

# 2018 ANNUAL REPORT

## Western North Dakota

North Dakota Farm and Ranch Business  
Management Education



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# NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION

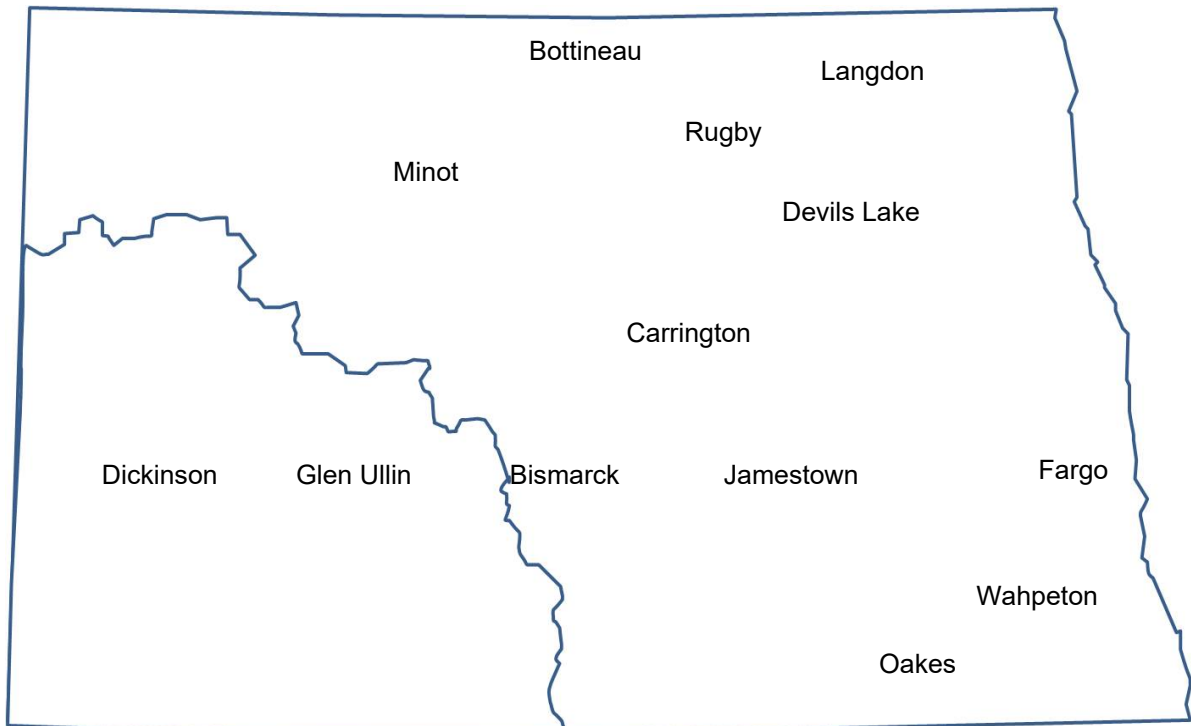
## REGION 4 – WESTERN NORTH DAKOTA 2018 ANNUAL REPORT

The Western North Dakota (Region 4) 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 Western North Dakota 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 4 - Western 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	52	10	11	11
<b>Cash Farm Income</b>				
Barley	2,876	198	41	10,123
Beans, Garbonzo	736	-	-	3,480
Beans, Pinto	7,630	-	-	36,068
Canola	1,500	-	1,850	4,827
Corn	55,465	69,854	37,151	138,951
Hay, Alfalfa	1,079	2,564	-	2,768
Hay, Mixed	2,121	6,425	1,264	1,136
Hay, Small Grain	1,362	-	4,121	2,318
Oats	255	-	1,203	-
Peas, Field	6,785	8,165	11,489	13,163
Soybeans	37,493	2,584	67,294	107,595
Sunflowers	45,086	-	95,874	103,191
Sunflowers, Confectionary	4,465	-	-	-
Wheat, Durum	11,693	9,943	34,091	6,995
Wheat, Spring	88,596	21,491	86,995	206,657
Wheat, Winter	6,530	-	9,584	21,286
Miscellaneous crop income	6,474	261	4,385	19,790
Beef Bulls	4,476	9,370	-	-
Beef Cow-Calf, Beef Calves	38,799	21,250	45,149	17,446
Beef Replacement Heifers	1,828	7,165	-	1,898
Beef Backgrounding	17,391	44,690	15,783	5,124
Beef Finish Yearlings	4,134	197	-	-
Dairy, Milk	84,916	378,252	-	-
Dairy, Dairy Calves	432	2,244	-	-
Dairy Heifers (for sale)	1,714	8,910	-	-
Dairy Backgrounding	595	-	-	-
Cull breeding livestock	16,052	22,028	10,823	11,684
Misc. livestock income	1,058	1,336	279	70
Crop government payments	25,446	18,496	29,490	48,010
CRP payments	126	-	-	-
Other government payments	20,003	13,564	34,784	28,990
Custom work income	6,320	13,052	6,963	8,059
Patronage dividends, cash	2,547	2,839	1,423	4,102
Crop insurance income	27,643	63,048	13,246	35,401
Property insurance income	1,298	1,159	1,416	1,122
Livestock insurance inc	43	-	-	100
Other farm income	10,204	13,574	9,474	14,102
<b>Gross Cash Farm Income</b>	<b>545,170</b>	<b>742,658</b>	<b>524,172</b>	<b>854,454</b>

**Farm Income Statement (continued)**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

	<u>Avg. Of</u> <u>All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	52	10	11	11
<b>Cash Farm Expense</b>				
Seed and plants	39,060	35,675	26,375	102,410
Fertilizer	60,461	46,944	77,364	106,858
Crop chemicals	41,343	19,303	57,521	87,401
Crop insurance	18,992	11,923	21,414	39,426
Storage	875	150	3,611	-
Irrigation energy	626	-	-	2,960
Crop miscellaneous	1,326	4,306	943	1,204
Crop consultants	366	-	232	1,457
Feeder livestock purchase	734	100	3,161	159
Purchased feed	49,182	191,866	13,671	6,212
Breeding fees	1,472	5,880	590	-
Veterinary	6,250	18,135	2,610	2,038
Supplies	3,619	12,468	1,821	183
Livestock leases	235	727	-	-
Grazing fees	152	789	-	-
Livestock consultants	373	1,941	-	-
Interest	31,150	53,059	23,030	37,485
Fuel & oil	25,781	31,903	24,713	39,408
Repairs	41,125	50,411	36,023	64,328
Custom hire	25,065	26,577	22,575	38,322
Hired labor	25,128	74,560	13,165	20,160
Land rent	68,659	53,967	73,499	131,736
Machinery leases	7,479	12,976	12,054	6,799
Building leases	427	60	200	1,051
Real estate taxes	2,408	2,833	1,322	3,625
Farm insurance	9,692	13,870	8,754	11,830
Utilities	9,435	21,319	3,557	8,943
Marketing	5,409	21,258	948	985
Dues & professional fees	2,619	3,322	3,181	1,004
Miscellaneous	9,557	10,282	6,111	13,837
Total cash expense	488,997	726,602	438,446	729,820
Net cash farm income	56,173	16,056	85,726	124,635
<b>Inventory Changes</b>				
Prepays and supplies	-6,697	68	-18,452	-10,273
Accounts receivable	-272	-18,877	-26,490	40,651
Hedging accounts	-821	-	-1,174	-2,669
Other current assets	794	3,083	1,145	-137
Crops and feed	55,522	-3,786	48,129	114,700
Market livestock	-3,505	3,818	-10,471	6,193
Breeding livestock	-4,937	-31,762	5,876	6,322
Other assets	268	-480	1,051	1,090
Accounts payable	774	18,378	541	-12,664
Accrued interest	-1,024	-910	-6,188	-3,764
Total inventory change	40,102	-30,467	-6,033	139,449
Net operating profit	96,274	-14,410	79,692	264,083
<b>Depreciation</b>				
Machinery and equipment	-37,153	-28,971	-28,275	-76,109
Titled vehicles	-8,618	-8,010	-9,275	-14,146
Buildings and improvements	-6,381	-11,882	-6,491	-7,087
Total depreciation	-52,152	-48,863	-44,040	-97,343
Net farm income from operations	44,123	-63,273	35,652	166,741
Gain or loss on capital sales	1,422	-3,332	-546	7,043
Net farm income	45,544	-66,606	35,105	173,784

**Inventory Changes**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	10	11	11
Net cash farm income	56,173	16,056	85,726	124,635
<b>Crops and Feed</b>				
Ending inventory	306,093	214,988	289,356	660,136
Beginning inventory	250,571	218,774	241,227	545,436
Inventory change	55,522	-3,786	48,129	114,700
<b>Market Livestock</b>				
Ending inventory	50,019	61,404	21,625	26,094
Beginning inventory	53,524	57,586	32,096	19,901
Inventory change	-3,505	3,818	-10,471	6,193
<b>Accts Receivable</b>				
Ending inventory	21,880	12,849	16,398	58,151
Beginning inventory	22,152	31,726	42,888	17,500
Inventory change	-272	-18,877	-26,490	40,651
<b>Prepaid Expenses and Supplies</b>				
Ending inventory	28,562	8,457	22,188	87,337
Beginning inventory	35,259	8,389	40,640	97,610
Inventory change	-6,697	68	-18,452	-10,273
<b>Hedging Activities</b>				
Ending inventory	697	-	1,542	1,751
Withdrawals	-	-	-	-
Beginning inventory	798	-	1,826	1,910
Deposits	719	-	891	2,509
Gain or loss	-821	-	-1,174	-2,669
<b>Other Current Assets</b>				
Ending inventory	1,645	3,143	4,091	-
Beginning inventory	850	60	2,945	137
Inventory change	794	3,083	1,145	-137
<b>Breeding Livestock</b>				
Ending inventory	133,236	228,663	102,215	76,483
Capital sales	2,860	-	464	-
Beginning inventory	129,665	252,398	81,333	65,887
Capital purchases	11,368	8,028	15,469	4,274
Depreciation, capital adjust	-4,937	-31,762	5,876	6,322
<b>Other Capital Assets</b>				
Ending inventory	42,721	35,964	69,430	54,259
Capital sales	200	-	36	91
Beginning inventory	41,629	32,518	68,325	53,259
Capital purchases	1,024	3,926	90	-
Depreciation, capital adjust	268	-480	1,051	1,090
<b>Accounts Payable</b>				
Beginning inventory	14,474	52,940	5,252	7,348
Ending inventory	13,700	34,562	4,711	20,013
Inventory change	774	18,378	541	-12,664
<b>Accrued Interest</b>				
Beginning inventory	11,973	18,729	6,578	13,415
Ending inventory	12,997	19,638	12,767	17,179
Inventory change	-1,024	-910	-6,188	-3,764
Total inventory change	40,102	-30,467	-6,033	139,449
Net operating profit	96,274	-14,410	79,692	264,083

**Depreciation**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	10	11	11
Net operating profit	96,274	-14,410	79,692	264,083
<b>Machinery and Equipment</b>				
Ending inventory	394,901	380,388	373,661	783,784
Capital sales	8,609	4,127	12,766	16,730
Beginning inventory	378,771	372,588	346,979	761,716
Capital purchases	61,893	40,899	67,723	114,907
Depreciation, capital adjust.	-37,153	-28,971	-28,275	-76,109
<b>Titled Vehicles</b>				
Ending inventory	65,000	73,911	69,319	93,500
Capital sales	1,307	6,034	217	246
Beginning inventory	65,412	75,986	71,374	98,074
Capital purchases	9,513	11,970	7,436	9,818
Depreciation, capital adjust.	-8,618	-8,010	-9,275	-14,146
<b>Buildings and Improvements</b>				
Ending inventory	176,672	364,727	154,761	191,391
Capital sales	-	-	-	-
Beginning inventory	174,855	369,431	145,178	188,601
Capital purchases	8,198	7,178	16,074	9,877
Depreciation, capital adjust.	-6,381	-11,882	-6,491	-7,087
Total depreciation, capital adj.	-52,152	-48,863	-44,040	-97,343
Net farm income from operations	44,123	-63,273	35,652	166,741
Gain or loss on capital sales	1,422	-3,332	-546	7,043
Net farm income	45,544	-66,606	35,105	173,784

**Profitability Measures**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	10	11	11
<b>Profitability (assets valued at cost)</b>				
Net farm income from operations	44,123	-63,273	35,652	166,741
Rate of return on assets	2.0 %	-3.0 %	1.4 %	5.7 %
Rate of return on equity	-0.3 %	-17.8 %	-1.2 %	6.8 %
Operating profit margin	5.5 %	-10.5 %	3.6 %	13.7 %
Asset turnover rate	35.8 %	28.9 %	38.0 %	41.7 %
Farm interest expense	32,174	53,968	29,218	41,249
Value of operator lbr and mgmt.	46,262	43,355	45,800	68,529
Return on farm assets	30,035	-52,660	19,070	139,460
Average farm assets	1,513,947	1,739,996	1,377,811	2,432,811
Return on farm equity	-2,139	-106,628	-10,148	98,212
Average farm equity	792,208	598,969	814,491	1,449,017
Value of farm production	541,840	502,749	522,967	1,014,372



**Liquidity & Repayment Capacity Measures**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	10	11	11
<b>Liquidity</b>				
Current ratio	1.67	1.01	2.24	1.71
Working capital	173,405	3,219	188,876	372,519
Working capital to gross inc	33.4 %	0.9 %	37.0 %	35.5 %
Current assets	432,278	311,309	340,735	896,373
Current liabilities	258,873	308,090	151,859	523,854
Gross revenues (accrual)	518,996	351,883	510,973	1,049,590
<b>Repayment capacity</b>				
Net farm income from operations	44,123	-63,273	35,652	166,741
Depreciation	52,152	48,863	44,040	97,343
Personal income	46,066	56,002	58,461	37,835
Family living/owner withdrawals	-60,682	-60,799	-59,275	-76,591
Cash discrepancy	1,584	2,648	1,710	125
Payments on personal debt	-4,438	-8,476	-4,251	-4,788
Income taxes paid	-10,943	-6,102	-11,280	-27,719
Interest on term debt	21,963	37,490	13,950	22,024
Capital debt repayment capacity	89,824	6,353	79,008	214,970
Scheduled term debt payments	-69,543	-115,050	-64,236	-90,743
Capital debt repayment margin	20,282	-108,697	14,771	124,227
Cash replacement allowance	-26,002	-11,653	-17,254	-53,879
Replacement margin	-5,720	-120,350	-2,483	70,348
Term debt coverage ratio	1.29	0.06	1.23	2.37
Replacement coverage ratio	0.94	0.05	0.97	1.49

**Balance Sheet at Cost Values**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	49	9	10	10
<b>Assets</b>				
<b>Current Farm Assets</b>				
Cash and checking balance	37,065	27,266	32,481	41,601
Prepaid expenses & supplies	28,531	1,662	23,218	95,502
Growing crops	186	-	-	-
Accounts receivable	22,480	12,239	16,349	63,865
Hedging accounts	739	-	1,697	1,926
Crops held for sale or feed	291,231	207,556	243,203	664,776
Market livestock held for sale	51,404	59,093	23,788	28,703
Other current assets	642	3,493	-	-
<b>Total current farm assets</b>	<b>432,278</b>	<b>311,309</b>	<b>340,735</b>	<b>896,373</b>
<b>Intermediate Farm Assets</b>				
Breeding livestock	114,735	108,931	112,436	84,132
Machinery and equipment	384,938	361,130	343,155	818,114
Titled vehicles	64,068	68,370	67,454	99,959
Other intermediate assets	2,730	999	1,488	5,497
<b>Total intermediate farm assets</b>	<b>566,471</b>	<b>539,430</b>	<b>524,532</b>	<b>1,007,701</b>
<b>Long Term Farm Assets</b>				
Farm land	308,906	239,309	293,713	528,295
Buildings and improvements	139,781	173,742	149,473	205,883
Other long-term assets	42,026	38,962	74,886	51,347
<b>Total long-term farm assets</b>	<b>490,713</b>	<b>452,012</b>	<b>518,072</b>	<b>785,525</b>
<b>Total Farm Assets</b>	<b>1,489,461</b>	<b>1,302,751</b>	<b>1,383,340</b>	<b>2,689,599</b>
<b>Total Nonfarm Assets</b>	<b>295,197</b>	<b>304,831</b>	<b>239,234</b>	<b>581,359</b>
<b>Total Assets</b>	<b>1,784,659</b>	<b>1,607,582</b>	<b>1,622,573</b>	<b>3,270,958</b>
<b>Liabilities</b>				
<b>Current Farm Liabilities</b>				
Accrued interest	12,879	21,533	11,182	17,536
Accounts payable	9,334	10,271	5,183	21,825
Current notes	191,684	221,623	88,455	412,714
Principal due on term debt	44,976	54,664	47,039	71,780
<b>Total current farm liabilities</b>	<b>258,873</b>	<b>308,090</b>	<b>151,859</b>	<b>523,854</b>
<b>Total intermediate farm liabs</b>	<b>180,080</b>	<b>243,660</b>	<b>273,270</b>	<b>182,583</b>
<b>Total long term farm liabilities</b>	<b>263,443</b>	<b>441,888</b>	<b>81,589</b>	<b>339,907</b>
<b>Total farm liabilities</b>	<b>702,396</b>	<b>993,638</b>	<b>506,718</b>	<b>1,046,344</b>
<b>Total nonfarm liabilities</b>	<b>38,668</b>	<b>39,511</b>	<b>55,679</b>	<b>61,930</b>
<b>Total liabilities</b>	<b>741,064</b>	<b>1,033,149</b>	<b>562,397</b>	<b>1,108,274</b>
<b>Net worth (farm and nonfarm)</b>	<b>1,043,595</b>	<b>574,433</b>	<b>1,060,177</b>	<b>2,162,684</b>
<b>Net worth change</b>	<b>51,219</b>	<b>-15,696</b>	<b>116,045</b>	<b>87,782</b>
<b>Percent net worth change</b>	<b>5 %</b>	<b>-3 %</b>	<b>12 %</b>	<b>4 %</b>
<b>Ratio Analysis</b>				
Current farm liabilities / assets	60 %	99 %	45 %	58 %
Intermediate farm liab. / assets	32 %	45 %	52 %	18 %
Long term farm liab. / assets	54 %	98 %	16 %	43 %
<b>Total debt to asset ratio</b>	<b>42 %</b>	<b>64 %</b>	<b>35 %</b>	<b>34 %</b>

**Statement Of Cash Flows**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	10	11	11
Beginning cash (farm & nonfarm)	39,192	54,716	31,895	20,665
<b>Cash Provided By Operating Activities</b>				
Gross cash farm income	545,170	742,658	524,172	854,454
Total cash farm expense	-488,997	-726,602	-438,446	-729,820
Net cash from hedging transactions	-719	-	-891	-2,509
Cash provided by operating	55,454	16,056	84,835	122,125
<b>Cash Provided By Investing Activities</b>				
Sale of breeding livestock	2,860	-	464	-
Sale of machinery & equipment	9,574	3,278	12,164	19,585
Sale of titled vehicles	907	3,551	273	386
Sale of farm land	1,154	-	-	5,455
Sale of farm buildings	-	-	-	-
Sale of other farm assets	200	-	36	91
Sale of nonfarm assets	10,536	3,383	614	45,618
Purchase of breeding livestock	-11,368	-8,028	-15,469	-4,274
Purchase of machinery & equip.	-61,893	-40,899	-67,723	-114,907
Purchase of titled vehicles	-9,513	-11,970	-7,436	-9,818
Purchase of farm land	-42,502	-	-105,818	-15,182
Purchase of farm buildings	-8,198	-7,178	-16,074	-9,877
Purchase of other farm assets	-1,024	-3,926	-90	-
Purchase of nonfarm assets	-20,233	-28,246	-2,327	-63,073
Cash provided by investing	-129,499	-90,034	-201,388	-145,996
<b>Cash Provided By Financing Activities</b>				
Money borrowed	467,273	461,889	411,638	850,969
Principal payments	-382,445	-393,943	-355,746	-722,321
Personal income	46,066	56,002	58,461	37,835
Family living/owner withdrawals	-60,682	-60,799	-59,275	-76,591
Income and social security tax	-9,999	-6,102	-10,544	-23,992
Capital contributions	1,956	8,450	-	-
Capital distributions	-74	-	-349	-
Dividends paid	-	-	-	-
Cash gifts and inheritances	25,395	10,042	83,342	126
Gifts given	-	-	-	-
Other cash flows	-	-	-	-
Cash provided by financing	87,490	75,539	127,528	66,027
Net change in cash balance	13,444	1,561	10,974	42,156
Ending cash (farm & nonfarm)	54,220	58,925	44,580	62,946
Discrepancy	-1,584	-2,648	-1,710	-125

**Financial Standards Measures**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	10	11	11
<b>Liquidity</b>				
Current ratio	1.67	1.01	2.24	1.71
Working capital	173,405	3,219	188,876	372,519
Working capital to gross inc	33.4 %	0.9 %	37.0 %	35.5 %
<b>Solvency (cost)</b>				
Farm debt to asset ratio	47 %	76 %	37 %	39 %
Farm equity to asset ratio	53 %	24 %	63 %	61 %
Farm debt to equity ratio	0.89	3.21	0.58	0.64
<b>Profitability (cost)</b>				
Rate of return on farm assets	2.0 %	-3.0 %	1.4 %	5.7 %
Rate of return on farm equity	-0.3 %	-17.8 %	-1.2 %	6.8 %
Operating profit margin	5.5 %	-10.5 %	3.6 %	13.7 %
Net farm income	45,544	-66,606	35,105	173,784
EBITDA	128,449	39,558	108,911	305,332
<b>Repayment Capacity</b>				
Capital debt repayment capacity	89,824	6,353	79,008	214,970
Capital debt repayment margin	20,282	-108,697	14,771	124,227
Replacement margin	-5,720	-120,350	-2,483	70,348
Term debt coverage ratio	1.29	0.06	1.23	2.37
Replacement coverage ratio	0.94	0.05	0.97	1.49
<b>Efficiency</b>				
Asset turnover rate (cost)	35.8 %	28.9 %	38.0 %	41.7 %
Operating expense ratio	78.3 %	94.3 %	79.8 %	70.1 %
Depreciation expense ratio	8.8 %	7.0 %	8.2 %	9.5 %
Interest expense ratio	5.4 %	7.8 %	5.4 %	4.0 %
Net farm income ratio	7.7 %	-9.6 %	6.5 %	17.0 %

**Crop Production and Marketing Summary**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	10	11	11
<b>Acreage Summary</b>				
Total acres owned	814	775	526	1,004
Total crop acres	1,756	1,240	1,932	3,286
Crop acres owned	421	361	312	715
Crop acres cash rented	1,266	852	1,530	2,461
Crop acres share rented	69	26	90	111
Total pasture acres	1,094	1,182	948	448
Percent crop acres owned	24 %	29 %	16 %	22 %
Mach invest/crop acre cost	255	347	223	264
<b>Average Price Received (Cash Sales Only)</b>				
Wheat, Spring per bushel	5.55	5.74	-	5.63
Corn per bushel	3.27	-	-	3.27
Sunflowers per cwt	17.89	-	17.74	17.92
Soybeans per bushel	8.58	-	8.28	8.76
Wheat, Durum per bushel	5.03	-	-	-
<b>Average Yield Per Acre</b>				
Wheat, Spring (bushel)	48.28	23.93	47.13	51.98
Hay, Mixed Alfalfa/Grass (ton)	1.12	-	0.804	2.00
Hay, Small Grain (ton)	1.77	1.36	-	-
Soybeans (bushel)	28.58	-	32.02	27.29
Corn (bushel)	76.92	-	-	98.25
Sunflowers (cwt)	20.21	-	19.01	21.05
Wheat, Durum (bushel)	57.68	-	58.07	-
Peas, Field (bushel)	36.90	-	33.64	38.68
Hay, Grass (ton)	0.674	-	-	-
Hay, Alfalfa (ton)	1.74	-	-	-
Barley (bushel)	57.32	-	-	-

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**Household and Personal Expenses**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Farm Income)**

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	<b>Avg. Of All Farms</b>
Number of farms	20
Average family size	2.8
<b>Family Living Expenses</b>	
Food and meals expense	9,895
Medical care	6,738
Health insurance	8,523
Cash donations	1,457
Household supplies	3,486
Clothing	2,322
Personal care	1,303
Child / Dependent care	856
Alimony and child support	-
Gifts	3,686
Education	860
Recreation	4,530
Utilities (household share)	4,134
Personal vehicle operating exp	5,583
Household real estate taxes	149
Dwelling rent	245
Household repairs	3,467
Personal interest	575
Disability / Long term care ins	469
Life insurance payments	2,219
Personal property insurance	317
Miscellaneous	3,421
Total cash family living expense	64,234
Family living from the farm	713
Total family living	64,947
<b>Other Nonfarm Expenditures</b>	
Income taxes	4,957
Furnishing & appliance purchases	208
Nonfarm vehicle purchases	3,983
Nonfarm real estate purchases	-
Other nonfarm capital purchases	662
Nonfarm savings & investments	-4,739
Total other nonfarm expenditures	5,071
Total cash family living investment & nonfarm capital purch	69,305

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**Operator and Labor Information**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	10	11	11
<b>Operator Information</b>				
Average number of operators	1.1	1.2	1.1	1.1
Average age of operators	48.1	49.8	43.6	49.4
Average number of years farming	22.8	25.8	16.7	26.8
<b>Results Per Operator</b>				
Working capital	152,196	-10,739	171,449	311,712
Total assets (cost)	1,734,528	1,726,520	1,540,196	2,824,023
Total liabilities	750,443	1,033,636	594,325	1,015,182
Net worth (cost)	984,086	692,885	945,872	1,808,841
Gross farm income	549,513	578,929	494,934	935,680
Total farm expense	508,542	631,656	462,254	782,834
Net farm income from operations	40,971	-52,728	32,681	152,846
Net nonfarm income	42,775	46,668	53,590	34,683
Family living & tax withdrawals	65,038	53,544	63,108	95,503
Total acres owned	756.0	645.6	482.5	920.6
Total crop acres	1,630.7	1,033.3	1,770.7	3,012.3
Crop acres owned	391.1	301.0	285.9	655.2
Crop acres cash rented	1,175.3	710.4	1,402.3	2,255.7
Crop acres share rented	64.2	21.8	82.5	101.5
Total pasture acres	1,015.5	985.3	869.3	410.6
<b>Labor Analysis</b>				
Number of farms	52	10	11	11
Total unpaid labor hours	2,023	1,875	1,991	2,395
Total hired labor hours	718	1,794	527	734
Total labor hours per farm	2,741	3,669	2,518	3,129

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**Nonfarm Summary**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	10	11	11
<b>Nonfarm Income</b>				
Personal wages & salary	26,471	45,620	27,144	18,081
Net nonfarm business income	3,293	264	5,163	7,365
Personal rental income	172	-	63	750
Personal interest income	42	36	43	70
Tax refunds	1,563	2,089	2,034	769
Other nonfarm income	14,524	7,992	24,015	10,800
Total nonfarm income	46,066	56,002	58,461	37,835
Gifts and inheritances	25,395	10,042	83,342	126



**Financial Summary**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	7	11	18	10	5
<b>Income Statement</b>						
Gross cash farm income	545,170	56,354	171,365	352,900	740,263	1,611,610
Total cash farm expense	488,997	55,775	167,991	314,515	650,589	1,392,609
Net cash farm income	56,173	579	3,374	38,385	89,674	219,001
Inventory change	40,102	12,691	21,336	54,086	90,269	34,624
Depreciation	-52,152	-14,338	-16,101	-37,828	-80,130	-161,786
Net farm income from operations	44,123	-1,068	8,609	54,644	99,813	91,839
Gain or loss on capital sales	1,422	2,357	-	-1,446	8,062	2,350
Average net farm income	45,544	1,290	8,609	53,198	107,875	94,190
Median net farm income	27,937	-4,873	11,077	42,037	117,120	148,214
<b>Profitability (cost)</b>						
Rate of return on assets	2.0 %	-2.9 %	-0.8 %	2.9 %	3.7 %	2.5 %
Rate of return on equity	-0.3 %	-6.9 %	-7.5 %	2.0 %	3.2 %	-0.6 %
Operating profit margin	5.5 %	-20.7 %	-2.7 %	9.5 %	10.1 %	5.1 %
Asset turnover rate	35.8 %	13.8 %	30.0 %	30.5 %	36.8 %	48.2 %
<b>Liquidity &amp; Repayment (end of year)</b>						
Current assets	432,278	92,205	164,912	381,586	709,599	1,169,761
Current liabilities	258,873	21,182	95,197	207,874	384,686	898,658
Current ratio	1.67	4.35	1.73	1.84	1.84	1.30
Working capital	173,405	71,023	69,715	173,712	324,913	271,103
Change in working capital	18,542	31,313	6,477	-14,066	48,496	84,151
Working capital to gross inc	33.4 %	105.5 %	35.0 %	44.6 %	37.1 %	16.4 %
Term debt coverage ratio	1.29	3.77	1.05	1.56	1.63	1.23
Replacement coverage ratio	0.94	2.46	0.85	1.06	1.09	0.93
Term debt to EBITDA	3.37	3.62	6.41	2.77	3.17	2.70
<b>Solvency (end of year at cost)</b>						
Number of sole proprietors	49	7	11	17	9	5
Total assets	1,784,659	746,328	729,608	1,595,022	2,804,247	4,368,941
Total liabilities	741,064	306,446	388,868	540,737	1,210,751	1,960,036
Net worth	1,043,595	439,882	340,739	1,054,285	1,593,496	2,408,905
Net worth change	51,219	90,789	24,755	59,488	73,279	-13,783
Farm debt to asset ratio	47 %	43 %	58 %	39 %	47 %	55 %
Total debt to asset ratio	42 %	41 %	53 %	34 %	43 %	45 %
Change in earned net worth %	5 %	26 %	8 %	6 %	5 %	-1 %
<b>Nonfarm Information</b>						
Net nonfarm income	46,066	71,762	50,869	36,469	59,220	16,976
Farms reporting living expenses	20	1	6	7	4	2
Total family living expense	64,947	-	44,348	70,347	-	-
<b>Crop Acres</b>						
Total crop acres	1,756	404	808	1,512	2,881	4,608
Total crop acres owned	421	373	140	429	755	496
Total crop acres cash rented	1,266	21	651	918	2,087	4,112
Total crop acres share rented	69	10	16	164	39	-
Machinery value per crop acre	255	211	155	234	259	296

**Financial Summary**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	6	9	10	16	11
<b>Income Statement</b>						
Gross cash farm income	545,170	159,139	395,848	439,203	753,474	671,250
Total cash farm expense	488,997	125,358	399,558	396,039	668,019	584,634
Net cash farm income	56,173	33,781	-3,710	43,164	85,455	86,615
Inventory change	40,102	-1,871	80,856	67,877	52,649	-13,850
Depreciation	-52,152	-9,627	-33,563	-43,955	-81,968	-54,638
Net farm income from operations	44,123	22,283	43,583	67,086	56,136	18,126
Gain or loss on capital sales	1,422	-	43	910	1,291	3,979
Average net farm income	45,544	22,283	43,626	67,997	57,427	22,106
Median net farm income	27,937	26,926	28,005	54,206	46,667	18,272
<b>Profitability (cost)</b>						
Rate of return on assets	2.0 %	1.4 %	2.0 %	3.5 %	2.6 %	-0.3 %
Rate of return on equity	-0.3 %	-0.7 %	0.1 %	2.6 %	-0.6 %	-2.1 %
Operating profit margin	5.5 %	3.1 %	5.0 %	10.6 %	6.7 %	-1.1 %
Asset turnover rate	35.8 %	45.3 %	40.9 %	32.7 %	39.1 %	28.6 %
<b>Liquidity &amp; Repayment (end of year)</b>						
Current assets	432,278	102,408	425,290	490,575	596,617	337,513
Current liabilities	258,873	40,228	305,467	221,026	428,067	128,394
Current ratio	1.67	2.55	1.39	2.22	1.39	2.63
Working capital	173,405	62,180	119,823	269,548	168,550	209,119
Change in working capital	18,542	9,660	-6,695	1,186	61,100	-1,634
Working capital to gross inc	33.4 %	39.9 %	24.0 %	56.8 %	20.6 %	60.6 %
Term debt coverage ratio	1.29	3.25	1.54	2.12	1.20	0.66
Replacement coverage ratio	0.94	2.75	1.37	1.21	0.86	0.49
Term debt to EBITDA	3.37	1.30	4.48	2.11	3.83	3.13
<b>Solvency (end of year at cost)</b>						
Number of sole proprietors	49	6	9	9	15	10
Total assets	1,784,659	453,546	1,463,238	1,845,122	2,530,018	1,700,148
Total liabilities	741,064	237,458	821,826	619,188	1,277,877	275,011
Net worth	1,043,595	216,088	641,412	1,225,935	1,252,141	1,425,137
Net worth change	51,219	69,072	73,340	26,258	3,937	113,984
Farm debt to asset ratio	47 %	55 %	60 %	36 %	59 %	20 %
Total debt to asset ratio	42 %	52 %	56 %	34 %	51 %	16 %
Change in earned net worth %	5 %	47 %	13 %	2 %	0 %	9 %
<b>Nonfarm Information</b>						
Net nonfarm income	46,066	25,055	78,511	38,402	38,787	48,532
Farms reporting living expenses	20	1	5	2	7	5
Total family living expense	64,947	-	77,942	-	74,949	55,198
<b>Crop Acres</b>						
Total crop acres	1,756	607	1,857	1,647	2,557	1,235
Total crop acres owned	421	126	284	343	564	557
Total crop acres cash rented	1,266	481	1,512	1,231	1,911	586
Total crop acres share rented	69	-	61	73	81	92
Machinery value per crop acre	255	92	163	286	286	278

**Financial Summary**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western 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	52	19	10	7	14
<b>Income Statement</b>					
Gross cash farm income	545,170	739,588	171,168	431,897	323,181
Total cash farm expense	488,997	656,510	138,019	387,119	289,058
Net cash farm income	56,173	83,078	33,149	44,778	34,123
Inventory change	40,102	107,161	-37,698	71,284	12,511
Depreciation	-52,152	-86,588	-17,523	-38,663	-27,876
Net farm income from operations	44,123	103,650	-22,072	77,399	18,757
Gain or loss on capital sales	1,422	2,972	-1,831	2,671	879
Average net farm income	45,544	106,623	-23,904	80,070	19,636
Median net farm income	27,937	96,224	-14,205	84,924	22,437
<b>Profitability (cost)</b>					
Rate of return on assets	2.0 %	3.6 %	-3.9 %	6.1 %	1.3 %
Rate of return on equity	-0.3 %	3.1 %	-13.3 %	10.3 %	-4.2 %
Operating profit margin	5.5 %	8.9 %	-25.3 %	14.9 %	4.0 %
Asset turnover rate	35.8 %	40.3 %	15.4 %	41.0 %	32.5 %
<b>Liquidity &amp; Repayment (end of year)</b>					
Current assets	432,278	733,833	167,232	439,478	249,080
Current liabilities	258,873	404,463	103,387	301,723	179,892
Current ratio	1.67	1.81	1.62	1.46	1.38
Working capital	173,405	329,370	63,845	137,756	69,188
Change in working capital	18,542	16,250	-1,883	87,447	8,528
Working capital to gross inc	33.4 %	37.8 %	46.5 %	25.7 %	20.6 %
Term debt coverage ratio	1.29	1.98	0.32	1.86	1.09
Replacement coverage ratio	0.94	1.21	0.27	1.56	0.90
Term debt to EBITDA	3.37	1.69	24.49	3.76	5.27
<b>Solvency (end of year at cost)</b>					
Number of sole proprietors	49	17	10	7	14
Total assets	1,784,659	2,742,800	905,139	1,554,991	1,308,853
Total liabilities	741,064	825,780	469,424	1,125,681	614,248
Net worth	1,043,595	1,917,019	435,715	429,310	694,606
Net worth change	51,219	41,940	-3,998	112,776	77,003
Farm debt to asset ratio	47 %	34 %	55 %	75 %	59 %
Total debt to asset ratio	42 %	30 %	52 %	72 %	47 %
Change in earned net worth %	5 %	2 %	-1 %	36 %	12 %
<b>Nonfarm Information</b>					
Net nonfarm income	46,066	38,721	63,151	39,154	50,560
Farms reporting living expenses	20	4	6	3	7
Total family living expense	64,947	-	57,598	-	65,661
<b>Crop Acres</b>					
Total crop acres	1,756	2,937	697	1,889	1,010
Total crop acres owned	421	663	313	348	248
Total crop acres cash rented	1,266	2,182	358	1,400	719
Total crop acres share rented	69	92	26	142	43
Machinery value per crop acre	255	265	226	160	236

## 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.

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Corn on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	204.68
Yield per acre (bu.)	95.83
Operator's share of yield %	100.00
Value per bu.	3.28
Total product return per acre	314.13
Crop insurance per acre	25.14
Other crop income per acre	5.37
Gross return per acre	344.65
<b>Direct Expenses</b>	
Seed and plants	69.40
Fertilizer	77.75
Crop chemicals	17.03
Crop insurance	21.73
Fuel & oil	14.53
Repairs	34.36
Custom hire	17.14
Machinery leases	1.66
Operating interest	9.20
Miscellaneous	0.10
Total direct expenses per acre	262.90
Return over direct exp per acre	81.75
<b>Overhead Expenses</b>	
Custom hire	0.61
Hired labor	5.57
Machinery leases	2.28
RE & pers. property taxes	5.12
Farm insurance	5.71
Utilities	3.93
Dues & professional fees	0.46
Interest	33.26
Mach & bldg depreciation	37.19
Miscellaneous	6.85
Total overhead expenses per acre	100.97
Total dir & ovhd expenses per acre	363.87
Net return per acre	-19.22
Government payments	11.49
Net return with govt pmts	-7.73
Labor & management charge	30.29
Net return over lbr & mgt	-38.02
<b>Cost of Production</b>	
Total direct expense per bu.	2.74
Total dir & ovhd exp per bu.	3.80
Less govt & other income	3.36
With labor & management	3.67
Net value per unit	3.28
Machinery cost per acre	106.94
Est. labor hours per acre	1.44

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Corn on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	702.16
Yield per acre (bu.)	72.24
Operator's share of yield %	100.00
Value per bu.	3.22
Total product return per acre	232.76
Crop insurance per acre	87.70
Other crop income per acre	8.72
Gross return per acre	329.18
<b>Direct Expenses</b>	
Seed and plants	71.46
Fertilizer	81.06
Crop chemicals	20.52
Crop insurance	12.29
Fuel & oil	15.59
Repairs	21.08
Custom hire	20.37
Land rent	58.92
Machinery leases	0.34
Operating interest	19.95
Miscellaneous	0.07
Total direct expenses per acre	321.66
Return over direct exp per acre	7.51
<b>Overhead Expenses</b>	
Custom hire	4.11
Hired labor	13.27
Machinery leases	10.13
Building leases	0.20
Farm insurance	4.77
Utilities	3.54
Dues & professional fees	0.39
Interest	8.33
Mach & bldg depreciation	34.27
Miscellaneous	2.03
Total overhead expenses per acre	81.06
Total dir & ovhd expenses per acre	402.72
Net return per acre	-73.54
Government payments	7.61
Net return with govt pmts	-65.94
Labor & management charge	26.39
Net return over lbr & mgt	-92.32
<b>Cost of Production</b>	
Total direct expense per bu.	4.45
Total dir & ovhd exp per bu.	5.57
Less govt & other income	4.13
With labor & management	4.50
Net value per unit	3.22
Machinery cost per acre	110.35
Est. labor hours per acre	1.37

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Return)**

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

	<b>Avg. Of All Farms</b>
Number of farms	11
Acres	156.88
Yield per acre (ton)	0.90
Operators share of yield %	100.00
Value per ton	68.13
Other product return per acre	0.88
Total product return per acre	61.96
Crop insurance per acre	3.43
Gross return per acre	65.38
<b>Direct Expenses</b>	
Fertilizer	0.80
Crop insurance	1.77
Fuel & oil	7.46
Repairs	12.12
Hired labor	0.12
Operating interest	1.36
Total direct expenses per acre	23.64
Return over direct exp per acre	41.75
<b>Overhead Expenses</b>	
Hired labor	0.57
RE & pers. property taxes	3.70
Farm insurance	3.53
Utilities	2.02
Dues & professional fees	0.92
Interest	10.72
Mach & bldg depreciation	12.72
Miscellaneous	4.07
Total overhead expenses per acre	38.25
Total dir & ovhd expenses per acre	61.88
Net return per acre	3.50
Government payments	1.82
Net return with govt pmts	5.32
Labor & management charge	13.54
Net return over lbr & mgt	-8.22
<b>Cost of Production</b>	
Total direct expense per ton	26.37
Total dir & ovhd exp per ton	69.03
Less govt & other income	62.20
With labor & management	77.30
Net value per unit	68.13
Machinery cost per acre	33.05
Est. labor hours per acre	0.88

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Hay, Mixed Alfalfa/Grass on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	9
Acres	162.48
Yield per acre (ton)	1.40
Operators share of yield %	100.00
Value per ton	53.22
Total product return per acre	74.34
Crop insurance per acre	1.82
Gross return per acre	76.16
<b>Direct Expenses</b>	
Fertilizer	0.80
Crop insurance	0.89
Fuel & oil	6.98
Repairs	12.38
Hired labor	0.12
Land rent	28.17
Operating interest	2.57
Total direct expenses per acre	51.92
Return over direct exp per acre	24.25
<b>Overhead Expenses</b>	
Hired labor	0.22
Farm insurance	3.30
Utilities	3.01
Dues & professional fees	2.32
Interest	3.40
Mach & bldg depreciation	11.91
Miscellaneous	2.25
Total overhead expenses per acre	26.41
Total dir & ovhd expenses per acre	78.33
Net return per acre	-2.16
Government payments	0.99
Net return with govt pmts	-1.17
Labor & management charge	12.39
Net return over lbr & mgt	-13.56
<b>Cost of Production</b>	
Total direct expense per ton	37.17
Total dir & ovhd exp per ton	56.07
Less govt & other income	54.06
With labor & management	62.92
Net value per unit	53.22
Machinery cost per acre	33.78
Est. labor hours per acre	0.73



**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Hay, Small Grain on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	6
Acres	103.58
Yield per acre (ton)	2.10
Operators share of yield %	100.00
Value per ton	68.32
Other product return per acre	0.41
Total product return per acre	144.15
Gross return per acre	144.15
<b>Direct Expenses</b>	
Seed and plants	21.53
Fertilizer	13.97
Crop chemicals	11.53
Fuel & oil	9.37
Repairs	19.05
Custom hire	7.77
Operating interest	2.16
Miscellaneous	0.14
Total direct expenses per acre	85.52
Return over direct exp per acre	58.63
<b>Overhead Expenses</b>	
Hired labor	2.26
RE & pers. property taxes	3.42
Farm insurance	4.02
Utilities	2.99
Dues & professional fees	1.18
Interest	21.69
Mach & bldg depreciation	13.77
Miscellaneous	8.52
Total overhead expenses per acre	57.83
Total dir & ovhd expenses per acre	143.35
Net return per acre	0.80
Government payments	23.39
Net return with govt pmts	24.19
Labor & management charge	17.33
Net return over lbr & mgt	6.86
<b>Cost of Production</b>	
Total direct expense per ton	40.65
Total dir & ovhd exp per ton	68.14
Less govt & other income	56.83
With labor & management	65.06
Net value per unit	68.32
Machinery cost per acre	51.71
Est. labor hours per acre	1.25

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Hay, Small Grain on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	6
Acres	144.78
Yield per acre (ton)	1.27
Operators share of yield %	100.00
Value per ton	64.51
Other product return per acre	2.71
Total product return per acre	84.86
Other crop income per acre	0.26
Gross return per acre	85.11
<b>Direct Expenses</b>	
Seed and plants	23.80
Fertilizer	21.69
Crop chemicals	16.60
Crop insurance	2.34
Fuel & oil	10.22
Repairs	15.99
Custom hire	11.75
Land rent	29.16
Operating interest	2.67
Total direct expenses per acre	134.23
Return over direct exp per acre	-49.12
<b>Overhead Expenses</b>	
Hired labor	2.61
Farm insurance	4.41
Utilities	2.83
Dues & professional fees	2.36
Interest	4.85
Mach & bldg depreciation	13.00
Miscellaneous	7.77
Total overhead expenses per acre	37.83
Total dir & ovhd expenses per acre	172.06
Net return per acre	-86.95
Government payments	15.65
Net return with govt pmts	-71.30
Labor & management charge	17.80
Net return over lbr & mgt	-89.10
<b>Cost of Production</b>	
Total direct expense per ton	105.42
Total dir & ovhd exp per ton	135.13
Less govt & other income	120.50
With labor & management	134.48
Net value per unit	64.51
Machinery cost per acre	53.30
Est. labor hours per acre	1.29

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Pasture on Owned Land**

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	<b>Avg. Of All Farms</b>
Number of farms	11
Acres	664.76
Yield per acre (aum)	0.59
Operators share of yield %	100.00
Value per aum	19.45
Total product return per acre	11.41
Crop insurance per acre	1.97
Other crop income per acre	0.19
Gross return per acre	13.57
 <b>Direct Expenses</b>	
Crop insurance	0.45
Repairs	0.74
Miscellaneous	0.50
Total direct expenses per acre	1.69
Return over direct exp per acre	11.88
 <b>Overhead Expenses</b>	
RE & pers. property taxes	1.64
Farm insurance	0.26
Interest	7.43
Mach & bldg depreciation	0.65
Miscellaneous	0.57
Total overhead expenses per acre	10.55
Total dir & ovhd expenses per acre	12.24
Net return per acre	1.33

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**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Pasture on Cash Rent**

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	<b>Avg. Of All Farms</b>
Number of farms	18
Acres	1,470.50
Yield per acre (aum)	0.71
Operators share of yield %	100.00
Value per aum	20.30
Total product return per acre	14.39
Crop insurance per acre	0.73
Other crop income per acre	0.83
Gross return per acre	15.94
 <b>Direct Expenses</b>	
Crop insurance	0.28
Repairs	0.61
Land rent	13.44
Miscellaneous	0.70
Total direct expenses per acre	15.02
Return over direct exp per acre	0.92
 <b>Overhead Expenses</b>	
Machinery leases	0.19
Farm insurance	0.29
Mach & bldg depreciation	0.66
Miscellaneous	0.61
Total overhead expenses per acre	1.75
Total dir & ovhd expenses per acre	16.78
Net return per acre	-0.83

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Return)**

**Soybeans on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	11
Acres	717.67
Yield per acre (bu.)	29.81
Operator's share of yield %	100.00
Value per bu.	8.35
Total product return per acre	248.89
Crop insurance per acre	14.14
Other crop income per acre	47.24
Gross return per acre	310.27
<b>Direct Expenses</b>	
Seed and plants	64.51
Fertilizer	14.73
Crop chemicals	21.38
Crop insurance	11.56
Fuel & oil	11.64
Repairs	20.04
Custom hire	6.85
Land rent	57.36
Machinery leases	3.69
Operating interest	4.89
Miscellaneous	0.25
Total direct expenses per acre	216.90
Return over direct exp per acre	93.38
<b>Overhead Expenses</b>	
Custom hire	3.75
Hired labor	9.92
Machinery leases	3.15
Building leases	0.20
Farm insurance	3.52
Utilities	2.55
Interest	2.75
Mach & bldg depreciation	27.20
Miscellaneous	4.05
Total overhead expenses per acre	57.08
Total dir & ovhd expenses per acre	273.98
Net return per acre	36.29
Government payments	16.88
Net return with govt pmts	53.18
Labor & management charge	19.83
Net return over lbr & mgt	33.34
<b>Cost of Production</b>	
Total direct expense per bu.	7.28
Total dir & ovhd exp per bu.	9.19
Less govt & other income	6.57
With labor & management	7.23
Net value per unit	8.35
Machinery cost per acre	76.91
Est. labor hours per acre	0.80

**Crop Enterprise Analysis**  
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**Sunflowers on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	11
Acres	447.64
Yield per acre (cwt.)	20.23
Operator's share of yield %	100.00
Value per cwt.	17.60
Total product return per acre	355.96
Crop insurance per acre	1.14
Gross return per acre	357.10
<b>Direct Expenses</b>	
Seed and plants	37.68
Fertilizer	39.90
Crop chemicals	39.86
Crop insurance	12.26
Fuel & oil	12.54
Repairs	18.55
Custom hire	15.93
Land rent	47.81
Machinery leases	3.12
Operating interest	6.08
Miscellaneous	0.57
Total direct expenses per acre	234.30
Return over direct exp per acre	122.80
<b>Overhead Expenses</b>	
Custom hire	2.78
Hired labor	7.62
Machinery leases	3.37
Building leases	0.39
Farm insurance	3.22
Utilities	2.18
Dues & professional fees	0.91
Interest	3.30
Mach & bldg depreciation	22.19
Miscellaneous	4.08
Total overhead expenses per acre	50.02
Total dir & ovhd expenses per acre	284.32
Net return per acre	72.78
Government payments	13.22
Net return with govt pmts	86.00
Labor & management charge	21.47
Net return over lbr & mgt	64.53
<b>Cost of Production</b>	
Total direct expense per cwt.	11.58
Total dir & ovhd exp per cwt.	14.06
Less govt & other income	13.35
With labor & management	14.41
Net value per unit	17.60
Machinery cost per acre	80.01
Est. labor hours per acre	0.84

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**Wheat, Durum on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	5
Acres	622.98
Yield per acre (bu.)	57.87
Operators share of yield %	100.00
Value per bu.	4.83
Total product return per acre	279.47
Other crop income per acre	8.91
Gross return per acre	288.39
<b>Direct Expenses</b>	
Seed and plants	15.78
Fertilizer	54.77
Crop chemicals	40.56
Crop insurance	16.00
Fuel & oil	13.52
Repairs	22.35
Custom hire	9.83
Hired labor	0.81
Land rent	47.01
Machinery leases	4.57
Operating interest	5.58
Miscellaneous	0.22
Total direct expenses per acre	231.00
Return over direct exp per acre	57.39
<b>Overhead Expenses</b>	
Custom hire	1.43
Hired labor	7.98
Farm insurance	3.97
Utilities	2.65
Dues & professional fees	2.21
Interest	5.21
Mach & bldg depreciation	24.45
Miscellaneous	3.58
Total overhead expenses per acre	51.49
Total dir & ovhd expenses per acre	282.49
Net return per acre	5.90
Government payments	18.68
Net return with govt pmts	24.58
Labor & management charge	20.61
Net return over lbr & mgt	3.96
<b>Cost of Production</b>	
Total direct expense per bu.	3.99
Total dir & ovhd exp per bu.	4.88
Less govt & other income	4.40
With labor & management	4.76
Net value per unit	4.83
Machinery cost per acre	77.36
Est. labor hours per acre	0.80

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**Wheat, Spring on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	12
Acres	527.26
Yield per acre (bu.)	50.58
Operators share of yield %	100.00
Value per bu.	5.07
Other product return per acre	2.25
Total product return per acre	258.91
Crop insurance per acre	5.65
Other crop income per acre	7.09
Gross return per acre	271.65
<b>Direct Expenses</b>	
Seed and plants	12.63
Fertilizer	40.52
Crop chemicals	30.18
Crop insurance	16.97
Fuel & oil	9.46
Repairs	10.32
Custom hire	3.07
Operating interest	3.98
Miscellaneous	0.84
Total direct expenses per acre	127.97
Return over direct exp per acre	143.68
<b>Overhead Expenses</b>	
Custom hire	0.55
Hired labor	3.00
Building leases	0.03
RE & pers. property taxes	3.79
Farm insurance	5.34
Utilities	2.51
Dues & professional fees	1.11
Interest	14.85
Mach & bldg depreciation	37.23
Miscellaneous	6.84
Total overhead expenses per acre	75.24
Total dir & ovhd expenses per acre	203.20
Net return per acre	68.45
Government payments	11.58
Net return with govt pmts	80.03
Labor & management charge	21.63
Net return over lbr & mgt	58.39
<b>Cost of Production</b>	
Total direct expense per bu.	2.53
Total dir & ovhd exp per bu.	4.02
Less govt & other income	3.49
With labor & management	3.92
Net value per unit	5.07
Machinery cost per acre	60.33
Est. labor hours per acre	1.05



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**Wheat, Spring on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	18
Acres	930.17
Yield per acre (bu.)	46.91
Operators share of yield %	100.00
Value per bu.	5.18
Other product return per acre	0.75
Total product return per acre	243.84
Crop insurance per acre	13.01
Other crop income per acre	5.34
Gross return per acre	262.19
<b>Direct Expenses</b>	
Seed and plants	13.79
Fertilizer	51.01
Crop chemicals	33.53
Crop insurance	13.75
Fuel & oil	9.21
Repairs	16.53
Custom hire	7.72
Land rent	45.57
Machinery leases	3.15
Operating interest	4.86
Miscellaneous	0.70
Total direct expenses per acre	199.81
Return over direct exp per acre	62.38
<b>Overhead Expenses</b>	
Custom hire	1.54
Hired labor	4.37
Machinery leases	0.74
Farm insurance	3.77
Utilities	2.14
Dues & professional fees	0.69
Interest	3.01
Mach & bldg depreciation	22.25
Miscellaneous	3.96
Total overhead expenses per acre	42.45
Total dir & ovhd expenses per acre	242.27
Net return per acre	19.92
Government payments	15.24
Net return with govt pmts	35.16
Labor & management charge	19.15
Net return over lbr & mgt	16.01
<b>Cost of Production</b>	
Total direct expense per bu.	4.26
Total dir & ovhd exp per bu.	5.16
Less govt & other income	4.43
With labor & management	4.84
Net value per unit	5.18
Machinery cost per acre	62.28
Est. labor hours per acre	0.83

## 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.

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

	<u>Avg. Of All Farms</u>	
Number of farms	15	
	Quantity	Value
Beef Calves sold (lb)	42.36	68.82
Transferred out (lb)	57.64	94.34
Cull sales		33.90
Government payments		1.63
Other income		0.39
Purchased		-30.51
Transferred in		30.00
Inventory change		13.14
Gross margin		151.71
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	275.07	5.34
Creep / Starter (lb.)	6.48	0.73
Hay, Alfalfa (lb.)	51.36	1.90
Hay, Grass (lb.)	969.25	33.30
Pasture (aum)	1.59	33.39
Cover crop forage (aum)	0.08	1.47
Hay (lb.)	22.18	0.99
Other feed stuffs (lb)	90.41	5.86
Veterinary		5.13
Supplies		6.69
Fuel & oil		5.52
Repairs		8.19
Hired labor		1.35
Operating interest		1.56
Total direct expenses		111.43
Return over direct expense		40.28
<b>Overhead Expenses</b>		
Farm insurance		2.90
Utilities		1.87
Interest		4.25
Mach & bldg depreciation		10.31
Miscellaneous		5.67
Total overhead expenses		24.99
Total dir & ovhd expenses		136.41
Net return		15.29
Labor & management charge		16.60
Net return over lbr & mgt		-1.31
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		111.43
Total dir & ovhd expense per unit		136.41
With other revenue adjustments		148.26
With labor and management		164.86
Est. labor hours per unit		1.16
<b>Other Information</b>		
Number of cows		156.2
Pregnancy percentage		97.8
Pregnancy loss percentage		2.8
Culling percentage		19.0
Calving percentage		95.0
Weaning percentage		89.7
Calves sold per cow		0.89
Calf death loss percent		4.5
Cow death loss percent		1.2
Average weaning weight		579
Lb. weaned/exposed female		519
Feed cost per cow		412.90
Avg wgt/ Beef Calves sold		586
Avg price / cwt.		162.46

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

	<u>Avg. Of</u>	
	<u>All Farms</u>	
Number of farms	15	
	Quantity	Value
Beef Calves sold (lb)	210.8	342.47
Transferred out (lb)	286.8	469.44
Cull sales		168.70
Government payments		8.10
Other income		1.92
Purchased		-151.82
Transferred in		-149.30
Inventory change		65.39
Gross margin		754.90
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	1,368.8	26.59
Creep / Starter (lb.)	32.2	3.62
Hay, Alfalfa (lb.)	255.5	9.47
Hay, Grass (lb.)	4,823.0	165.70
Pasture (aum)	7.9	166.15
Cover crop forage (aum)	0.4	7.30
Hay (lb.)	110.4	4.92
Other feed stuffs (lb)	449.9	29.16
Veterinary		25.55
Supplies		33.30
Fuel & oil		27.49
Repairs		40.76
Hired labor		6.71
Operating interest		7.75
Total direct expenses		554.46
Return over direct expense		200.44
<b>Overhead Expenses</b>		
Farm insurance		14.41
Utilities		9.28
Interest		21.16
Mach & bldg depreciation		51.29
Miscellaneous		28.20
Total overhead expenses		124.34
Total dir & ovhd expenses		678.80
Net return		76.10
Labor & management charge		82.60
Net return over lbr & mgt		-6.50
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		111.43
Total dir & ovhd expense per unit		136.41
With other revenue adjustments		148.26
With labor and management		164.86
Est. labor hours per unit		5.75
<b>Other Information</b>		
Number of cows		156.2
Pregnancy percentage		97.8
Pregnancy loss percentage		2.8
Culling percentage		19.0
Calving percentage		95.0
Weaning percentage		89.7
Calves sold per cow		0.89
Calf death loss percent		4.5
Cow death loss percent		1.2
Average weaning weight		579
Lb. weaned/exposed female		519
Feed cost per cow		412.90
Avg wgt/ Beef Calves sold		586
Avg price / cwt.		162.46

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

	<u>Avg. Of All Farms</u>	
Number of farms	5	
	Quantity	Value
Beef Calves sold (lb)	90.19	137.09
Transferred out (lb)	11.96	18.46
Cull sales		39.85
Purchased		-34.48
Transferred in		-33.40
Inventory change		21.33
Gross margin		148.85
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	12.18	8.18
Complete Ration (lb.)	438.42	20.95
Corn Silage (lb.)	575.12	8.05
Hay, Alfalfa (lb.)	262.56	10.66
Hay, Grass (lb.)	688.34	16.65
Pasture (aum)	1.55	31.80
Other feed stuffs (lb)	40.65	5.46
Veterinary		7.45
Supplies		3.20
Fuel & oil		3.05
Repairs		4.31
Custom hire		1.81
Marketing		2.33
Total direct expenses		123.89
Return over direct expense		24.95
<b>Overhead Expenses</b>		
Hired labor		0.44
Farm insurance		1.63
Utilities		2.28
Interest		3.12
Mach & bldg depreciation		5.88
Miscellaneous		3.28
Total overhead expenses		16.64
Total dir & ovhd expenses		140.53
Net return		8.32
Labor & management charge		21.71
Net return over lbr & mgt		-13.39
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		123.89
Total dir & ovhd expense per unit		140.53
With other revenue adjustments		142.11
With labor and management		163.82
Est. labor hours per unit		1.28
<b>Other Information</b>		
Number of cows		119.8
Pregnancy percentage		101.7
Pregnancy loss percentage		10.2
Culling percentage		22.4
Calving percentage		91.2
Weaning percentage		89.3
Calves sold per cow		0.86
Calf death loss percent		2.6
Cow death loss percent		0.2
Average weaning weight		541
Lb. weaned/exposed female		483
Feed cost per cow		556.38
Avg wgt/ Beef Calves sold		667
Avg price / cwt.		151.99

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

	<u>Avg. Of All Farms</u>	
Number of farms	5	
	Quantity	Value
Beef Calves sold (lb)	493.2	749.60
Transferred out (lb)	65.4	100.93
Cull sales	-	217.92
Purchased		-188.55
Transferred in		-182.64
Inventory change		116.64
Gross margin		813.90
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	66.6	44.73
Complete Ration (lb.)	2,397.3	114.56
Corn Silage (lb.)	3,144.8	44.03
Hay, Alfalfa (lb.)	1,435.7	58.26
Hay, Grass (lb.)	3,763.9	91.04
Pasture (aum)	8.5	173.87
Other feed stuffs (lb)	222.3	29.88
Veterinary		40.73
Supplies		17.51
Fuel & oil		16.65
Repairs		23.55
Custom hire		9.90
Marketing		12.72
Total direct expenses		677.45
Return over direct expense		136.45
<b>Overhead Expenses</b>		
Hired labor		2.41
Farm insurance		8.90
Utilities		12.49
Interest		17.06
Mach & bldg depreciation		32.17
Miscellaneous		17.94
Total overhead expenses		90.97
Total dir & ovhd expenses		768.42
Net return		45.48
Labor & management charge		118.70
Net return over lbr & mgt		-73.22
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		123.89
Total dir & ovhd expense per unit		140.53
With other revenue adjustments		142.11
With labor and management		163.82
Est. labor hours per unit		6.98
<b>Other Information</b>		
Number of cows		119.8
Pregnancy percentage		101.7
Pregnancy loss percentage		10.2
Culling percentage		22.4
Calving percentage		91.2
Weaning percentage		89.3
Calves sold per cow		0.86
Calf death loss percent		2.6
Cow death loss percent		0.2
Average weaning weight		541
Lb. weaned/exposed female		483
Feed cost per cow		556.38
Avg wgt/ Beef Calves sold		667
Avg price / cwt.		151.99

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

	<u>Avg. Of All Farms</u>	
Number of farms	7	
	Quantity	Value
Beef Replace sold (hd)	0.31	342.70
Transferred out (hd)	0.75	1,082.54
Cull sales (hd)	0.03	35.54
Other income		17.92
Purchased (hd)	0.00	-2.87
Transferred in (hd)	1.26	-1,121.73
Inventory change (hd)	0.16	111.97
Gross margin		466.08
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	72.93	24.83
Complete Ration (lb.)	1,422.42	55.81
Corn (bu.)	0.65	2.15
Corn Silage (lb.)	854.33	10.69
Hay, Alfalfa (lb.)	197.26	9.37
Hay, Grass (lb.)	2,176.24	88.51
Pasture (aum)	4.50	88.49
Other feed stuffs (lb)	99.17	3.43
Breeding fees		8.17
Veterinary		20.19
Supplies		4.43
Fuel & oil		9.51
Repairs		10.81
Livestock leases		11.84
Marketing		15.66
Total direct expenses		363.89
Return over direct expense		102.19
<b>Overhead Expenses</b>		
Hired labor		3.70
Farm insurance		4.46
Utilities		3.22
Interest		4.64
Mach & bldg depreciation		14.73
Miscellaneous		9.27
Total overhead expenses		40.02
Total dir & ovhd expenses		403.91
Net return		62.17
Labor & management charge		25.98
Net return over lbr & mgt		36.19
Est. labor hours per unit		1.78
<b>Other Information</b>		
No. purchased or trans in		57
Number sold or trans out		47
Average number of head		45
Percentage death loss		0.8
Feed cost per average head		283.29
Feed cost/head sold/trans		269.55

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

	<u>Avg. Of All Farms</u>	
Number of farms	7	
	Quantity	Value
Beef Replace sold (hd)	0.3	326.08
Transferred out (hd)	0.7	1,030.06
Cull sales (hd)	0.0	33.82
Other income		17.05
Purchased (hd)	0.0	-2.73
Transferred in (hd)	1.2	-1,067.35
Inventory change (hd)	0.1	106.55
Gross margin		443.48
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	69.4	23.63
Complete Ration (lb.)	1,353.5	53.11
Corn (bu.)	0.6	2.04
Corn Silage (lb.)	812.9	10.17
Hay, Alfalfa (lb.)	187.7	8.92
Hay, Grass (lb.)	2,070.7	84.22
Pasture (aum)	4.3	84.20
Other feed stuffs (lb)	94.4	3.27
Breeding fees		7.77
Veterinary		19.21
Supplies		4.21
Fuel & oil		9.05
Repairs		10.29
Livestock leases		11.27
Marketing		14.90
Total direct expenses		346.24
Return over direct expense		97.23
<b>Overhead Expenses</b>		
Hired labor		3.52
Farm insurance		4.24
Utilities		3.07
Interest		4.42
Mach & bldg depreciation		14.02
Miscellaneous		8.82
Total overhead expenses		38.08
Total dir & ovhd expenses		384.32
Net return		59.15
Labor & management charge		24.72
Net return over lbr & mgt		34.43
Est. labor hours per unit		1.69
<b>Other Information</b>		
No. purchased or trans in		57
Number sold or trans out		47
Average number of head		45
Percentage death loss		0.8
Feed cost per average head		283.29
Feed cost/head sold/trans		269.55



**Livestock Enterprise Analysis**  
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**Beef Backgrounding -- Average Per Cwt. Produced**

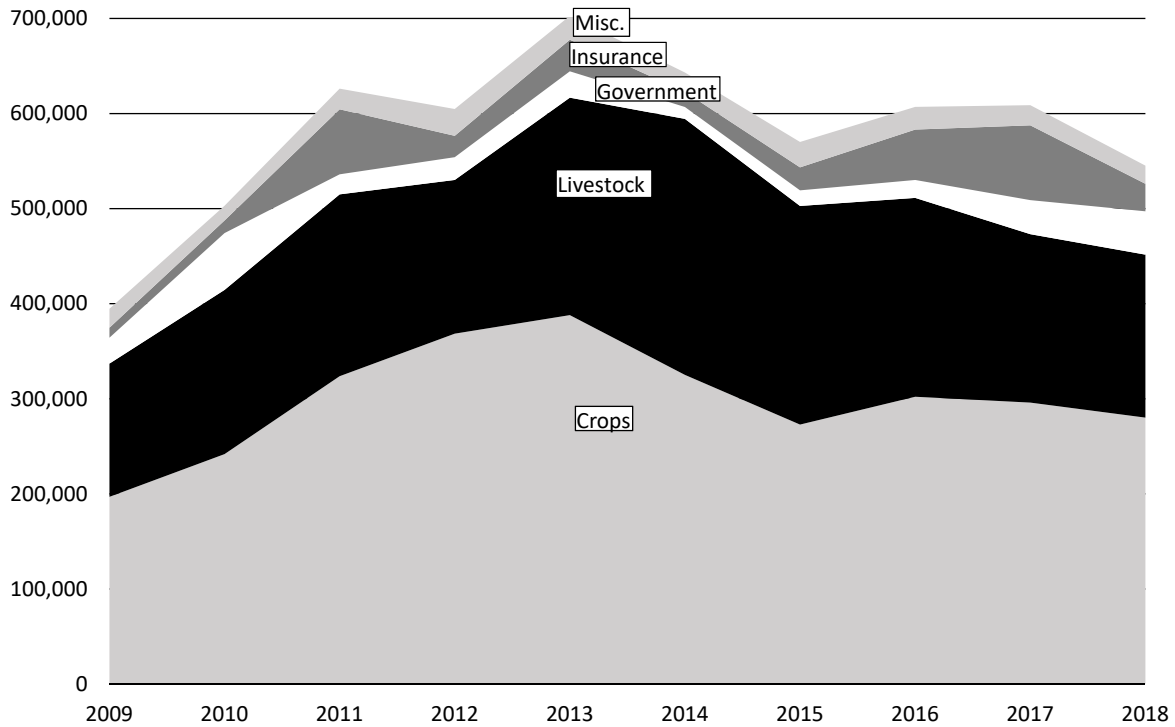
	<u>Avg. Of</u>	
	<u>All Farms</u>	
Number of farms	5	
	Quantity	Value
Backgnd Beef sold (lb)	398.04	620.75
Transferred out (lb)	163.98	243.01
Other income		13.70
Transferred in (lb)	-339.78	-562.32
Inventory change (lb)	-129.24	-206.19
Gross margin		108.96
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	229.94	12.95
Creep / Starter (lb.)	23.57	7.02
Complete Ration (lb.)	144.95	4.71
Corn Silage (lb.)	854.39	11.42
Hay, Grass (lb.)	436.39	16.70
Pasture (aum)	0.31	5.21
Other feed stuffs (lb)	183.28	8.16
Veterinary		10.61
Supplies		3.35
Fuel & oil		7.13
Repairs		15.92
Hired labor		3.54
Livestock leases		9.93
Marketing		8.37
Total direct expenses		125.00
Return over direct expense		-16.04
<b>Overhead Expenses</b>		
Farm insurance		3.56
Utilities		4.91
Interest		4.00
Mach & bldg depreciation		11.91
Miscellaneous		3.29
Total overhead expenses		27.65
Total dir & ovhd expenses		152.65
Net return		-43.69
Labor & management charge		20.03
Net return over lbr & mgt		-63.72
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		156.54
Total dir & ovhd expense per unit		161.46
With other revenue adjustments		161.46
With labor and management		165.02
Est. labor hours per unit		1.67
<b>Other Information</b>		
No. purchased or trans in		115
Number sold or trans out		155
Percentage death loss		0.9
Avg. daily gain (lb.)		1.05
Lb. of conc / lb. of gain		4.87
Lb. of feed / lb. of gain		13.37
Feed cost per cwt. of gain		66.17
Feed cost per head		30.32
Avg wgt / Backgnd Beef sold		713
Avg sales price / cwt.		155.95

**Livestock Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Region 4 - Western North Dakota, 2018**  
**(Farms Sorted By Net Return)**

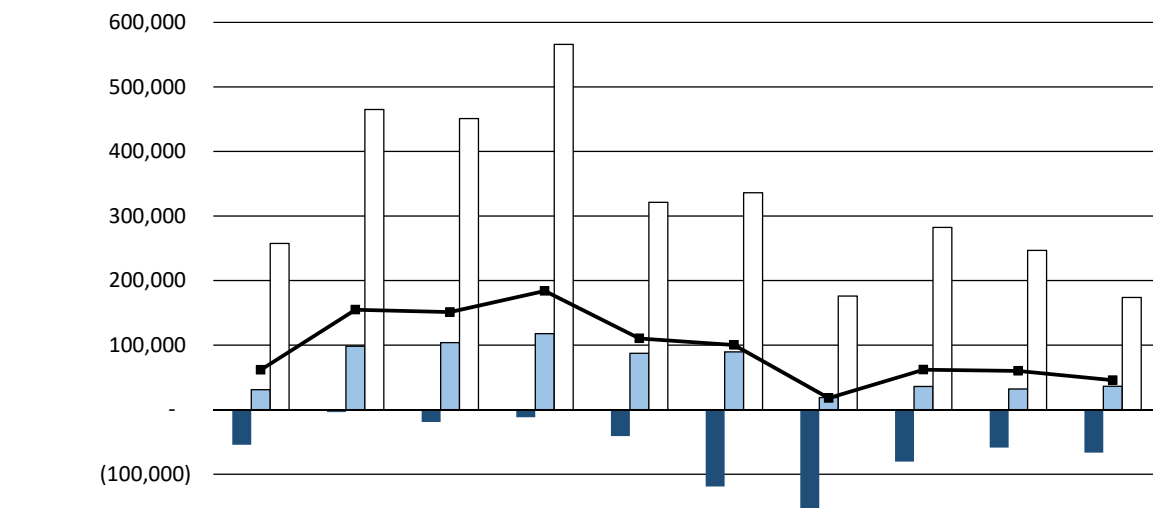
**Beef Backgrounding -- Average Per Head**

	<u>Avg. Of All Farms</u>	
Number of farms	5	
	Quantity	Value
Backgnd Beef sold (lb)	182.4	284.46
Transferred out (lb)	75.1	111.36
Other income		6.28
Transferred in (lb)	-155.7	-257.68
Inventory change (lb)	-59.2	-94.48
Gross margin		49.93
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	105.4	5.93
Creep / Starter (lb.)	10.8	3.22
Corn Silage (lb.)	391.5	5.23
Hay, Grass (lb.)	200.0	7.65
Pasture (aum)	0.1	2.39
Other feed stuffs (lb)	150.4	5.90
Veterinary		4.86
Supplies		1.04
Fuel & oil		3.27
Repairs		7.29
Custom hire		0.49
Hired labor		1.62
Livestock leases		4.55
Marketing		3.83
Total direct expenses		57.28
Return over direct expense		-7.35
<b>Overhead Expenses</b>		
Hired labor		0.08
Farm insurance		1.63
Utilities		2.25
Dues & professional fees		0.44
Interest		1.83
Mach & bldg depreciation		5.46
Miscellaneous		0.99
Total overhead expenses		12.67
Total dir & ovhd expenses		69.95
Net return		-20.02
Labor & management charge		9.18
Net return over lbr & mgt		-29.20
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		156.54
Total dir & ovhd expense per unit		161.46
With other revenue adjustments		161.46
With labor and management		165.02
Est. labor hours per unit		0.77
<b>Other Information</b>		
No. purchased or trans in		115
Number sold or trans out		155
Percentage death loss		0.9
Avg. daily gain (lb.)		1.05
Lb. of conc / lb. of gain		4.87
Lb. of feed / lb. of gain		13.37
Feed cost per cwt. of gain		66.17
Feed cost per head		30.32
Avg wgt / Backgnd Beef sold		713
Avg sales price / cwt.		155.95

**Figure 1. Gross Cash Income Per Farm**  
 N.D. Farm Business Management Education Program – West Region



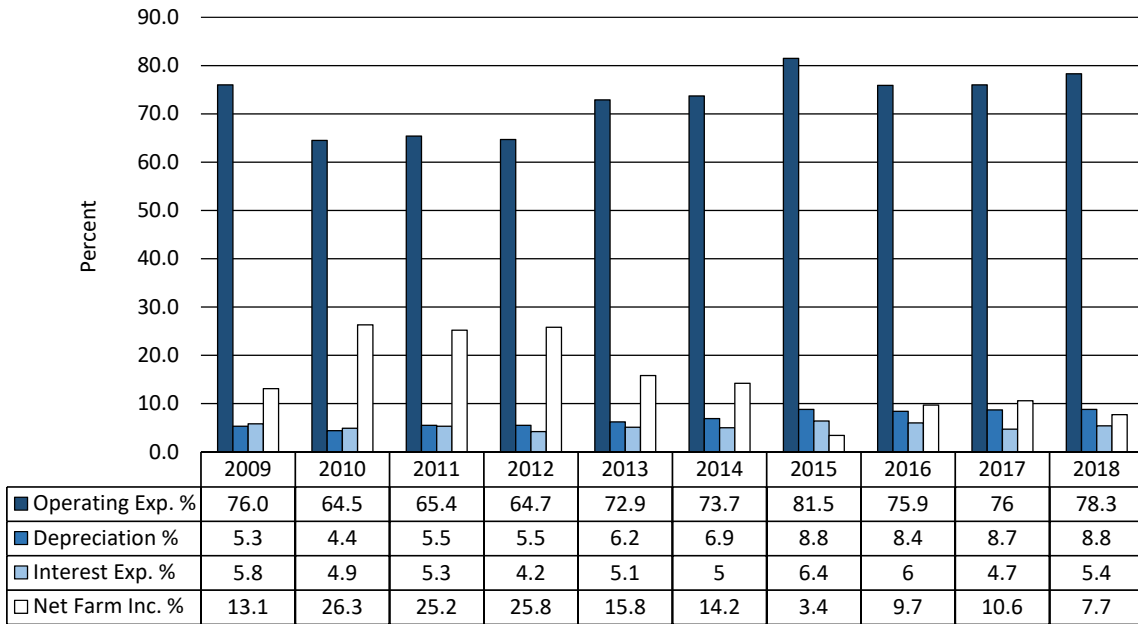
**Figure 2. Net Farm Income (Accrual) Per Farm**  
 N.D. Farm Business Management Education Program – West Region



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
20% Low Profit	(54,455)	(3,912)	(19,132)	(11,839)	(41,038)	(119,185)	(153,690)	(80,547)	(58,778)	(66,606)
Middle 60% Profit	30,862	98,236	103,851	117,677	87,315	89,422	18,780	35,876	32,102	36,217
20% High Profit	257,480	465,002	450,998	565,893	321,189	335,974	175,995	282,325	246,804	173,784
Average of All	61,573	154,809	151,100	183,863	110,311	100,155	17,838	61,881	60,043	45,544

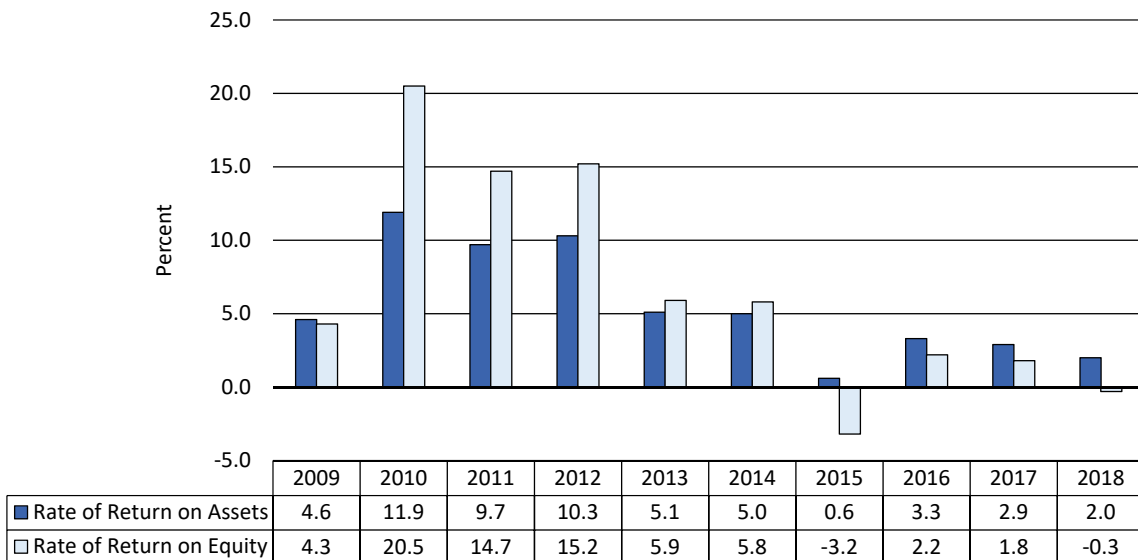
### Figure 3. Financial Efficiency Measures (As Percent of Gross Revenue)

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



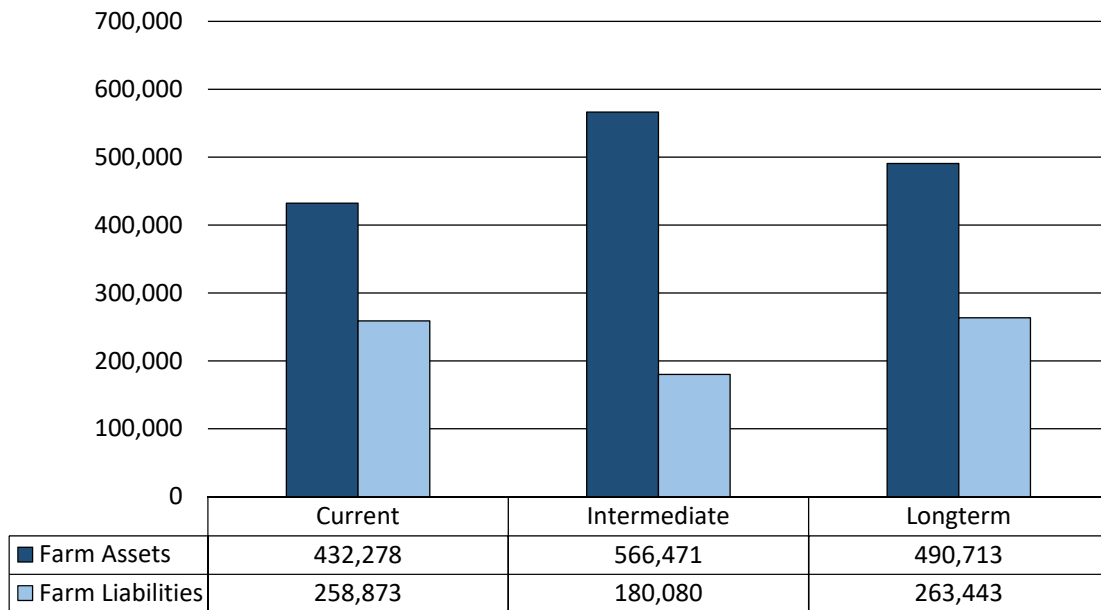
### Figure 4. Profitability Measures Per Farm

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



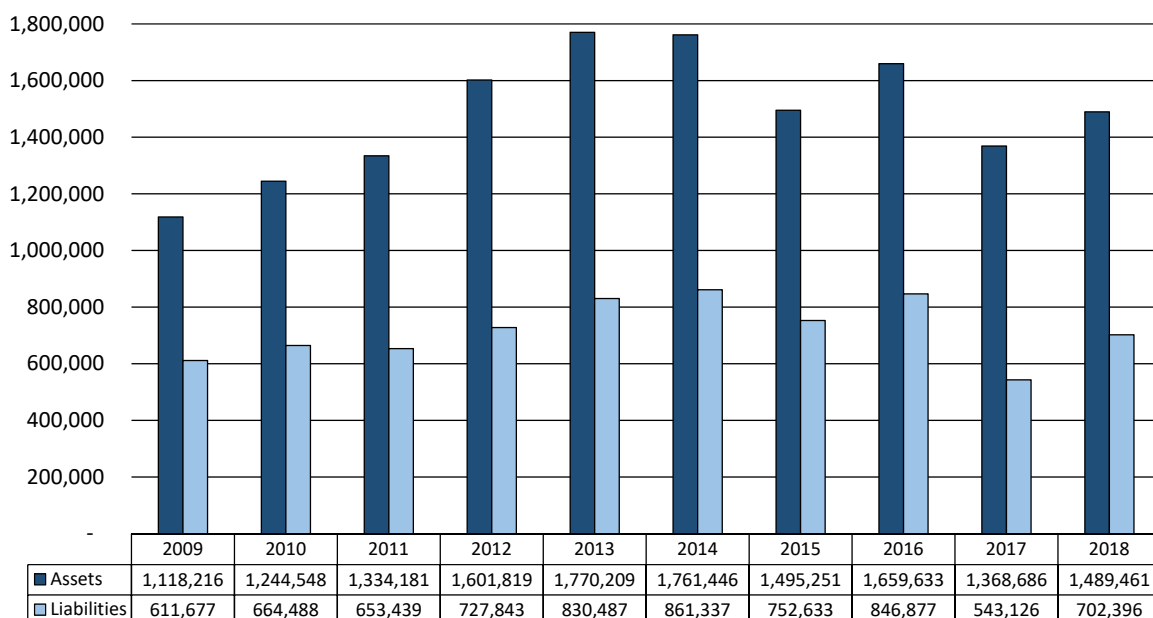
## Figure 5. Assets and Liabilities Per Farm, 2018

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



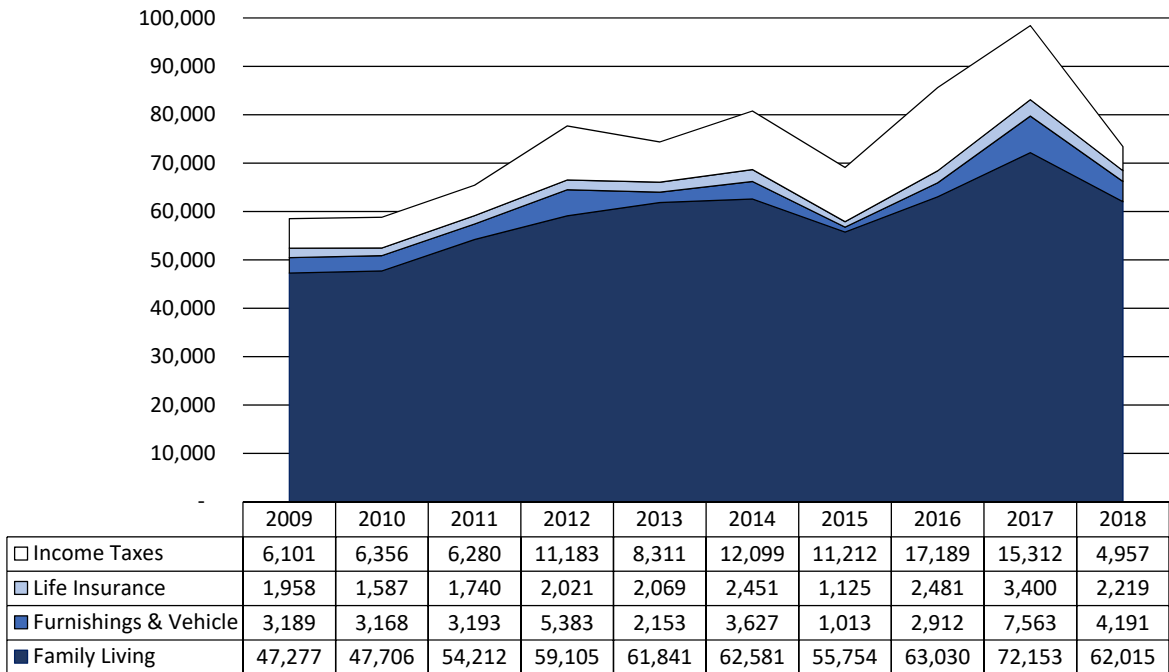
## Figure 6. Total Farm Assets and Liabilities

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



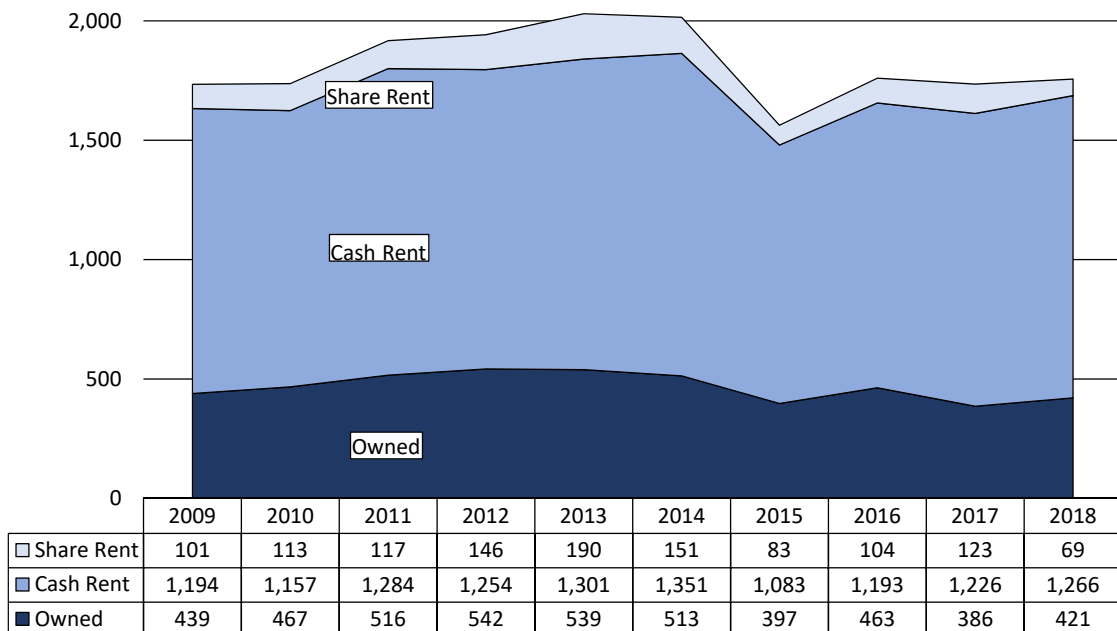
## Figure 7. Household and Personal Expenses

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



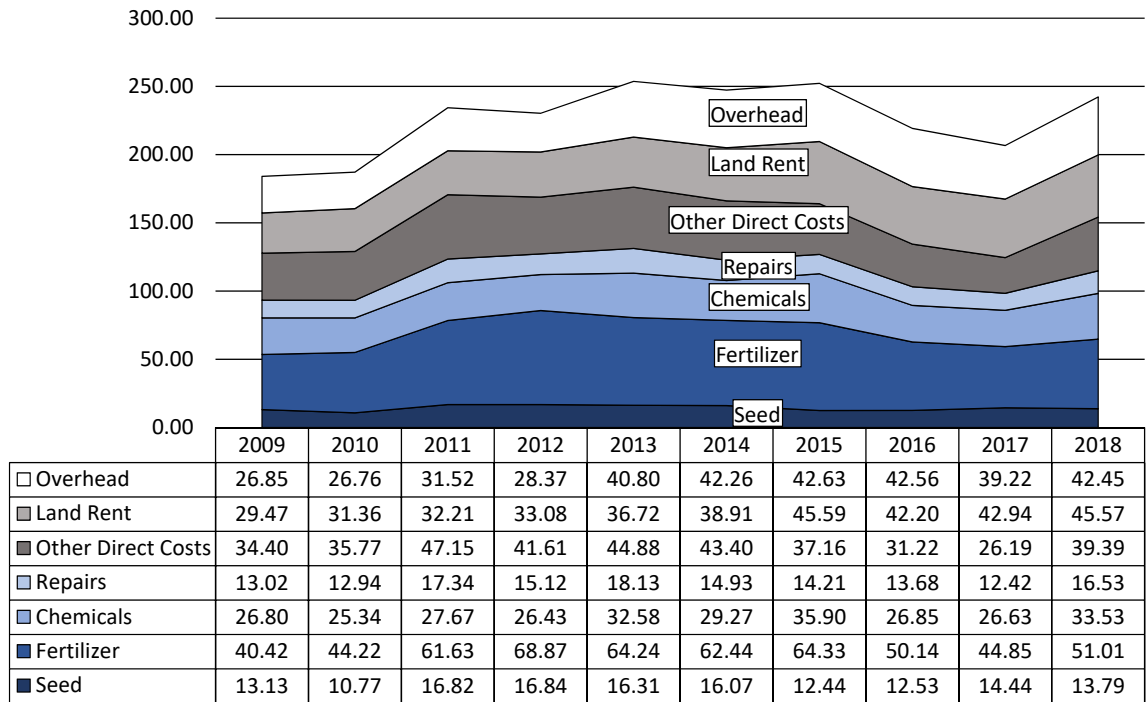
## Figure 8. Crop Acreage Per Farm

N.D. Farm Business Management Program – West Region



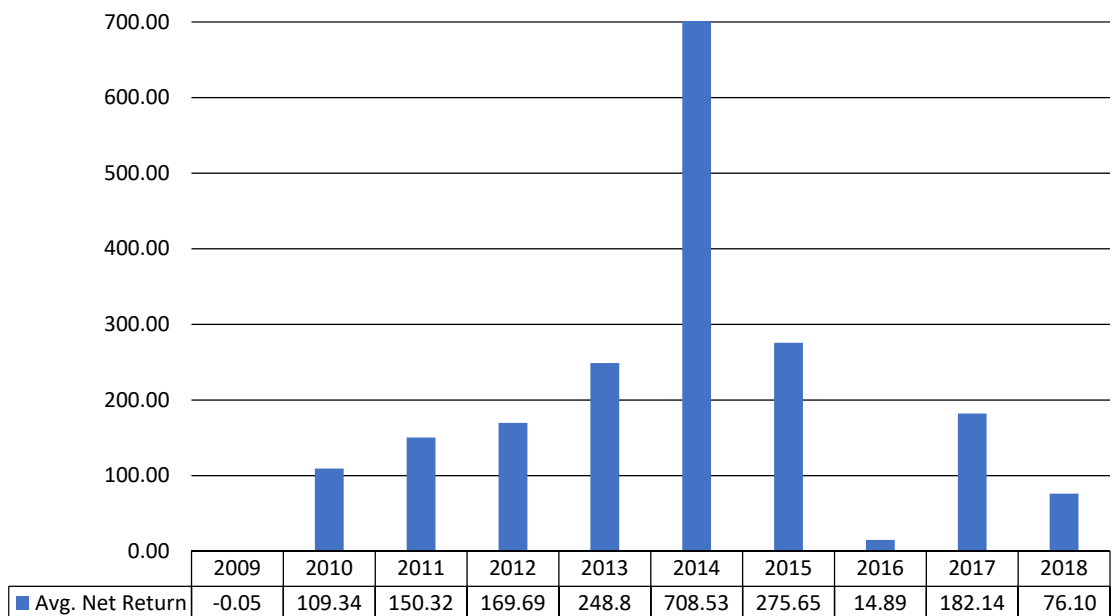
## Figure 9. Spring Wheat Costs Per Acre

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



## Figure 10. Average Net Return Per Beef Cow

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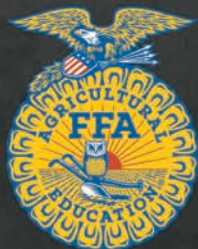
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