44
Mach & bldg depreciation	66.26
Miscellaneous	4.50
Total overhead expenses per acre	98.39
Total dir & ovhd expenses per acre	400.41
Net return per acre	-7.90
Government payments	14.77
Net return with govt pmts	6.88
Labor & management charge	32.65
Net return over lbr & mgt	-25.77
<b>Cost of Production</b>	
Total direct expense per cwt.	17.26
Total dir & ovhd exp per cwt.	22.88
Less govt & other income	21.42
With labor & management	23.28
Net value per unit	21.81
Machinery cost per acre	111.13
Est. labor hours per acre	1.24

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Canola on Owned Land**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	30	6	6	6
Acres	163.57	206.11	142.81	183.87
Yield per acre (cwt.)	18.84	16.06	19.39	22.88
Operators share of yield %	100.00	100.00	100.00	100.00
Value per cwt.	15.90	15.79	15.29	16.17
Other product return per acre	0.51	-	-	-
Total product return per acre	300.16	253.60	296.44	370.04
Crop insurance per acre	6.61	13.63	-	-
Other crop income per acre	0.35	-	-	-
Gross return per acre	307.12	267.23	296.44	370.04
<b>Direct Expenses</b>				
Seed and plants	54.84	54.02	56.23	50.32
Fertilizer	49.15	52.36	42.00	38.29
Crop chemicals	32.19	40.30	19.15	34.08
Crop insurance	15.33	20.90	15.18	11.82
Fuel & oil	14.18	14.17	16.66	11.95
Repairs	20.37	23.41	23.75	15.48
Custom hire	3.46	5.58	6.42	3.71
Operating interest	3.68	4.65	3.25	3.90
Miscellaneous	1.58	4.16	1.31	1.31
Total direct expenses per acre	194.77	219.55	183.94	170.85
Return over direct exp per acre	112.35	47.68	112.49	199.19
<b>Overhead Expenses</b>				
Custom hire	0.60	0.78	0.02	0.92
Hired labor	6.57	13.01	11.11	2.62
Machinery leases	1.15	1.26	0.12	1.80
Building leases	0.46	-	0.49	1.27
RE & pers. property taxes	7.94	9.12	5.23	10.67
Farm insurance	5.17	6.53	4.05	5.67
Utilities	3.51	4.80	2.39	4.04
Dues & professional fees	0.65	0.61	0.97	0.20
Interest	16.46	20.53	12.71	10.62
Mach & bldg depreciation	27.14	30.28	29.16	23.13
Miscellaneous	2.66	3.63	2.01	1.90
Total overhead expenses per acre	72.32	90.54	68.25	62.84
Total dir & ovhd expenses per acre	267.08	310.09	252.19	233.69
Net return per acre	40.04	-42.86	44.24	136.35
Government payments	20.96	14.78	18.59	26.76
Net return with govt pmts	61.00	-28.08	62.83	163.11
Labor & management charge	23.49	20.91	20.17	30.04
Net return over lbr & mgt	37.50	-48.99	42.66	133.07
<b>Cost of Production</b>				
Total direct expense per cwt.	10.34	13.67	9.49	7.47
Total dir & ovhd exp per cwt.	14.18	19.31	13.01	10.21
Less govt & other income	12.67	17.54	12.05	9.04
With labor & management	13.91	18.85	13.09	10.36
Net value per unit	15.90	15.79	15.29	16.17
Machinery cost per acre	66.89	73.45	75.30	56.82
Est. labor hours per acre	1.28	1.35	1.27	1.29

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Canola on Cash Rent**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	40	8	8	8
Acres	443.04	483.44	688.32	299.77
Yield per acre (cwt.)	19.89	16.27	20.23	24.21
Operators share of yield %	100.00	100.00	100.00	100.00
Value per cwt.	15.82	15.17	16.37	16.09
Total product return per acre	314.64	246.92	331.28	389.60
Crop insurance per acre	5.79	7.24	-	0.46
Other crop income per acre	0.62	-	1.13	-
Gross return per acre	321.05	254.16	332.41	390.05
<b>Direct Expenses</b>				
Seed and plants	54.66	61.40	53.29	51.79
Fertilizer	58.12	57.96	63.98	43.06
Crop chemicals	30.91	29.49	29.91	30.77
Crop insurance	16.45	19.63	17.63	11.67
Fuel & oil	13.25	13.29	13.92	12.84
Repairs	23.25	23.41	21.44	24.08
Custom hire	2.90	5.79	1.25	2.82
Land rent	52.38	49.50	51.96	50.84
Operating interest	4.99	7.84	4.84	4.75
Miscellaneous	1.39	3.32	0.78	0.03
Total direct expenses per acre	258.29	271.63	259.01	232.65
Return over direct exp per acre	62.76	-17.47	73.40	157.40
<b>Overhead Expenses</b>				
Custom hire	1.65	0.76	3.72	1.18
Hired labor	6.30	7.77	5.75	6.27
Machinery leases	3.51	2.21	4.23	6.39
Building leases	0.77	0.55	2.00	0.15
Farm insurance	4.12	3.81	4.16	3.42
Utilities	2.55	2.56	2.47	2.58
Dues & professional fees	0.70	1.50	0.44	0.21
Interest	3.51	4.66	4.93	3.33
Mach & bldg depreciation	27.63	26.76	27.40	23.31
Miscellaneous	2.74	3.59	2.95	2.01
Total overhead expenses per acre	53.48	54.17	58.06	48.85
Total dir & ovhd expenses per acre	311.78	325.80	317.07	281.50
Net return per acre	9.28	-71.63	15.34	108.55
Government payments	17.31	14.41	16.11	20.65
Net return with govt pmts	26.58	-57.22	31.45	129.20
Labor & management charge	24.14	19.40	26.12	26.39
Net return over lbr & mgt	2.44	-76.62	5.33	102.81
<b>Cost of Production</b>				
Total direct expense per cwt.	12.99	16.69	12.80	9.61
Total dir & ovhd exp per cwt.	15.68	20.02	15.67	11.63
Less govt & other income	14.48	18.69	14.82	10.76
With labor & management	15.70	19.88	16.11	11.85
Net value per unit	15.82	15.17	16.37	16.09
Machinery cost per acre	74.32	76.36	75.44	72.36
Est. labor hours per acre	1.18	1.03	1.30	1.31

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Corn on Owned Land**

	<u><b>Avg. Of All Farms</b></u>
Number of farms	16
Acres	153.96
Yield per acre (bu.)	109.65
Operators share of yield %	100.00
Value per bu.	3.19
Total product return per acre	350.28
Hedging gains/losses per acre	15.08
Crop insurance per acre	12.43
Other crop income per acre	1.86
Gross return per acre	379.65
<b>Direct Expenses</b>	
Seed and plants	77.94
Fertilizer	71.97
Crop chemicals	29.59
Crop insurance	16.01
Drying expense	0.49
Fuel & oil	22.90
Repairs	46.83
Custom hire	1.97
Machinery leases	0.63
Operating interest	9.06
Miscellaneous	1.21
Total direct expenses per acre	278.61
Return over direct exp per acre	101.04
<b>Overhead Expenses</b>	
Custom hire	0.65
Hired labor	23.98
Machinery leases	2.05
Building leases	1.02
RE & pers. property taxes	9.25
Farm insurance	6.54
Utilities	6.04
Dues & professional fees	0.87
Interest	31.15
Mach & bldg depreciation	50.31
Miscellaneous	5.49
Total overhead expenses per acre	137.36
Total dir & ovhd expenses per acre	415.97
Net return per acre	-36.32
Government payments	22.22
Net return with govt pmts	-14.11
Labor & management charge	39.29
Net return over lbr & mgt	-53.39
<b>Cost of Production</b>	
Total direct expense per bu.	2.54
Total dir & ovhd exp per bu.	3.79
Less govt & other income	3.32
With labor & management	3.68
Net value per unit	3.33
Machinery cost per acre	119.43
Est. labor hours per acre	2.34



**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Corn on Cash Rent**

	<u>Avg. Of All Farms</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	24	5	5
Acres	279.26	143.20	315.66
Yield per acre (bu.)	118.45	114.82	148.59
Operators share of yield %	100.00	100.00	100.00
Value per bu.	3.28	3.22	3.36
Total product return per acre	388.80	369.21	498.63
Hedging gains/losses per acre	2.32	-	6.34
Crop insurance per acre	10.24	27.90	-
Other crop income per acre	1.11	3.93	0.62
Gross return per acre	402.47	401.04	505.59
<b>Direct Expenses</b>			
Seed and plants	89.20	81.03	100.89
Fertilizer	83.58	81.08	85.18
Crop chemicals	26.72	32.58	20.79
Crop insurance	14.27	17.49	13.86
Drying expense	3.05	0.36	7.89
Fuel & oil	22.78	18.50	24.68
Repairs	38.62	38.99	36.48
Custom hire	1.21	1.48	2.22
Land rent	54.67	56.34	70.63
Operating interest	9.58	16.90	5.21
Miscellaneous	2.48	0.23	2.34
Total direct expenses per acre	346.15	345.00	370.17
Return over direct exp per acre	56.32	56.04	135.42
<b>Overhead Expenses</b>			
Custom hire	2.23	-	0.53
Hired labor	16.21	29.82	16.06
Machinery leases	1.63	0.22	0.89
Building leases	0.68	1.80	0.93
Farm insurance	5.34	6.52	4.72
Utilities	4.57	4.53	5.76
Dues & professional fees	0.82	0.10	1.95
Interest	2.91	6.81	3.47
Mach & bldg depreciation	61.32	36.79	49.32
Miscellaneous	4.83	4.44	2.55
Total overhead expenses per acre	100.54	91.03	86.18
Total dir & ovhd expenses per acre	446.69	436.03	456.35
Net return per acre	-44.22	-34.99	49.24
Government payments	14.11	18.58	8.09
Net return with govt pmts	-30.12	-16.41	57.33
Labor & management charge	38.18	38.01	39.73
Net return over lbr & mgt	-68.30	-54.42	17.60
<b>Cost of Production</b>			
Total direct expense per bu.	2.92	3.00	2.49
Total dir & ovhd exp per bu.	3.77	3.80	3.07
Less govt & other income	3.54	3.36	2.97
With labor & management	3.86	3.69	3.24
Net value per unit	3.30	3.22	3.40
Machinery cost per acre	126.69	98.28	114.97
Est. labor hours per acre	1.82	2.39	2.18

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Corn Silage on Owned Land**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	8
Acres	74.83
Yield per acre (ton)	15.16
Operators share of yield %	100.00
Value per ton	26.07
Total product return per acre	395.26
Gross return per acre	395.26
<b>Direct Expenses</b>	
Seed and plants	77.35
Fertilizer	45.24
Crop chemicals	15.56
Crop insurance	11.93
Fuel & oil	26.25
Repairs	41.87
Custom hire	59.44
Operating interest	8.51
Miscellaneous	0.32
Total direct expenses per acre	286.46
Return over direct exp per acre	108.80
<b>Overhead Expenses</b>	
Custom hire	0.90
Hired labor	5.86
Machinery leases	1.37
RE & pers. property taxes	4.86
Farm insurance	4.39
Utilities	2.32
Dues & professional fees	1.62
Interest	17.15
Mach & bldg depreciation	38.25
Miscellaneous	2.37
Total overhead expenses per acre	79.10
Total dir & ovhd expenses per acre	365.57
Net return per acre	29.70
Government payments	28.41
Net return with govt pmts	58.11
Labor & management charge	33.66
Net return over lbr & mgt	24.44
<b>Cost of Production</b>	
Total direct expense per ton	18.90
Total dir & ovhd exp per ton	24.12
Less govt & other income	22.24
With labor & management	24.46
Net value per unit	26.07
Machinery cost per acre	167.97
Est. labor hours per acre	2.70

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**CRP on Owned Land**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	11
Acres	98.29
Yield per acre (\$)	49.90
Operators share of yield %	100.00
Value per \$	1.00
Total product return per acre	49.90
Gross return per acre	49.90
<b>Direct Expenses</b>	
Crop chemicals	0.24
Fuel & oil	0.45
Repairs	0.97
Miscellaneous	0.15
Total direct expenses per acre	1.80
Return over direct exp per acre	48.10
<b>Overhead Expenses</b>	
RE & pers. property taxes	7.27
Interest	9.18
Mach & bldg depreciation	0.95
Miscellaneous	0.72
Total overhead expenses per acre	18.12
Total dir & ovhd expenses per acre	19.92
Net return per acre	29.98

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Hay, Alfalfa on Owned Land**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	8
Acres	105.99
Yield per acre (ton)	1.69
Operators share of yield %	100.00
Value per ton	70.06
Total product return per acre	118.20
Other crop income per acre	6.15
Gross return per acre	124.35
<b>Direct Expenses</b>	
Fertilizer	3.39
Fuel & oil	9.62
Repairs	12.42
Custom hire	0.49
Operating interest	2.34
Miscellaneous	0.48
Total direct expenses per acre	28.73
Return over direct exp per acre	95.62
<b>Overhead Expenses</b>	
Custom hire	0.36
Hired labor	3.27
Machinery leases	0.47
RE & pers. property taxes	5.75
Farm insurance	3.03
Utilities	3.13
Dues & professional fees	1.05
Interest	8.77
Mach & bldg depreciation	16.32
Miscellaneous	2.17
Total overhead expenses per acre	44.31
Total dir & ovhd expenses per acre	73.04
Net return per acre	51.31
Government payments	-
Net return with govt pmts	51.31
Labor & management charge	15.21
Net return over lbr & mgt	36.09
<b>Cost of Production</b>	
Total direct expense per ton	17.03
Total dir & ovhd exp per ton	43.29
Less govt & other income	39.65
With labor & management	48.67
Net value per unit	70.06
Machinery cost per acre	41.23
Est. labor hours per acre	1.19

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Hay, Grass on Owned Land**

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	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	189.02
Yield per acre (ton)	1.13
Operators share of yield %	100.00
Value per ton	38.78
Total product return per acre	43.93
Other crop income per acre	0.50
Gross return per acre	44.43
<b>Direct Expenses</b>	
Fuel & oil	6.98
Repairs	14.75
Operating interest	1.12
Total direct expenses per acre	22.85
Return over direct exp per acre	21.58
<b>Overhead Expenses</b>	
Hired labor	0.85
RE & pers. property taxes	3.14
Farm insurance	1.04
Utilities	1.30
Dues & professional fees	0.48
Interest	7.62
Mach & bldg depreciation	12.30
Miscellaneous	1.70
Total overhead expenses per acre	28.43
Total dir & ovhd expenses per acre	51.28
Net return per acre	-6.85
Government payments	-
Net return with govt pmts	-6.85
Labor & management charge	12.60
Net return over lbr & mgt	-19.44
<b>Cost of Production</b>	
Total direct expense per ton	20.18
Total dir & ovhd exp per ton	45.27
Less govt & other income	44.83
With labor & management	55.95
Net value per unit	38.78
Machinery cost per acre	35.18
Est. labor hours per acre	1.07

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Hay, Grass on Cash Rent**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	12
Acres	210.76
Yield per acre (ton)	0.94
Operators share of yield %	100.00
Value per ton	41.85
Total product return per acre	39.22
Other crop income per acre	3.09
Gross return per acre	42.31
<b>Direct Expenses</b>	
Fuel & oil	7.91
Repairs	12.39
Land rent	20.63
Operating interest	2.35
Miscellaneous	0.86
Total direct expenses per acre	44.14
Return over direct exp per acre	-1.83
<b>Overhead Expenses</b>	
Custom hire	0.34
Hired labor	1.43
Machinery leases	0.94
Farm insurance	1.63
Utilities	1.09
Dues & professional fees	0.45
Interest	1.11
Mach & bldg depreciation	15.89
Miscellaneous	0.81
Total overhead expenses per acre	23.68
Total dir & ovhd expenses per acre	67.82
Net return per acre	-25.51
Government payments	-
Net return with govt pmts	-25.51
Labor & management charge	12.64
Net return over lbr & mgt	-38.15
<b>Cost of Production</b>	
Total direct expense per ton	47.10
Total dir & ovhd exp per ton	72.37
Less govt & other income	69.07
With labor & management	82.55
Net value per unit	41.85
Machinery cost per acre	37.95
Est. labor hours per acre	0.93

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Hay, Mixed Alfalfa/Grass on Owned Land**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	7
Acres	205.73
Yield per acre (ton)	1.47
Operators share of yield %	100.00
Value per ton	44.78
Total product return per acre	65.69
Gross return per acre	65.69
<b>Direct Expenses</b>	
Fertilizer	0.90
Fuel & oil	8.50
Repairs	13.30
Custom hire	6.80
Operating interest	2.00
Total direct expenses per acre	31.50
Return over direct exp per acre	34.19
<b>Overhead Expenses</b>	
Hired labor	3.20
Machinery leases	0.48
Building leases	0.63
RE & pers. property taxes	4.56
Farm insurance	4.25
Utilities	2.14
Dues & professional fees	1.26
Interest	16.75
Mach & bldg depreciation	12.95
Miscellaneous	0.05
Total overhead expenses per acre	46.27
Total dir & ovhd expenses per acre	77.77
Net return per acre	-12.09
Government payments	-
Net return with govt pmts	-12.09
Labor & management charge	11.50
Net return over lbr & mgt	-23.59
<b>Cost of Production</b>	
Total direct expense per ton	21.47
Total dir & ovhd exp per ton	53.01
Less govt & other income	53.01
With labor & management	60.85
Net value per unit	44.78
Machinery cost per acre	45.76
Est. labor hours per acre	0.82

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Hay, Small Grain on Cash Rent**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	7
Acres	56.24
Yield per acre (ton)	1.97
Operators share of yield %	100.00
Value per ton	55.77
Total product return per acre	109.70
Gross return per acre	109.70
<b>Direct Expenses</b>	
Seed and plants	18.15
Fertilizer	22.84
Crop chemicals	10.85
Crop insurance	0.40
Fuel & oil	8.15
Repairs	14.24
Custom hire	3.56
Land rent	38.53
Operating interest	2.02
Miscellaneous	0.24
Total direct expenses per acre	119.00
Return over direct exp per acre	-9.30
<b>Overhead Expenses</b>	
Custom hire	1.48
Hired labor	2.59
Machinery leases	1.73
Farm insurance	3.35
Utilities	3.53
Dues & professional fees	2.24
Interest	2.81
Mach & bldg depreciation	8.52
Miscellaneous	2.98
Total overhead expenses per acre	29.23
Total dir & ovhd expenses per acre	148.23
Net return per acre	-38.53
Government payments	8.60
Net return with govt pmts	-29.93
Labor & management charge	17.83
Net return over lbr & mgt	-47.77
<b>Cost of Production</b>	
Total direct expense per ton	60.50
Total dir & ovhd exp per ton	75.37
Less govt & other income	70.99
With labor & management	80.06
Net value per unit	55.77
Machinery cost per acre	40.10
Est. labor hours per acre	1.45

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Pasture on Owned Land**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	16
Acres	715.55
Yield per acre (aum)	0.89
Operators share of yield %	100.00
Value per aum	15.70
Other product return per acre	0.05
Total product return per acre	13.98
Other crop income per acre	0.92
Gross return per acre	14.90
<b>Direct Expenses</b>	
Fertilizer	0.30
Repairs	0.67
Miscellaneous	0.73
Total direct expenses per acre	1.70
Return over direct exp per acre	13.20
<b>Overhead Expenses</b>	
RE & pers. property taxes	2.82
Interest	4.67
Mach & bldg depreciation	0.56
Miscellaneous	0.60
Total overhead expenses per acre	8.65
Total dir & ovhd expenses per acre	10.35
Net return per acre	4.55

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Pasture on Cash Rent**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	23
Acres	565.34
Yield per acre (aum)	0.89
Operators share of yield %	100.00
Value per aum	15.89
Other product return per acre	0.11
Total product return per acre	14.24
Other crop income per acre	0.54
Gross return per acre	14.78
<b>Direct Expenses</b>	
Crop chemicals	0.37
Fuel & oil	0.42
Repairs	0.70
Land rent	15.59
Miscellaneous	0.16
Total direct expenses per acre	17.25
Return over direct exp per acre	-2.47
<b>Overhead Expenses</b>	
Mach & bldg depreciation	0.68
Miscellaneous	0.69
Total overhead expenses per acre	1.37
Total dir & ovhd expenses per acre	18.61
Net return per acre	-3.84

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Prevented planting on Cash Rent**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	6
Acres	115.23
Yield per acre (\$)	-
Operators share of yield %	-
Value per \$	-
Total product return per acre	-
Crop insurance per acre	64.82
Other crop income per acre	0.85
Gross return per acre	65.68
<b>Direct Expenses</b>	
Crop chemicals	5.90
Crop insurance	11.56
Fuel & oil	5.32
Repairs	8.03
Land rent	38.01
Operating interest	1.58
Total direct expenses per acre	70.38
Return over direct exp per acre	-4.71
<b>Overhead Expenses</b>	
Custom hire	0.10
Hired labor	0.90
Machinery leases	3.12
Farm insurance	1.22
Utilities	0.91
Dues & professional fees	0.09
Interest	0.63
Mach & bldg depreciation	9.92
Miscellaneous	0.76
Total overhead expenses per acre	17.64
Total dir & ovhd expenses per acre	88.02
Net return per acre	-22.35
Government payments	14.54
Net return with govt pmts	-7.81
Labor & management charge	10.25
Net return over lbr & mgt	-18.06

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Soybeans on Owned Land**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	43	8	8	9
Acres	278.11	294.71	280.53	300.98
Yield per acre (bu.)	28.08	21.10	22.59	36.45
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	8.16	8.41	8.00	8.39
Total product return per acre	229.06	177.43	180.66	305.80
Hedging gains/losses per acre	0.81	-	-	-
Crop insurance per acre	41.17	74.27	46.35	36.27
Other crop income per acre	40.71	22.08	37.54	58.38
Gross return per acre	311.74	273.77	264.56	400.45
<b>Direct Expenses</b>				
Seed and plants	65.34	69.74	67.77	60.15
Fertilizer	12.57	16.13	9.85	9.34
Crop chemicals	26.74	28.32	25.36	27.95
Crop insurance	17.22	22.72	14.40	15.38
Fuel & oil	12.93	13.58	11.89	15.01
Repairs	21.46	31.39	18.14	19.53
Custom hire	2.78	5.23	2.03	0.32
Machinery leases	0.80	3.21	0.05	0.17
Operating interest	4.36	8.01	4.36	3.28
Miscellaneous	0.96	0.58	1.18	1.52
Total direct expenses per acre	165.16	198.92	155.03	152.66
Return over direct exp per acre	146.58	74.85	109.53	247.80
<b>Overhead Expenses</b>				
Custom hire	0.92	1.52	0.98	0.11
Hired labor	9.29	11.62	7.45	9.11
Machinery leases	2.39	8.84	1.65	0.33
Building leases	0.40	-	0.90	0.68
RE & pers. property taxes	8.60	7.73	8.16	9.73
Farm insurance	5.37	5.20	4.08	5.20
Utilities	3.33	3.24	1.98	3.56
Dues & professional fees	0.74	1.05	0.55	0.54
Interest	22.04	44.33	10.93	19.24
Mach & bldg depreciation	34.02	28.39	24.70	42.53
Miscellaneous	2.79	1.93	0.98	4.91
Total overhead expenses per acre	89.87	113.86	62.38	95.94
Total dir & ovhd expenses per acre	255.04	312.79	217.41	248.60
Net return per acre	56.71	-39.02	47.15	151.86
Government payments	19.92	35.24	13.68	15.61
Net return with govt pmts	76.62	-3.78	60.84	167.47
Labor & management charge	23.11	23.80	19.02	24.10
Net return over lbr & mgt	53.51	-27.58	41.82	143.37
<b>Cost of Production</b>				
Total direct expense per bu.	5.88	9.43	6.86	4.19
Total dir & ovhd exp per bu.	9.08	14.83	9.62	6.82
Less govt & other income	5.43	8.59	5.30	3.80
With labor & management	6.25	9.72	6.15	4.46
Net value per unit	8.19	8.41	8.00	8.39
Machinery cost per acre	74.62	92.71	61.09	77.53
Est. labor hours per acre	1.25	1.17	1.14	1.10

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Soybeans on Cash Rent**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	65	13	13	13
Acres	641.96	622.67	928.86	409.81
Yield per acre (bu.)	28.44	23.40	30.31	32.65
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	8.14	8.30	8.17	8.04
Total product return per acre	231.41	194.23	247.65	262.53
Hedging gains/losses per acre	3.00	-	-	23.00
Crop insurance per acre	40.43	53.09	20.81	58.81
Other crop income per acre	45.22	33.37	49.43	54.75
Gross return per acre	320.06	280.70	317.90	399.08
<b>Direct Expenses</b>				
Seed and plants	66.13	69.20	65.37	66.85
Fertilizer	11.88	15.63	12.17	11.67
Crop chemicals	28.24	32.08	31.14	25.49
Crop insurance	17.53	19.43	15.86	14.96
Fuel & oil	13.17	13.46	12.33	12.56
Repairs	23.50	31.28	18.51	21.21
Custom hire	2.02	4.05	1.87	0.38
Land rent	53.82	51.41	51.23	54.67
Machinery leases	2.77	0.28	0.06	0.11
Operating interest	5.96	8.34	6.83	1.24
Miscellaneous	1.35	0.78	1.55	3.92
Total direct expenses per acre	226.37	245.94	216.93	213.05
Return over direct exp per acre	93.69	34.75	100.97	186.03
<b>Overhead Expenses</b>				
Custom hire	0.93	1.99	0.53	0.74
Hired labor	7.32	6.98	9.98	3.45
Machinery leases	2.72	5.27	1.50	1.91
Building leases	0.33	0.26	0.17	0.62
Farm insurance	4.10	4.73	3.45	3.95
Utilities	3.01	3.29	2.60	2.60
Dues & professional fees	0.89	1.11	0.79	1.01
Interest	2.66	3.14	2.51	0.90
Mach & bldg depreciation	30.92	31.88	35.69	29.44
Miscellaneous	2.30	3.73	2.21	1.40
Total overhead expenses per acre	55.19	62.39	59.43	46.03
Total dir & ovhd expenses per acre	281.55	308.33	276.36	259.08
Net return per acre	38.50	-27.63	41.54	140.00
Government payments	15.03	23.16	14.99	17.06
Net return with govt pmts	53.54	-4.47	56.53	157.06
Labor & management charge	24.20	24.01	23.06	30.38
Net return over lbr & mgt	29.34	-28.49	33.47	126.68
<b>Cost of Production</b>				
Total direct expense per bu.	7.96	10.51	7.16	6.52
Total dir & ovhd exp per bu.	9.90	13.17	9.12	7.93
Less govt & other income	6.25	8.49	6.31	3.23
With labor & management	7.11	9.52	7.07	4.16
Net value per unit	8.24	8.30	8.17	8.74
Machinery cost per acre	77.02	89.48	70.97	65.20
Est. labor hours per acre	1.09	1.14	0.97	1.12

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

**Soybeans on Share Rent**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	14
Acres	330.97
Yield per acre (bu.)	31.99
Operators share of yield %	71.96
Value per bu.	8.13
Total product return per acre	187.07
Hedging gains/losses per acre	0.59
Crop insurance per acre	22.87
Other crop income per acre	37.91
Gross return per acre	248.45
<b>Direct Expenses</b>	
Seed and plants	61.82
Fertilizer	8.77
Crop chemicals	27.58
Crop insurance	13.85
Drying expense	0.04
Fuel & oil	11.84
Repairs	20.16
Custom hire	2.32
Machinery leases	0.16
Operating interest	3.75
Miscellaneous	0.78
Total direct expenses per acre	151.08
Return over direct exp per acre	97.38
<b>Overhead Expenses</b>	
Custom hire	1.03
Hired labor	3.62
Machinery leases	4.31
Building leases	0.75
Farm insurance	4.10
Utilities	3.38
Dues & professional fees	0.37
Interest	2.43
Mach & bldg depreciation	34.49
Miscellaneous	2.80
Total overhead expenses per acre	57.27
Total dir & ovhd expenses per acre	208.34
Net return per acre	40.11
Government payments	15.50
Net return with govt pmts	55.61
Labor & management charge	23.07
Net return over lbr & mgt	32.54
<b>Cost of Production</b>	
Total direct expense per bu.	6.56
Total dir & ovhd exp per bu.	9.05
Less govt & other income	5.71
With labor & management	6.71
Net value per unit	8.15
Machinery cost per acre	74.83
Est. labor hours per acre	0.97

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Wheat, Spring on Owned Land**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	46	9	9	10
Acres	298.47	164.02	354.94	291.76
Yield per acre (bu.)	59.63	50.36	59.94	65.21
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	5.26	5.12	5.15	5.25
Other product return per acre	0.28	0.21	-	0.98
Total product return per acre	313.70	258.19	308.99	343.55
Hedging gains/losses per acre	0.37	-	0.63	1.06
Crop insurance per acre	5.05	14.19	11.22	-
Other crop income per acre	11.35	11.39	9.68	15.59
Gross return per acre	330.48	283.77	330.52	360.20
<b>Direct Expenses</b>				
Seed and plants	17.75	18.16	18.38	15.27
Fertilizer	51.10	55.20	54.38	46.08
Crop chemicals	34.97	37.75	33.30	32.44
Crop insurance	18.99	25.09	21.89	16.09
Fuel & oil	12.63	12.97	15.40	11.23
Repairs	21.22	31.93	18.30	15.43
Custom hire	2.99	3.66	2.22	2.93
Machinery leases	0.53	4.89	-	-
Operating interest	4.23	6.86	1.91	2.73
Miscellaneous	1.44	0.54	1.73	0.79
Total direct expenses per acre	165.84	197.05	167.52	142.99
Return over direct exp per acre	164.63	86.72	163.00	217.21
<b>Overhead Expenses</b>				
Custom hire	1.02	2.02	0.74	0.37
Hired labor	6.53	2.35	11.35	1.97
Machinery leases	2.19	12.72	0.37	1.13
Building leases	0.42	0.31	0.57	0.67
RE & pers. property taxes	8.08	8.49	8.49	8.39
Farm insurance	5.12	5.16	6.43	3.99
Utilities	2.99	3.59	3.85	2.71
Dues & professional fees	0.55	0.91	0.67	0.35
Interest	18.73	47.64	13.87	10.18
Mach & bldg depreciation	32.91	27.55	38.01	31.92
Miscellaneous	2.33	2.34	2.72	2.00
Total overhead expenses per acre	80.87	113.07	87.07	63.68
Total dir & ovhd expenses per acre	246.72	310.13	254.59	206.67
Net return per acre	83.76	-26.35	75.93	153.53
Government payments	17.88	14.11	19.39	22.87
Net return with govt pmts	101.64	-12.25	95.32	176.41
Labor & management charge	24.13	25.37	26.17	25.50
Net return over lbr & mgt	77.51	-37.62	69.15	150.91
<b>Cost of Production</b>				
Total direct expense per bu.	2.78	3.91	2.79	2.19
Total dir & ovhd exp per bu.	4.14	6.16	4.25	3.17
Less govt & other income	3.55	5.37	3.56	2.55
With labor & management	3.96	5.87	4.00	2.94
Net value per unit	5.26	5.12	5.17	5.27
Machinery cost per acre	73.10	96.89	71.19	64.47
Est. labor hours per acre	1.27	1.31	1.47	1.25

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

**Wheat, Spring on Cash Rent**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	66	13	13	14
Acres	712.89	782.77	668.27	631.59
Yield per acre (bu.)	58.34	53.84	59.35	65.17
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	5.25	5.31	5.21	5.21
Other product return per acre	0.04	-	-	-
Total product return per acre	306.40	285.77	309.06	339.22
Hedging gains/losses per acre	1.19	-	3.46	0.94
Crop insurance per acre	5.97	9.58	3.11	1.41
Other crop income per acre	11.08	9.30	11.08	14.60
Gross return per acre	324.64	304.65	326.70	356.17
<b>Direct Expenses</b>				
Seed and plants	17.65	23.49	16.33	15.01
Fertilizer	53.95	61.07	56.38	47.78
Crop chemicals	35.74	38.92	32.57	36.79
Crop insurance	17.65	20.75	17.51	14.15
Drying expense	0.14	0.54	-	-
Fuel & oil	12.57	13.39	10.18	11.86
Repairs	23.10	32.92	17.08	19.30
Custom hire	3.79	4.74	5.03	2.07
Land rent	51.37	50.69	50.66	49.57
Machinery leases	1.07	0.36	-	-
Operating interest	5.58	9.80	1.95	3.56
Miscellaneous	1.89	1.30	2.77	1.71
Total direct expenses per acre	224.50	257.98	210.46	201.79
Return over direct exp per acre	100.15	46.67	116.24	154.38
<b>Overhead Expenses</b>				
Custom hire	0.92	0.71	1.33	1.37
Hired labor	6.75	7.86	7.89	4.55
Machinery leases	3.28	3.64	2.07	4.14
Building leases	0.50	0.16	1.00	0.70
Farm insurance	3.95	4.42	3.79	3.13
Utilities	2.76	3.83	2.42	2.96
Dues & professional fees	0.91	1.19	1.08	0.71
Interest	3.05	4.32	2.43	1.82
Mach & bldg depreciation	27.53	35.76	29.42	17.15
Miscellaneous	2.13	2.62	1.62	1.80
Total overhead expenses per acre	51.78	64.52	53.06	38.33
Total dir & ovhd expenses per acre	276.27	322.50	263.52	240.12
Net return per acre	48.37	-17.85	63.18	116.05
Government payments	15.31	17.69	16.39	17.40
Net return with govt pmts	63.68	-0.16	79.57	133.45
Labor & management charge	24.40	22.81	24.63	25.86
Net return over lbr & mgt	39.27	-22.97	54.93	107.59
<b>Cost of Production</b>				
Total direct expense per bu.	3.85	4.79	3.55	3.10
Total dir & ovhd exp per bu.	4.74	5.99	4.44	3.68
Less govt & other income	4.16	5.31	3.87	3.16
With labor & management	4.58	5.73	4.28	3.55
Net value per unit	5.27	5.31	5.27	5.22
Machinery cost per acre	73.72	94.71	64.59	56.30
Est. labor hours per acre	1.15	1.14	1.15	1.03



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

**Wheat, Spring on Share Rent**

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	<u><b>Avg. Of All Farms</b></u>
Number of farms	14
Acres	354.15
Yield per acre (bu.)	61.50
Operators share of yield %	72.94
Value per bu.	5.28
Other product return per acre	0.17
Total product return per acre	237.11
Hedging gains/losses per acre	0.57
Other crop income per acre	7.06
Gross return per acre	244.73
<b>Direct Expenses</b>	
Seed and plants	14.91
Fertilizer	51.93
Crop chemicals	36.42
Crop insurance	13.91
Fuel & oil	12.14
Repairs	21.89
Custom hire	6.61
Operating interest	2.85
Miscellaneous	1.22
Total direct expenses per acre	161.88
Return over direct exp per acre	82.85
<b>Overhead Expenses</b>	
Custom hire	0.85
Hired labor	2.98
Machinery leases	4.90
Building leases	0.97
Farm insurance	3.93
Utilities	2.71
Dues & professional fees	0.50
Interest	2.59
Mach & bldg depreciation	29.62
Miscellaneous	3.04
Total overhead expenses per acre	52.08
Total dir & ovhd expenses per acre	213.95
Net return per acre	30.78
Government payments	17.40
Net return with govt pmts	48.17
Labor & management charge	21.73
Net return over lbr & mgt	26.44
<b>Cost of Production</b>	
Total direct expense per bu.	3.61
Total dir & ovhd exp per bu.	4.77
Less govt & other income	4.21
With labor & management	4.69
Net value per unit	5.29
Machinery cost per acre	77.01
Est. labor hours per acre	1.03

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## 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 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Beef Cow-Calf -- Average Per Cwt. Produced**

	<u>Avg. Of All Farms</u>	
Number of farms	12	
	Quantity	Value
Beef Calves sold (lb)	38.28	61.45
Transferred out (lb)	61.72	91.98
Cull sales		18.68
LvstGovtPayments		4.03
Other income		0.14
Purchased		-12.44
Transferred in		-26.10
Inventory change		4.94
Gross margin		142.68
<b>Direct Expenses</b>		
Creep / Starter (lb.)	23.72	2.66
Corn (bu.)	0.58	1.84
Corn Silage (lb.)	659.61	8.20
Hay, Alfalfa (lb.)	122.33	4.26
Hay, Grass (lb.)	910.77	17.65
Pasture (aum)	1.22	18.77
Screenings, Heavy (lb.)	9.72	0.39
Hay (lb.)	19.13	1.01
Other feed stuffs (lb)	68.19	4.35
Veterinary		6.79
Supplies		3.36
Fuel & oil		5.19
Repairs		11.45
Hired labor		0.18
Operating interest		2.11
Total direct expenses		88.21
Return over direct expense		54.47
<b>Overhead Expenses</b>		
Hired labor		2.09
Farm insurance		2.22
Utilities		2.57
Interest		0.89
Mach & bldg depreciation		7.30
Miscellaneous		2.07
Total overhead expenses		17.13
Total dir & ovhd expenses		105.34
Net return		37.34
Labor & management charge		13.34
Net return over lbr & mgt		24.01
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		88.21
Total dir & ovhd expense per unit		105.34
With other revenue adjustments		116.09
With labor and management		129.43
Est. labor hours per unit		1.09
<b>Other Information</b>		
Number of cows		144.3
Pregnancy percentage		94.3
Pregnancy loss percentage		4.2
Culling percentage		12.8
Calving percentage		90.4
Weaning percentage		85.7
Calves sold per cow		0.96
Calf death loss percent		5.0
Cow death loss percent		1.5
Average weaning weight		590
Lb. weaned/exposed female		506
Feed cost per cow		331.10
Avg wgt/ Beef Calves sold		598
Avg price / cwt.		160.51

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

**Beef Cow-Calf -- Average Per Cow**

	<u>Avg. Of All Farms</u>	
Number of farms	12	
	Quantity	Value
Beef Calves sold (lb)	214.4	344.15
Transferred out (lb)	345.6	515.13
Cull sales		104.60
LvstGovtPayments		22.58
Other income		0.80
Purchased		-69.66
Transferred in		-146.19
Inventory change		27.67
Gross margin		799.08
<b>Direct Expenses</b>		
Creep / Starter (lb.)	132.8	14.88
Barley (bu.)	0.5	1.56
Corn (bu.)	3.2	10.29
Corn Silage (lb.)	3,694.1	45.94
Hay, Alfalfa (lb.)	685.1	23.83
Hay, Grass (lb.)	5,100.7	98.85
Pasture (aum)	6.9	105.10
Screenings, Heavy (lb.)	54.4	2.18
Hay (lb.)	107.1	5.68
Other feed stuffs (lb)	381.4	22.79
Veterinary		38.03
Supplies		18.82
Fuel & oil		29.09
Repairs		64.15
Hired labor		1.03
Operating interest		11.79
Total direct expenses		494.01
Return over direct expense		305.07
<b>Overhead Expenses</b>		
Hired labor		11.71
Farm insurance		12.41
Utilities		14.40
Interest		4.96
Mach & bldg depreciation		40.89
Miscellaneous		11.57
Total overhead expenses		95.93
Total dir & ovhd expenses		589.94
Net return		209.14
Labor & management charge		74.70
Net return over lbr & mgt		134.44
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		88.21
Total dir & ovhd expense per unit		105.34
With other revenue adjustments		116.09
With labor and management		129.43
Est. labor hours per unit		6.11
<b>Other Information</b>		
Number of cows		144.3
Pregnancy percentage		94.3
Pregnancy loss percentage		4.2
Culling percentage		12.8
Calving percentage		90.4
Weaning percentage		85.7
Calves sold per cow		0.96
Calf death loss percent		5.0
Cow death loss percent		1.5
Average weaning weight		590
Lb. weaned/exposed female		506
Feed cost per cow		331.10
Avg wgt/ Beef Calves sold		598
Avg price / cwt.		160.51

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

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

	<u>Avg. Of All Farms</u>	
Number of farms	8	
	Quantity	Value
Beef Calves sold (lb)	68.03	98.19
Transferred out (lb)	1.90	2.85
Cull sales		27.82
LvstGovtPayments		5.49
Other income		0.63
Purchased		-14.71
Transferred in		-22.96
Inventory change		46.95
Gross margin		144.28
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	37.36	3.36
Creep / Starter (lb.)	4.24	0.47
Corn Silage (lb.)	141.84	2.27
Hay, Alfalfa (lb.)	421.74	12.25
Hay, Grass (lb.)	1,111.42	26.06
Oats (bu.)	0.13	0.30
Pasture (aum)	1.15	17.98
Straw (lb.)	120.74	1.21
Screenings, Heavy (lb.)	28.64	2.28
Other feed stuffs (lb)	534.12	3.78
Veterinary		6.70
Supplies		6.02
Fuel & oil		8.24
Repairs		8.09
Custom hire		1.80
Operating interest		3.00
Total direct expenses		103.80
Return over direct expense		40.48
<b>Overhead Expenses</b>		
Hired labor		1.09
Farm insurance		3.13
Utilities		4.33
Interest		4.50
Mach & bldg depreciation		8.01
Miscellaneous		4.84
		25.90
Total overhead expenses		129.70
Total dir & ovhd expenses		14.58
Net return		
Labor & management charge		20.12
Net return over lbr & mgt		-5.54
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		103.80
Total dir & ovhd expense per unit		129.70
With other revenue adjustments		134.78
With labor and management		154.90
Est. labor hours per unit		1.50
<b>Other Information</b>		
Number of cows		88.9
Pregnancy percentage		94.7
Pregnancy loss percentage		0.7
Culling percentage		15.2
Calving percentage		94.1
Weaning percentage		88.9
Calves sold per cow		0.58
Calf death loss percent		5.8
Cow death loss percent		1.8
Average weaning weight		573
Lb. weaned/exposed female		510
Feed cost per cow		362.74
Avg wgt/ Beef Calves sold		627
Avg price / cwt.		144.34

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

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

	<u>Avg. Of All Farms</u>	
Number of farms	8	
	Quantity	Value
Beef Calves sold (lb)	352.8	509.24
Transferred out (lb)	9.8	14.77
Cull sales		144.29
LvstGovtPayments		28.48
Other income		3.29
Purchased		-76.27
Transferred in		-119.05
Inventory change		243.50
Gross margin		748.25
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	193.8	17.45
Creep / Starter (lb.)	22.0	2.41
Corn Silage (lb.)	735.6	11.75
Hay, Alfalfa (lb.)	2,187.2	63.51
Hay, Grass (lb.)	5,764.0	135.15
Oats (bu.)	0.7	1.53
Pasture (aum)	5.9	93.24
Straw (lb.)	626.2	6.26
Screenings, Heavy (lb.)	148.5	11.81
Other feed stuffs (lb)	2,770.0	19.62
Veterinary		34.76
Supplies		31.22
Fuel & oil		42.75
Repairs		41.98
Custom hire		9.33
Operating interest		15.55
Total direct expenses		538.33
Return over direct expense		209.92
<b>Overhead Expenses</b>		
Hired labor		5.66
Farm insurance		16.24
Utilities		22.44
Interest		23.33
Mach & bldg depreciation		41.52
Miscellaneous		25.11
Total overhead expenses		134.30
Total dir & ovhd expenses		672.63
Net return		75.62
Labor & management charge		104.34
Net return over lbr & mgt		-28.72
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		103.80
Total dir & ovhd expense per unit		129.70
With other revenue adjustments		134.78
With labor and management		154.90
Est. labor hours per unit		7.77
<b>Other Information</b>		
Number of cows		88.9
Pregnancy percentage		94.7
Pregnancy loss percentage		0.7
Culling percentage		15.2
Calving percentage		94.1
Weaning percentage		88.9
Calves sold per cow		0.58
Calf death loss percent		5.8
Cow death loss percent		1.8
Average weaning weight		573
Lb. weaned/exposed female		510
Feed cost per cow		362.74
Avg wgt/ Beef Calves sold		627
Avg price / cwt.		144.34

**Livestock Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Beef Replacement Heifers -- Average Per Head**

	<u>Avg. Of All Farms</u>	
Number of farms	6	
	Quantity	Value
Beef Replace sold (hd)	0.24	363.57
Transferred out (hd)	0.89	1,150.16
Cull sales (hd)	0.02	27.89
LvstGovtPayments		10.12
Other income		-
Purchased (hd)	0.03	-34.64
Transferred in (hd)	0.90	-899.19
Inventory change (hd)	-0.25	-210.11
Gross margin		407.80
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	72.93	14.51
Complete Ration (lb.)	9.12	1.05
Barley (bu.)	2.20	6.50
Corn (bu.)	12.05	38.04
Corn Silage (lb.)	2,550.64	29.49
Hay, Alfalfa (lb.)	1,159.54	43.97
Hay, Grass (lb.)	3,326.51	67.68
Pasture (aum)	4.21	65.40
Straw (lb.)	218.80	2.19
Cover crop forage (aum)	0.26	3.91
Other feed stuffs (lb)	25.69	1.63
Breeding fees		2.10
Veterinary		26.45
Supplies		5.60
Fuel & oil		3.64
Repairs		7.38
Custom hire		1.31
Operating interest		1.68
Total direct expenses		322.55
Return over direct expense		85.25
<b>Overhead Expenses</b>		
Farm insurance		2.18
Utilities		2.55
Interest		0.82
Mach & bldg depreciation		3.60
Miscellaneous		3.77
Total overhead expenses		12.92
Total dir & ovhd expenses		335.47
Net return		72.33
Labor & management charge		9.93
Net return over lbr & mgt		62.40
Est. labor hours per unit		0.79
<b>Other Information</b>		
No. purchased or trans in		34
Number sold or trans out		42
Average number of head		37
Percentage death loss		2.0
Feed cost per average head		274.38
Feed cost/head sold/trans		241.26

**Livestock Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Beef Replacement Heifers -- Average Per Head Sold/Trans**

	<u>Avg. Of All Farms</u>	
Number of farms	6	
	Quantity	Value
Beef Replace sold (hd)	0.2	319.68
Transferred out (hd)	0.8	1,011.31
Cull sales (hd)	0.0	24.53
LvstGovtPayments		8.90
Other income		-
Purchased (hd)	0.0	-30.46
Transferred in (hd)	0.8	-790.64
Inventory change (hd)	-0.2	-184.75
Gross margin		358.57
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	64.1	12.76
Complete Ration (lb.)	8.0	0.92
Barley (bu.)	1.9	5.72
Corn (bu.)	10.6	33.45
Corn Silage (lb.)	2,242.7	25.93
Hay, Alfalfa (lb.)	1,019.6	38.66
Hay, Grass (lb.)	2,924.9	59.51
Pasture (aum)	3.7	57.50
Straw (lb.)	192.4	1.92
Cover crop forage (aum)	0.2	3.44
Other feed stuffs (lb)	22.6	1.44
Breeding fees		1.84
Veterinary		23.26
Supplies		4.93
Fuel & oil		3.20
Repairs		6.49
Custom hire		1.15
Operating interest		1.47
Total direct expenses		283.61
Return over direct expense		74.96
<b>Overhead Expenses</b>		
Farm insurance		1.92
Utilities		2.24
Mach & bldg depreciation		3.16
Miscellaneous		4.03
Total overhead expenses		11.36
Total dir & ovhd expenses		294.97
Net return		63.60
Labor & management charge		8.73
Net return over lbr & mgt		54.87
Est. labor hours per unit		0.69
<b>Other Information</b>		
No. purchased or trans in		34
Number sold or trans out		42
Average number of head		37
Percentage death loss		2.0
Feed cost per average head		274.38
Feed cost/head sold/trans		241.26



**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**

	<u>Avg. Of All Farms</u>	
Number of farms	10	
	Quantity	Value
Backgnd Beef sold (lb)	345.87	506.60
Transferred out (lb)	44.76	61.20
LvstGovtPayments		-
Otherincome		-
Transferred in (lb)	-263.33	-389.40
Inventory change (lb)	-27.30	-59.42
Gross margin		118.99
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	10.28	2.54
Creep / Starter (lb.)	13.08	1.24
Complete Ration (lb.)	1,064.35	13.16
Barley (bu.)	0.68	2.00
Corn (bu.)	2.24	6.84
Corn Silage (lb.)	319.74	4.09
Hay, Alfalfa (lb.)	132.21	4.77
Hay, Grass (lb.)	601.16	14.27
Oats (bu.)	0.82	1.87
Other feed stuffs (lb)	12.57	0.34
Veterinary		4.58
Supplies		1.12
Fuel & oil		0.83
Repairs		2.95
Hired labor		0.63
Marketing		0.43
Operating interest		0.62
Total direct expenses		62.27
Return over direct expense		56.72
<b>Overhead Expenses</b>		
Hired labor		0.18
Farm insurance		1.04
Utilities		1.20
Mach & bldg depreciation		1.98
Miscellaneous		1.02
Total overhead expenses		5.43
Total dir & ovhd expenses		67.69
Net return		51.29
Labor & management charge		7.64
Net return over lbr & mgt		43.65
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		130.83
Total dir & ovhd expense per unit		132.22
With other revenue adjustments		132.22
With labor and management		134.18
Est. labor hours per unit		0.43
<b>Other Information</b>		
No. purchased or trans in		70
Number sold or trans out		78
Percentage death loss		0.4
Avg. daily gain (lb.)		1.22
Lb. of conc / lb. of gain		12.72
Lb. of feed / lb. of gain		21.25
Feed cost per cwt. of gain		51.12
Feed cost per head		70.77
Avg wgt / Backgnd Beef sold		689
Avg sales price / cwt.		146.47

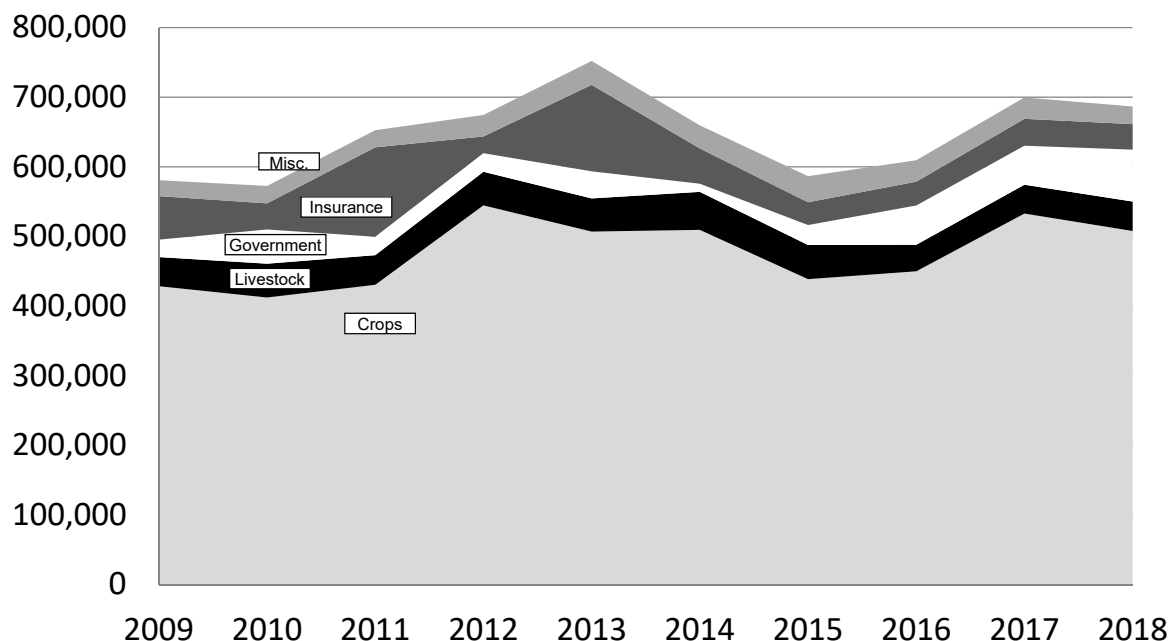
**Livestock Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 2 - North Central North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Beef Backgrounding -- Average Per Head**

	<u>Avg. Of All Farms</u>	
Number of farms	10	
	Quantity	Value
Backgnd Beef sold (lb)	478.8	701.35
Transferred out (lb)	62.0	84.73
LvstGovtPayments		-
Otherincome		-
Transferred in (lb)	-364.6	-539.09
Inventory change (lb)	-37.8	-82.26
Gross margin		164.73
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	14.2	3.52
Creep / Starter (lb.)	18.1	1.72
Complete Ration (lb.)	1,473.5	18.22
Barley (bu.)	0.9	2.77
Corn (bu.)	3.1	9.47
Corn Silage (lb.)	442.7	5.66
Hay, Alfalfa (lb.)	183.0	6.61
Hay, Grass (lb.)	832.3	19.76
Oats (bu.)	1.1	2.59
Straw (lb.)	17.4	0.47
Veterinary		6.34
Supplies		2.43
Fuel & oil		1.14
Repairs		4.08
Marketing		0.60
Operating interest		0.85
Total direct expenses		86.20
Return over direct expense		78.53
<b>Overhead Expenses</b>		
Hired labor		0.25
Farm insurance		1.44
Utilities		1.67
Mach & bldg depreciation		2.74
Miscellaneous		1.41
Total overhead expenses		7.52
Total dir & ovhd expenses		93.72
Net return		71.01
Labor & management charge		10.58
Net return over lbr & mgt		60.43
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		130.83
Total dir & ovhd expense per unit		132.22
With other revenue adjustments		132.22
With labor and management		134.18
Est. labor hours per unit		0.60
<b>Other Information</b>		
No. purchased or trans in		70
Number sold or trans out		78
Percentage death loss		0.4
Avg. daily gain (lb.)		1.22
Lb. of conc / lb. of gain		12.72
Lb. of feed / lb. of gain		21.25
Feed cost per cwt. of gain		51.12
Feed cost per head		70.77
Avg wgt / Backgnd Beef sold		689
Avg sales price / cwt.		146.47

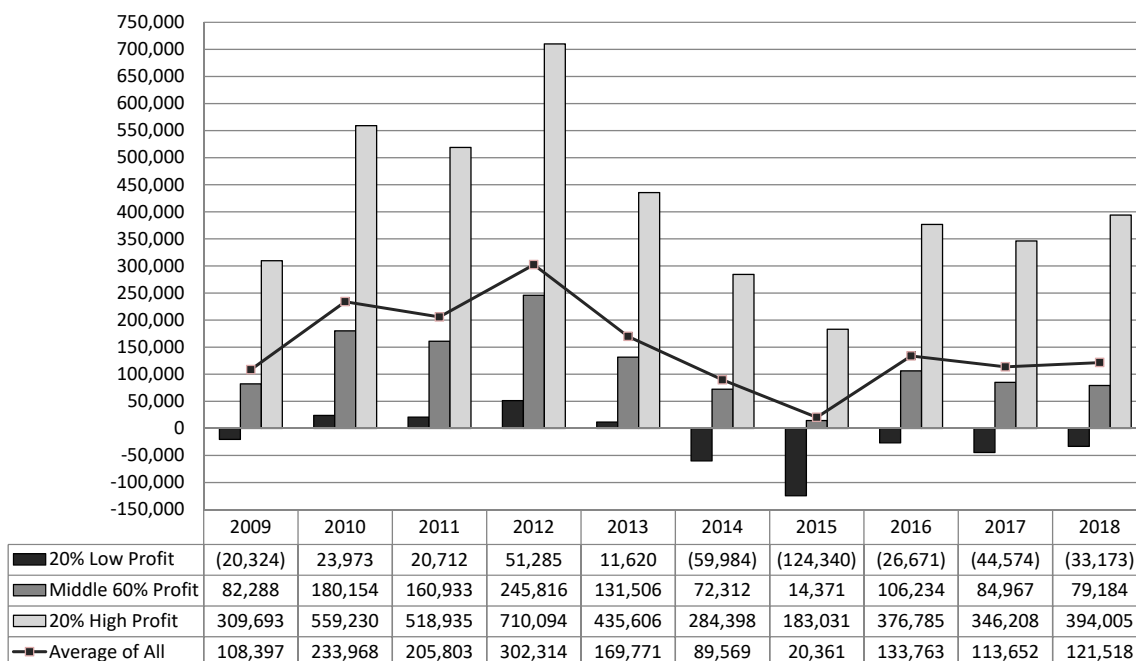
## Figure 1. Gross Cash Income Per Farm

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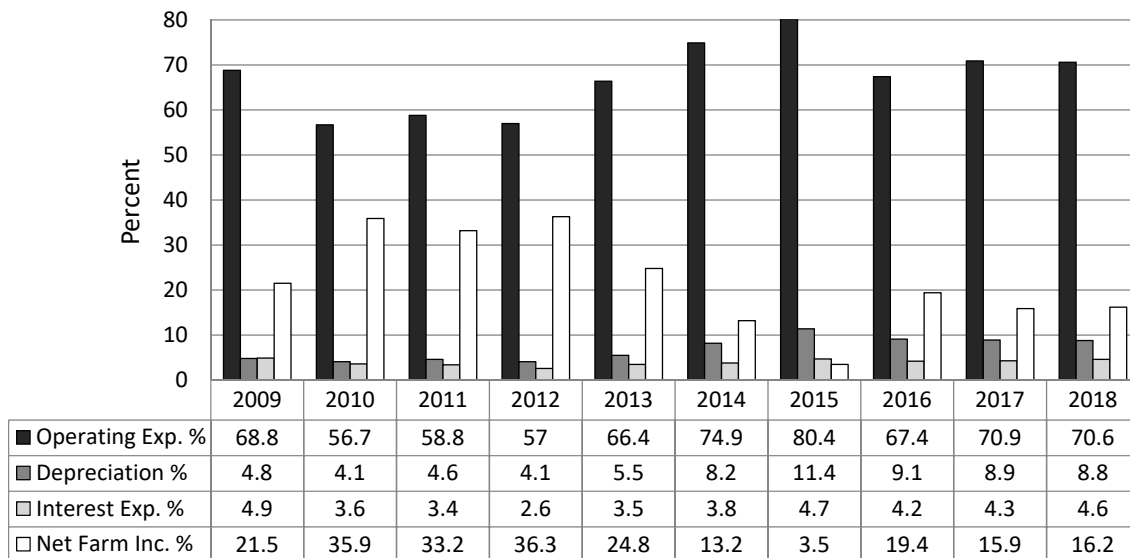
## Figure 2. Net Farm Income (Accrual) Per Farm

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



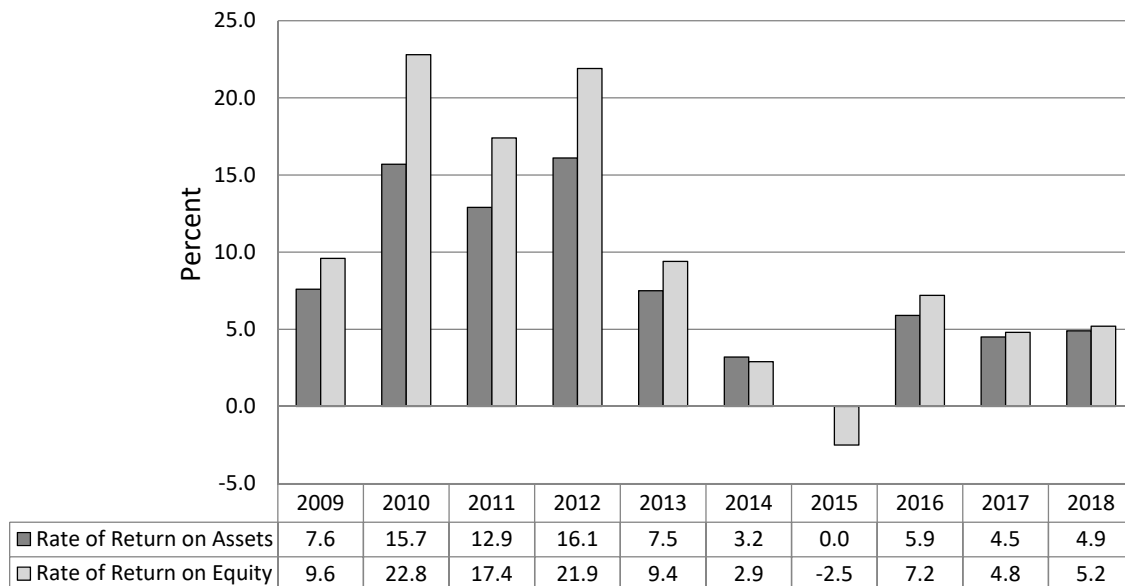
### Figure 3. Financial Efficiency Measures (As Percent of Gross Revenue)

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



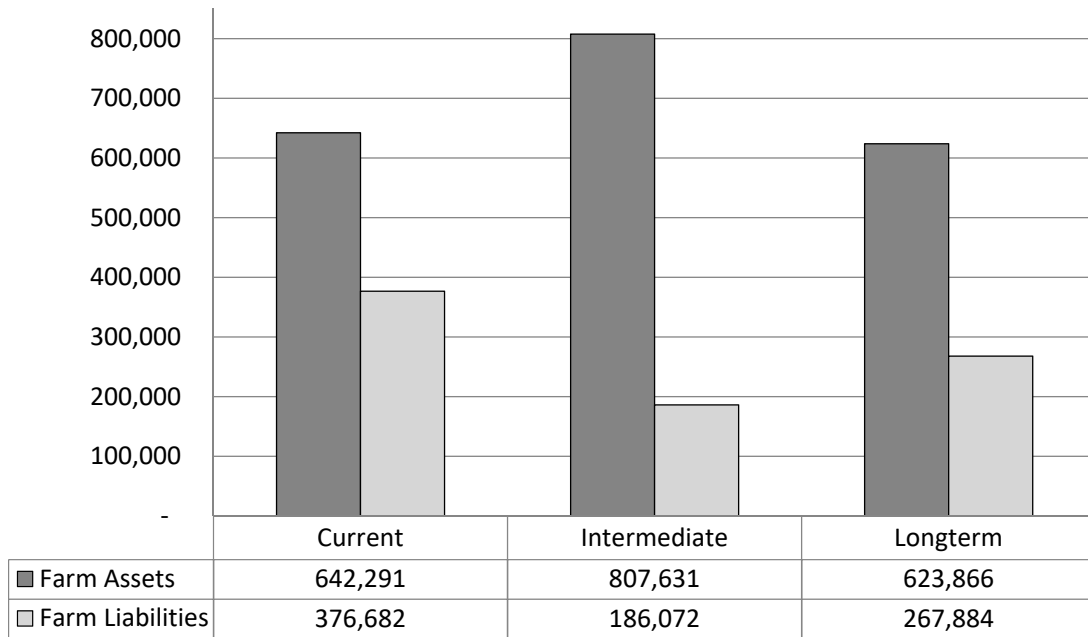
### Figure 4. Profitability Measures Per Farm

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



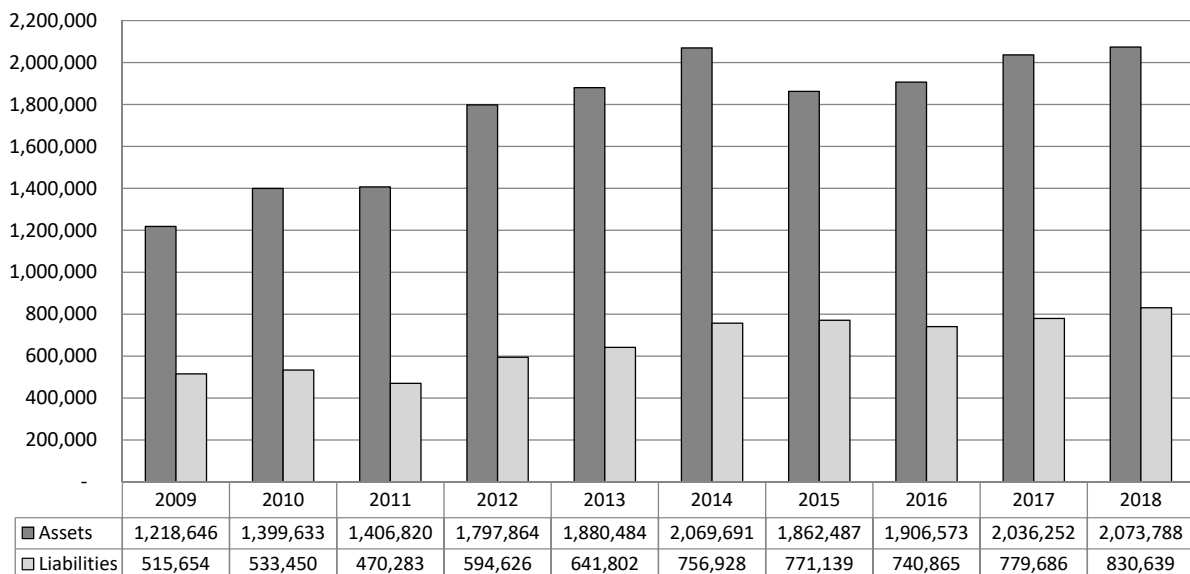
## Figure 5. Assets and Liabilities Per Farm, 2018

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



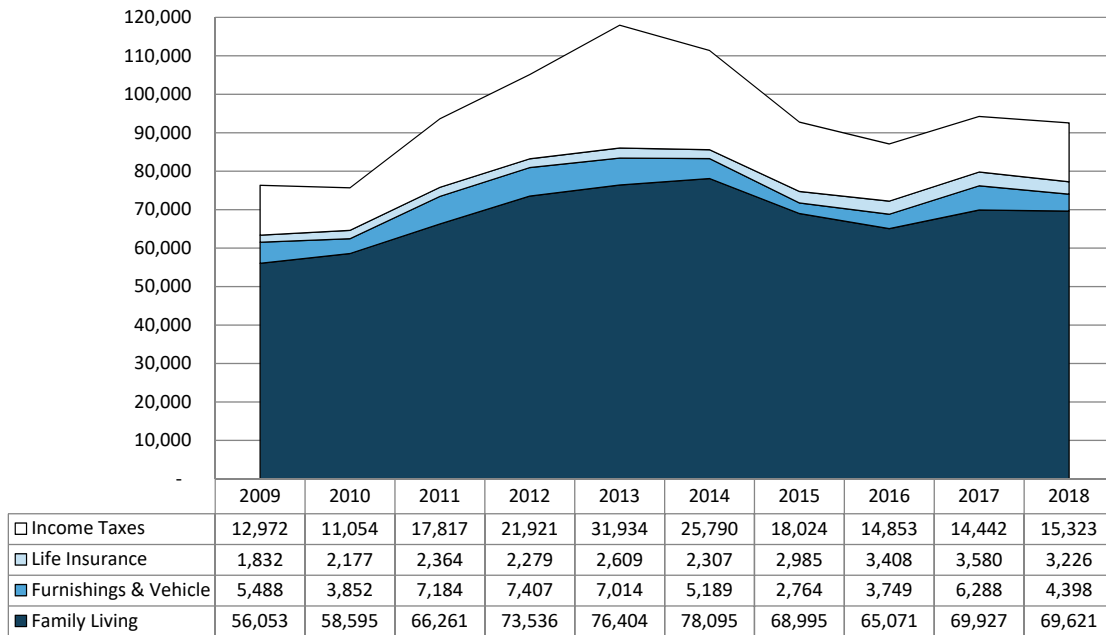
## Figure 6. Total Farm Assets and Liabilities

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



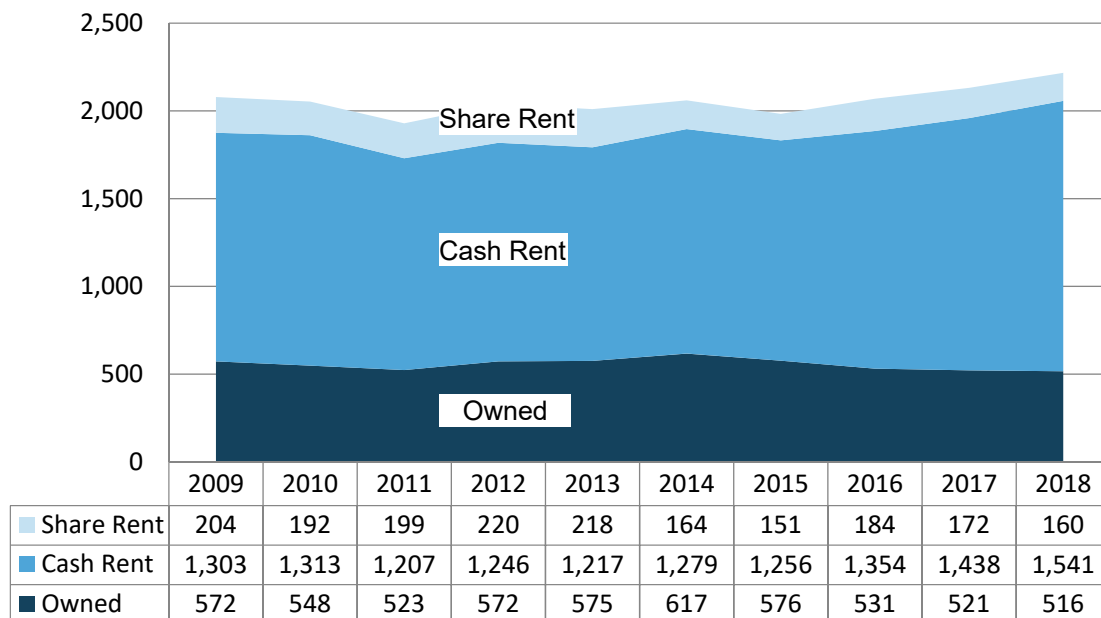
## Figure 7. Household and Personal Expenses

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



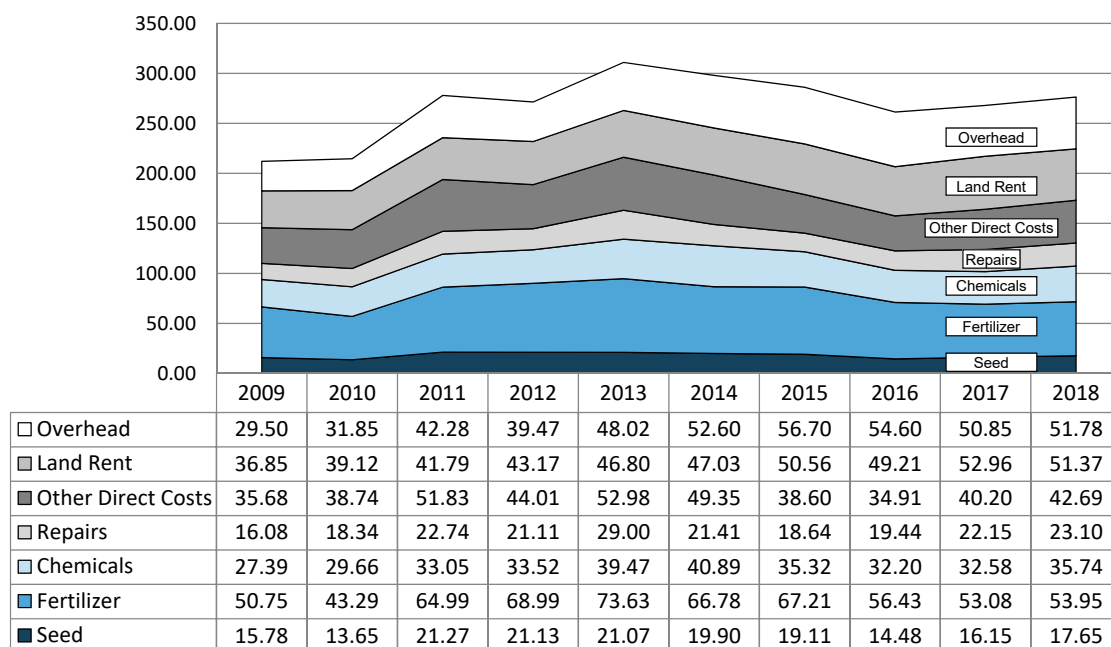
## Figure 8. Crop Acreage Per Farm

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



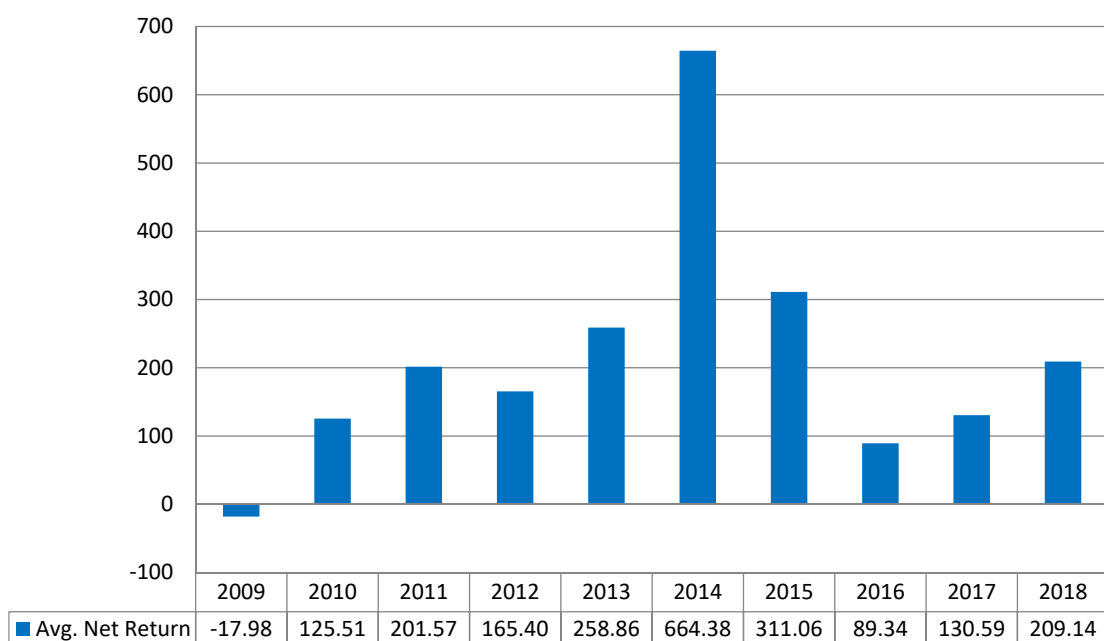
## Figure 9. Spring Wheat Costs Per Acre

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## Figure 10. Average Net Return Per Beef Cow

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