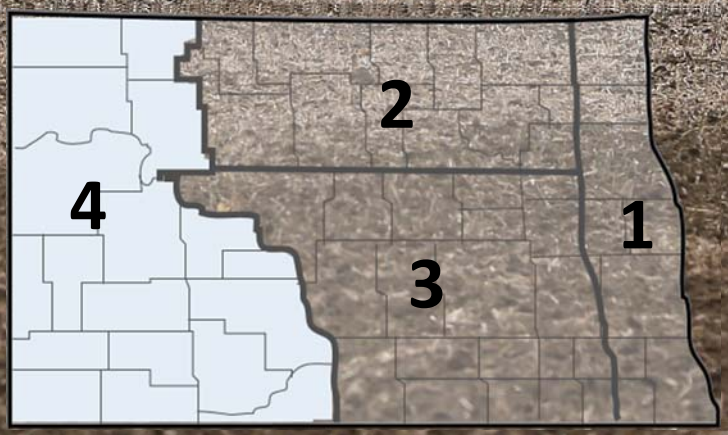
2021 ANNUAL REPORT
Western North Dakota

North Dakota Farm and Ranch Business Management Education



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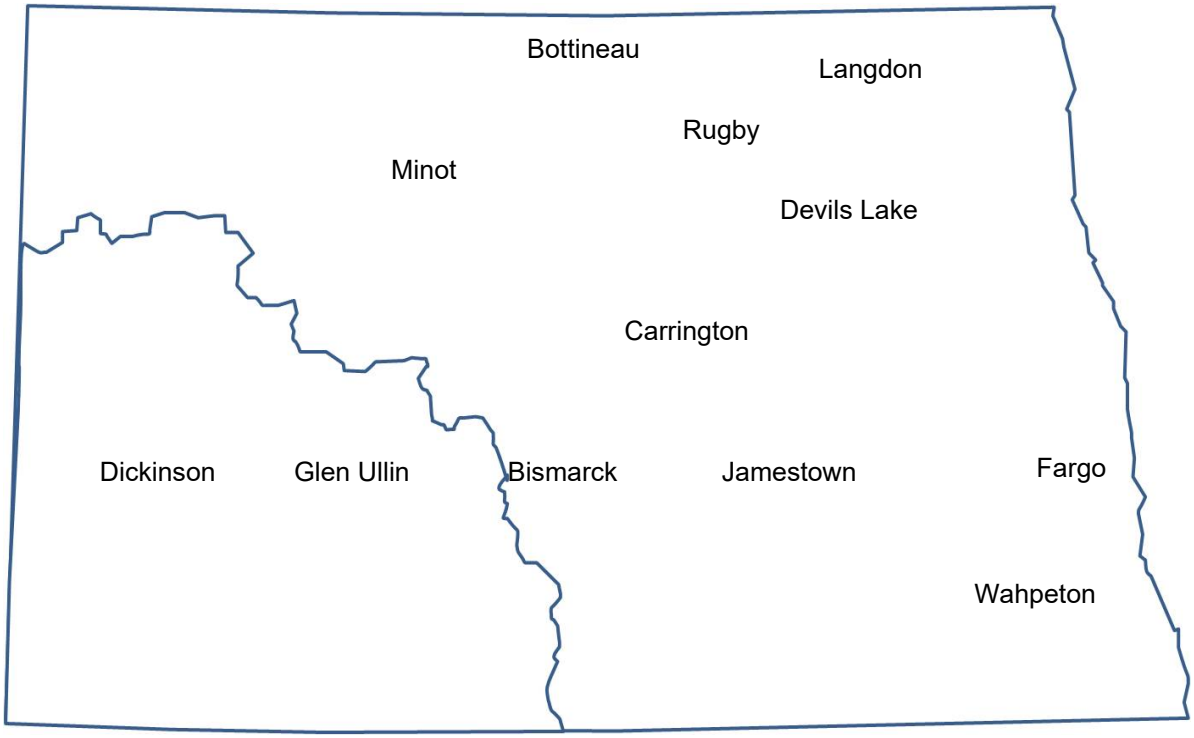
NORTH DAKOTA
FARM BUSINESS MANAGEMENT EDUCATION

REGION 4 – WESTERN NORTH DAKOTA
2021 ANNUAL REPORT

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

School	Instructor
Bismarck State College	Kyle Olson
Dakota College at Bottineau – Minot	Lynsey Aberle
Glen Ullin Public School	Ron Egli

This report was made possible by the farm families who cooperated with their farm management instructors in getting the records for 2021 closed out on a timely basis. The farm management instructors cited above generated the Finpack year-end farm analyses. Bryon Parman, NDSU Extension Service, databased the Finpack analyses of farms and generated the comparative tables for this report.



2021 Western North Dakota Report
North Dakota Farm Business Management Education

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INTRODUCTION

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

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

The 2021 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 33rd year that the regional averages have been generated in North Dakota based upon the four regions shown in the state map on the cover of this publication. A regional report has been generated and published for Regions 2 – North Central, 3 – South Central and 4 - Western identified on the North Dakota map. Farms in Region 1 – Red River Valley are located within the Red River Valley. Those farms are contained in a combined Minnesota-North Dakota Red River Valley report. The state averages report includes all farms participating in the North Dakota Farm Business Management Education Program that were represented in the regional averages and also those farms which were processed and submitted after the March deadline date. All of these reports may be ordered from Farm Business Management, P.O. Box 6022, Bismarck, ND, 58506-6022 for $5 per copy. The reports are available online at www.ndfarmmanagement.com.

EXPLANATORY NOTES FOR THE FARM OPERATORS' REPORTS

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

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

Farm Income Statement

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

The first section of the 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, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Cash Farm Income				
Barley	2,994	-	-	13,475
Corn	86,907	-	39,568	251,954
Corn Silage	389	-	-	1,750
Hay, Alfalfa	35	-	-	158
Hay, Mixed	1,097	981	-	1,333
Oats	736	3,480	-	412
Peas, Field	4,390	-	-	19,757
Soybeans	30,384	-	814	88,119
Sunflowers	120,688	-	31,744	389,886
Wheat, Durum	10,260	-	-	46,171
Wheat, Spring	134,922	6,021	65,886	359,352
Wheat, Winter	3,926	-	-	17,668
Miscellaneous crop income	14,735	-	2,366	26,094
Beef Bulls	111	-	-	-
Beef Cow-Calf, Beef Calves	70,303	19,774	81,610	34,141
Beef Replacement Heifers	2,500	-	-	-
Beef Backgrounding	10,565	16,970	-	-
Beef Finishing	14,659	-	-	-
Cull breeding livestock	19,015	18,239	29,587	4,995
Misc. livestock income	32,658	172,612	1,380	285
Crop government payments	10,077	1,903	4,185	24,307
Livestock govt payments	962	672	-	-
Other government payments	83,464	47,026	57,166	141,431
Conservation govt payment	2,693	-	-	5,425
Custom work income	5,613	1,634	10,065	6,370
Patronage dividends, cash	3,783	2,203	1,156	9,047
Crop insurance income	145,128	36,118	97,047	238,392
Property insurance income	731	-	-	-
Sale of resale items	592	-	2,665	-
Livestock insurance inc	139	-	458	-
Renewable energy income	2,785	-	12,368	167
Farm rental income	5,794	-	17,117	6,356
Other farm income	10,438	6,887	12,862	13,325
Gross Cash Farm Income	833,473	334,520	468,041	1,700,368

Farm Income Statement (continued)
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Cash Farm Expense				
Seed and plants	57,412	6,873	31,189	131,902
Fertilizer	92,318	9,968	37,117	259,293
Crop chemicals	60,249	2,952	19,773	168,376
Crop insurance	22,931	3,849	10,076	62,385
Storage	1,457	-	-	2,087
Irrigation energy	879	-	-	3,956
Crop miscellaneous	795	-	-	559
Feeder livestock purchase	3,829	60	-	350
Purchased feed	38,503	74,842	14,946	5,304
Breeding fees	662	943	-	-
Veterinary	5,133	9,796	1,977	1,026
Supplies	2,407	1,467	5,907	-
Govt program expense	172	931	-	-
Interest	32,172	14,059	19,506	48,403
Fuel & oil	27,045	20,370	18,453	43,399
Repairs	55,196	40,131	29,784	74,288
Custom hire	30,330	20,042	17,059	56,605
Hired labor	14,881	17,278	9,822	31,404
Land rent	76,686	31,215	31,575	194,534
Machinery leases	1,810	2,360	17	4,387
Building leases	170	-	-	375
Real estate taxes	3,821	2,005	3,956	4,730
Farm insurance	10,175	9,682	6,280	15,282
Utilities	7,878	10,962	5,229	8,971
Marketing	6,793	10,319	2,312	15,147
Dues & professional fees	2,967	1,168	2,813	1,350
Miscellaneous	14,316	8,619	13,820	28,546
Total cash expense	570,986	299,891	281,608	1,162,658
Net cash farm income	262,487	34,629	186,434	537,710
Inventory Changes				
Prepaids and supplies	31,658	1,144	12,806	119,302
Accounts receivable	25,683	10,736	16,703	59,660
Hedging accounts	6,167	-	-	-2,258
Other current assets	-1,734	-6,811	120	-3,112
Crops and feed	79,089	15,718	859	407,835
Market livestock	6,182	-7,058	-15,283	-4,523
Breeding livestock	-8,536	-6,575	-6,113	-3,747
Other assets	5,038	576	10,450	8,112
Accounts payable	-4,371	-3,575	-2,419	-5,000
Accrued interest	2,425	2,897	6,458	1,956
Total inventory change	141,600	7,053	23,580	578,225
Net operating profit	404,087	41,682	210,014	1,115,935
Depreciation				
Machinery and equipment	-46,054	-21,302	-19,070	-95,246
Titled vehicles	-11,008	-7,071	-7,018	-18,672
Buildings and improvements	-7,388	-4,937	-4,474	-15,562
Total depreciation	-64,450	-33,311	-30,563	-129,479
Net farm income from operations	339,637	8,371	179,451	986,456
Gain or loss on capital sales	3,474	588	2,472	10,949
Net farm income	343,111	8,960	181,923	997,405

Inventory Changes
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Net cash farm income	262,487	34,629	186,434	537,710
Crops and Feed				
Ending inventory	445,925	88,379	147,777	1,266,632
Beginning inventory	366,836	72,661	146,918	858,797
Inventory change	79,089	15,718	859	407,835
Market Livestock				
Ending inventory	94,616	102,930	48,019	2,533
Beginning inventory	88,434	109,987	63,302	7,056
Inventory change	6,182	-7,058	-15,283	-4,523
Accts Receivable				
Ending inventory	34,498	10,736	17,328	64,993
Beginning inventory	8,815	-	625	5,333
Inventory change	25,683	10,736	16,703	59,660
Prepaid Expenses and Supplies				
Ending inventory	77,699	3,404	37,533	275,634
Beginning inventory	46,041	2,260	24,727	156,333
Inventory change	31,658	1,144	12,806	119,302
Hedging Activities				
Ending inventory	10,940	-	-	35,638
Withdrawals	6,308	-	-	4,500
Beginning inventory	3,880	-	-	11,562
Deposits	7,201	-	-	30,833
Gain or loss	6,167	-	-	-2,258
Other Current Assets				
Ending inventory	333	-	488	-
Beginning inventory	2,067	6,811	368	3,112
Inventory change	-1,734	-6,811	120	-3,112
Breeding Livestock				
Ending inventory	165,553	170,433	172,103	62,980
Capital sales	-	-	-	-
Beginning inventory	154,729	146,688	150,215	57,000
Capital purchases	19,360	30,320	28,001	9,727
Depreciation, capital adjust	-8,536	-6,575	-6,113	-3,747
Other Capital Assets				
Ending inventory	64,825	28,322	34,911	91,164
Capital sales	-	-	-	-
Beginning inventory	59,787	27,746	24,462	83,052
Capital purchases	-	-	-	-
Depreciation, capital adjust	5,038	576	10,450	8,112
Accounts Payable				
Beginning inventory	3,506	6,472	550	-
Ending inventory	7,877	10,047	2,969	5,000
Inventory change	-4,371	-3,575	-2,419	-5,000
Accrued Interest				
Beginning inventory	14,823	8,567	15,486	19,664
Ending inventory	12,399	5,669	9,028	17,708
Inventory change	2,425	2,897	6,458	1,956
Total inventory change	141,600	7,053	23,580	578,225
Net operating profit	404,087	41,682	210,014	1,115,935

Depreciation
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Net operating profit	404,087	41,682	210,014	1,115,935
Machinery and Equipment				
Ending inventory	466,801	202,589	137,374	992,646
Capital sales	34,407	-	30	119,187
Beginning inventory	419,677	193,322	137,706	834,587
Capital purchases	127,585	30,569	18,769	372,492
Depreciation, capital adjust.	-46,054	-21,302	-19,070	-95,246
Titled Vehicles				
Ending inventory	65,226	42,792	32,836	103,286
Capital sales	4,565	332	152	5,520
Beginning inventory	62,462	44,700	35,339	89,806
Capital purchases	18,337	5,495	4,667	37,672
Depreciation, capital adjust.	-11,008	-7,071	-7,018	-18,672
Buildings and Improvements				
Ending inventory	142,172	93,810	84,050	295,675
Capital sales	-	-	-	-
Beginning inventory	131,738	98,748	82,891	265,291
Capital purchases	17,822	-	5,633	45,946
Depreciation, capital adjust.	-7,388	-4,937	-4,474	-15,562
Total depreciation, capital adj.	-64,450	-33,311	-30,563	-129,479
Net farm income from operations	339,637	8,371	179,451	986,456
Gain or loss on capital sales	3,474	588	2,472	10,949
Net farm income	343,111	8,960	181,923	997,405

Profitability Measures
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Profitability (assets valued at cost)				
Net farm income from operations	339,637	8,371	179,451	986,456
Rate of return on assets	14.4 %	-1.8 %	8.5 %	25.9 %
Rate of return on equity	20.9 %	-6.9 %	10.5 %	36.7 %
Operating profit margin	33.0 %	-6.4 %	31.9 %	41.2 %
Asset turnover rate	43.5 %	28.4 %	26.8 %	62.9 %
Farm interest expense	29,748	11,162	13,048	46,448
Value of operator lbr and mgmt.	71,125	37,013	46,033	143,450
Return on farm assets	298,260	-17,480	146,466	889,454
Average farm assets	2,078,138	960,185	1,714,614	3,431,002
Return on farm equity	268,512	-28,642	133,418	843,006
Average farm equity	1,283,301	413,276	1,270,688	2,299,016
Value of farm production	904,764	273,016	459,711	2,159,794

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Profitability (assets valued at market)				
Net farm income from operations	390,958	46,427	192,480	1,093,081
Rate of return on assets	12.0 %	1.3 %	6.5 %	23.0 %
Rate of return on equity	15.3 %	0.9 %	7.3 %	30.6 %
Operating profit margin	38.6 %	7.5 %	34.7 %	46.1 %
Asset turnover rate	31.2 %	17.7 %	18.8 %	49.9 %
Farm interest expense	29,748	11,162	13,048	46,448
Value of operator lbr and mgmt.	71,125	37,013	46,033	143,450
Return on farm assets	349,581	20,575	159,496	996,079
Average farm assets	2,904,076	1,541,020	2,442,487	4,328,198
Return on farm equity	319,833	9,414	146,447	949,631
Average farm equity	2,087,813	994,111	1,998,560	3,099,793
Value of farm production	904,764	273,016	459,711	2,159,794

Liquidity & Repayment Capacity Measures
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Liquidity				
Current ratio	2.88	1.86	2.92	3.61
Working capital	462,050	102,174	209,521	1,191,317
Working capital to gross inc	48.8 %	29.4 %	44.1 %	55.0 %
Current assets	708,425	221,209	318,890	1,648,353
Current liabilities	246,375	119,035	109,369	457,036
Gross revenues (accrual)	947,096	347,918	474,657	2,165,448
Repayment capacity				
Net farm income from operations	339,637	8,371	179,451	986,456
Depreciation	64,450	33,311	30,563	129,479
Personal income	49,217	84,371	46,943	20,516
Family living/owner withdrawals	-72,762	-52,323	-73,068	-81,201
Cash discrepancy	196	1,155	515	156
Payments on personal debt	-5,629	-4,710	-4,509	-2,016
Income taxes paid	-12,755	-2,548	-8,544	-36,339
Interest on term debt	24,598	17,716	18,641	33,937
Capital debt repayment capacity	386,952	85,342	189,991	1,050,988
Scheduled term debt payments	-81,109	-51,392	-41,809	-123,680
Capital debt repayment margin	305,843	33,950	148,181	927,308
Cash replacement allowance	-30,264	-22,280	-14,297	-59,565
Replacement margin	275,579	11,670	133,884	867,743
Term debt coverage ratio	4.77	1.66	4.54	8.50
Replacement coverage ratio	3.47	1.16	3.39	5.74

Balance Sheet at Cost Values
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Assets				
Current Farm Assets				
Cash and checking balance	44,415	15,759	67,745	2,922
Prepaid expenses & supplies	77,699	3,404	37,533	275,634
Growing crops	333	-	488	-
Accounts receivable	34,498	10,736	17,328	64,993
Hedging accounts	10,940	-	-	35,638
Crops held for sale or feed	445,925	88,379	147,777	1,266,632
Crops under government loan	-	-	-	-
Market livestock held for sale	94,616	102,930	48,019	2,533
Other current assets	-	-	-	-
Total current farm assets	708,425	221,209	318,890	1,648,353
Intermediate Farm Assets				
Breeding livestock	165,553	170,433	172,103	62,980
Machinery and equipment	466,801	202,589	137,374	992,646
Titled vehicles	65,226	42,792	32,836	103,286
Other intermediate assets	2,876	2,236	1,883	6,442
Total intermediate farm assets	700,457	418,050	344,196	1,165,354
Long Term Farm Assets				
Farm land	626,977	225,308	972,792	823,336
Buildings and improvements	142,172	93,810	84,050	295,675
Other long-term assets	61,949	26,086	33,028	84,722
Total long-term farm assets	831,098	345,204	1,089,870	1,203,734
Total Farm Assets	2,239,980	984,463	1,752,956	4,017,440
Total Nonfarm Assets	370,432	254,358	395,927	400,627
Total Assets	2,610,412	1,238,821	2,148,882	4,418,067
Liabilities				
Current Farm Liabilities				
Accrued interest	12,399	5,669	9,028	17,708
Accounts payable	7,877	10,047	2,969	5,000
Current notes	158,539	60,393	60,677	317,862
Government crop loans	-	-	-	-
Principal due on term debt	67,560	42,926	36,695	116,465
Total current farm liabilities	246,375	119,035	109,369	457,036
Total intermediate farm liabs	200,473	146,615	98,552	287,601
Total long term farm liabilities	364,071	296,970	203,958	521,695
Total farm liabilities	810,919	562,620	411,879	1,266,331
Total nonfarm liabilities	46,354	41,748	43,059	35,033
Total liabilities	857,273	604,368	454,938	1,301,365
Net worth (farm and nonfarm)	1,753,139	634,453	1,693,944	3,116,703
Net worth change	317,097	40,686	162,153	927,720
Percent net worth change	22 %	7 %	11 %	42 %
Ratio Analysis				
Current farm liabilities / assets	35 %	54 %	34 %	28 %
Intermediate farm liab. / assets	29 %	35 %	29 %	25 %
Long term farm liab. / assets	44 %	86 %	19 %	43 %
Total debt to asset ratio	33 %	49 %	21 %	29 %

Statement Of Cash Flows
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Beginning cash (farm & nonfarm)	47,618	28,987	57,949	10,901
Cash Provided By Operating Activities				
Gross cash farm income	833,473	334,520	468,041	1,700,368
Total cash farm expense	-570,986	-299,891	-281,608	-1,162,658
Net cash from hedging transactions	-892	-	-	-26,333
Cash provided by operating	261,595	34,629	186,434	511,377
Cash Provided By Investing Activities				
Sale of breeding livestock	-	-	-	-
Sale of machinery & equipment	34,069	-	479	123,600
Sale of titled vehicles	8,377	920	2,175	12,056
Sale of farm land	-	-	-	-
Sale of farm buildings	-	-	-	-
Sale of other farm assets	-	-	-	-
Sale of nonfarm assets	1,222	-	3,333	-
Purchase of breeding livestock	-19,360	-30,320	-28,001	-9,727
Purchase of machinery & equip.	-127,585	-30,569	-18,769	-372,492
Purchase of titled vehicles	-18,337	-5,495	-4,667	-37,672
Purchase of farm land	-80,373	-2,000	-	-360,011
Purchase of farm buildings	-17,822	-	-5,633	-45,946
Purchase of other farm assets	-	-	-	-
Purchase of nonfarm assets	-9,365	-1,103	-8,067	-14,019
Cash provided by investing	-229,173	-68,566	-59,149	-704,211
Cash Provided By Financing Activities				
Money borrowed	694,383	193,194	351,096	1,365,488
Principal payments	-670,075	-165,329	-416,164	-1,101,194
Personal income	49,217	84,371	46,943	20,516
Family living/owner withdrawals	-72,762	-52,323	-73,068	-81,201
Income and social security tax	-7,163	-2,548	-2,377	-17,339
Capital contributions	-	-	-	-
Capital distributions	-	-	-	-
Dividends paid	-	-	-	-
Cash gifts and inheritances	1,715	1,641	3,833	-
Gifts given	-2,500	-	-	-
Other cash flows	-	-	-	-
Cash provided by financing	-7,185	59,005	-89,738	186,269
Net change in cash balance	25,237	25,068	37,547	-6,565
Ending cash (farm & nonfarm)	73,051	55,210	96,011	4,492
Discrepancy	-196	-1,155	-515	-156

Financial Standards Measures
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Liquidity				
Current ratio	2.88	1.86	2.92	3.61
Working capital	462,050	102,174	209,521	1,191,317
Working capital to gross inc	48.8 %	29.4 %	44.1 %	55.0 %
Solvency (market)				
Farm debt to asset ratio	27 %	36 %	17 %	27 %
Farm equity to asset ratio	73 %	64 %	83 %	73 %
Farm debt to equity ratio	0.37	0.55	0.20	0.38
Profitability (cost)				
Rate of return on farm assets	14.4 %	-1.8 %	8.5 %	25.9 %
Rate of return on farm equity	20.9 %	-6.9 %	10.5 %	36.7 %
Operating profit margin	33.0 %	-6.4 %	31.9 %	41.2 %
Net farm income	343,111	8,960	181,923	997,405
EBITDA	433,835	52,844	223,062	1,162,383
Repayment Capacity				
Capital debt repayment capacity	386,952	85,342	189,991	1,050,988
Capital debt repayment margin	305,843	33,950	148,181	927,308
Replacement margin	275,579	11,670	133,884	867,743
Term debt coverage ratio	4.77	1.66	4.54	8.50
Replacement coverage ratio	3.47	1.16	3.39	5.74
Efficiency				
Asset turnover rate (cost)	43.5 %	28.4 %	26.8 %	62.9 %
Operating expense ratio	54.2 %	84.8 %	53.0 %	46.3 %
Depreciation expense ratio	6.8 %	9.6 %	6.4 %	6.0 %
Interest expense ratio	3.1 %	3.2 %	2.7 %	2.1 %
Net farm income ratio	35.9 %	2.4 %	37.8 %	45.6 %

Crop Production and Marketing Summary
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Acreage Summary				
Total acres owned	1,150	639	1,433	1,097
Total crop acres	1,959	629	816	4,311
Crop acres owned	471	233	323	597
Crop acres cash rented	1,383	364	418	3,695
Crop acres share rented	106	32	76	19
Total pasture acres	1,513	1,129	2,609	600
Percent crop acres owned	24 %	37 %	40 %	14 %
Mach invest/crop acre cost	255	367	182	234
Mach invest/crop acre market	351	556	279	323
Average Price Received (Cash Sales Only)				
Wheat, Spring per bushel	6.54	-	-	6.77
Corn per bushel	5.31	-	-	5.38
Sunflowers per cwt	23.74	-	-	23.83
Soybeans per bushel	11.69	-	-	-
Average Yield Per Acre				
Wheat, Spring (bushel)	20.87	-	8.94	26.08
Corn (bushel)	55.96	-	-	67.01
Soybeans (bushel)	16.86	-	10.62	19.99
Hay, Small Grain (ton)	1.00	-	-	-
Sunflowers (cwt)	14.08	-	-	16.88
Hay, Mixed Alfalfa/Grass (ton)	0.529	-	-	-
Corn Silage (ton)	5.24	-	-	-
Hay, Alfalfa (ton)	0.463	-	-	-
Hay (ton)	1.09	-	-	-
Hay, Grass (ton)	0.679	-	-	-

Household and Personal Expenses
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms
Number of farms	6
Average family size	3.2
Family Living Expenses	
Food and meals expense	11,670
Medical care	7,838
Health insurance	13,805
Cash donations	3,428
Household supplies	7,277
Clothing	2,901
Personal care	2,184
Child / Dependent care	118
Alimony and child support	-
Gifts	1,843
Education	475
Recreation	5,059
Utilities (household share)	3,400
Personal vehicle operating exp	4,926
Household real estate taxes	-
Dwelling rent	1,000
Household repairs	2,699
Personal interest	1,021
Disability / Long term care ins	-
Life insurance payments	1,935
Personal property insurance	514
Miscellaneous	7,872
Total cash family living expense	79,965
Family living from the farm	-
Total family living	79,965
Other Nonfarm Expenditures	
Income taxes	11,133
Furnishing & appliance purchases	-
Nonfarm vehicle purchases	2,585
Nonfarm real estate purchases	-
Other nonfarm capital purchases	-
Nonfarm savings & investments	2,933
Total other nonfarm expenditures	16,651
Total cash family living investment & nonfarm capital purch	96,616

Operator and Labor Information
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Operator Information				
Average number of operators	1.0	1.0	1.0	1.2
Average age of operators	50.7	46.4	52.2	51.3
Average number of years farming	23.4	16.8	25.7	26.0
Results Per Operator				
Working capital	445,548	102,174	209,521	1,021,129
Total assets (market)	3,393,554	1,857,517	2,915,860	4,631,139
Total liabilities	847,768	604,368	454,938	1,199,904
Net worth (market)	2,545,786	1,253,149	2,460,922	3,431,235
Net worth excl deferred liabs	2,566,898	1,253,149	2,460,922	3,515,683
Gross farm income	913,271	347,918	474,657	1,856,098
Total farm expense	585,764	339,546	295,206	1,010,565
Net farm income from operations	327,507	8,371	179,451	845,534
Net nonfarm income	47,459	84,371	46,943	17,585
Family living & tax withdrawals	82,274	53,717	81,098	100,616
Total acres owned	1,108.8	638.7	1,433.0	939.9
Total crop acres	1,889.4	628.7	816.3	3,695.0
Crop acres owned	453.8	233.1	322.9	511.4
Crop acres cash rented	1,333.4	363.6	418.0	3,166.9
Crop acres share rented	102.2	32.0	75.5	16.7
Total pasture acres	1,458.9	1,129.0	2,609.3	514.5
Labor Analysis				
Number of farms	27	5	6	6
Total unpaid labor hours	2,337	1,900	1,983	2,817
Total hired labor hours	634	683	567	1,213
Total labor hours per farm	2,971	2,583	2,550	4,030
Unpaid hours per operator	2,254	1,900	1,983	2,414
Value of farm production / hour	304.48	105.70	180.28	535.93
Net farm income / unpaid hour	145.33	4.41	90.48	350.22
Average hourly hired labor wage	22.89	25.30	16.88	25.88

Nonfarm Summary
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	27	5	6	6
Nonfarm Income				
Personal wages & salary	25,439	38,132	27,882	11,396
Net nonfarm business income	3,302	-	195	2,499
Personal rental income	105	389	-	-
Personal interest income	20	6	15	16
Tax refunds	2,198	1,526	2,569	103
Other nonfarm income	18,153	44,318	16,282	6,503
Total nonfarm income	49,217	84,371	46,943	20,516
Gifts and inheritances	1,715	1,641	3,833	-
Nonfarm Assets (market)				
Checking & savings	28,636	39,450	28,265	1,569
Stocks & bonds	18	-	-	-
Other current assets	971	-	750	105
Furniture & appliances	6,152	10,022	8,333	5,000
Nonfarm vehicles	24,745	25,106	18,608	27,222
Cash value of life ins.	29,222	105,357	7,709	16,196
Retirement accounts	176,948	3,785	105,101	191,517
Other intermediate assets	14,421	74	47,500	6,500
Nonfarm real estate	128,388	89,395	182,917	145,833
Personal bus. investment	3,764	-	6,833	-
Other long term assets	13,596	-	22,500	37,500
Total nonfarm assets	426,862	273,190	428,517	431,442
Nonfarm Liabilities				
Accrued interest	37	173	6	19
Accounts payable	1,727	2,627	4,647	-
Current notes	-	-	-	-
Princ due on term debt	4,156	4,846	4,054	2,067
Total current liabilities	13,031	7,646	15,707	27,085
Intermediate liabilities	9,988	22,892	402	7,948
Long term liabilities	23,334	11,211	26,951	-
Total nonfarm liabilities	46,354	41,748	43,059	35,033
Nonfarm net worth	380,508	231,442	385,458	396,409
Nonfarm debt to asset ratio	11 %	15 %	10 %	8 %

Financial Summary
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Gross Farm Income)

	Avg. Of All Farms	*250,001 - 500,000*	*500,001 - 1,000,000*	*1,000,001- 2,000,000*
Number of farms	27	7	7	7
Income Statement				
Gross cash farm income	833,473	376,748	695,689	1,386,273
Total cash farm expense	570,986	257,515	451,250	1,017,786
Net cash farm income	262,487	119,233	244,439	368,486
Inventory change	141,600	79,213	12,668	363,408
Depreciation	-64,450	-26,857	-59,667	-101,795
Net farm income from operations	339,637	171,589	197,440	630,100
Gain or loss on capital sales	3,474	555	6,033	8,224
Average net farm income	343,111	172,144	203,473	638,323
Median net farm income	200,441	149,227	175,636	399,209
Profitability (cost)				
Rate of return on assets	14.4 %	12.8 %	7.3 %	18.1 %
Rate of return on equity	20.9 %	18.0 %	8.9 %	30.3 %
Operating profit margin	33.0 %	32.7 %	24.7 %	37.8 %
Asset turnover rate	43.5 %	39.0 %	29.7 %	47.8 %
Profitability (market)				
Rate of return on assets	12.0 %	10.9 %	5.9 %	15.7 %
Rate of return on equity	15.3 %	13.8 %	6.7 %	22.0 %
Operating profit margin	38.6 %	37.0 %	30.4 %	43.8 %
Asset turnover rate	31.2 %	29.6 %	19.4 %	35.9 %
Liquidity & Repayment (end of year)				
Current assets	708,425	353,484	463,863	1,275,179
Current liabilities	246,375	98,734	166,274	530,171
Current ratio	2.88	3.58	2.79	2.41
Working capital	462,050	254,751	297,589	745,008
Change in working capital	188,122	114,755	116,132	303,279
Working capital to gross inc	48.8 %	56.4 %	42.8 %	45.1 %
Term debt coverage ratio	4.77	5.52	3.59	4.60
Replacement coverage ratio	3.47	3.42	2.49	3.70
Term debt to EBITDA	1.18	1.30	1.57	1.16
Solvency (end of year at cost)				
Number of farms	27	7	7	7
Total assets	2,610,412	1,560,900	2,716,071	3,840,027
Total liabilities	857,273	427,168	684,672	1,589,701
Net worth	1,753,139	1,133,732	2,031,399	2,250,326
Net worth change	317,097	179,495	162,583	609,364
Farm debt to asset ratio	36 %	33 %	27 %	44 %
Total debt to asset ratio	33 %	27 %	25 %	41 %
Change in earned net worth %	22 %	19 %	9 %	37 %
Solvency (end of year at market)				
Number of farms	27	7	7	7
Total assets	3,519,241	2,032,569	3,938,686	5,014,991
Total liabilities	879,167	427,168	769,120	1,589,701
Net worth	2,640,074	1,605,401	3,169,566	3,425,290
Total net worth change	374,840	219,993	200,540	704,034
Farm debt to asset ratio	27 %	26 %	20 %	33 %
Total debt to asset ratio	25 %	21 %	20 %	32 %
Change in total net worth %	17 %	16 %	7 %	26 %
Nonfarm Information				
Net nonfarm income	49,217	62,431	41,123	48,476
Farms reporting living expenses	6	-	1	2
Total family living expense	79,965	-	-	-
Total living, invest, cap. purch	96,616	-	-	-
Crop Acres				
Total crop acres	1,959	782	1,590	3,437
Total crop acres owned	471	200	478	965
Total crop acres cash rented	1,383	401	935	2,445
Total crop acres share rented	106	181	178	27
Machinery value per crop acre	351	354	374	337

Financial Summary
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Age of Operator)

	Avg. Of All Farms	*31 - 40*	*51 - 60*	*Over 60*
Number of farms	27	8	9	7
Income Statement				
Gross cash farm income	833,473	607,100	1,007,147	867,886
Total cash farm expense	570,986	508,955	622,785	564,169
Net cash farm income	262,487	98,145	384,362	303,717
Inventory change	141,600	316,550	80,147	59,081
Depreciation	-64,450	-43,715	-77,615	-80,221
Net farm income from operations	339,637	370,980	386,893	282,577
Gain or loss on capital sales	3,474	5,271	3,292	-416
Average net farm income	343,111	376,251	390,185	282,161
Median net farm income	200,441	122,810	211,402	200,441
Profitability (cost)				
Rate of return on assets	14.4 %	21.9 %	12.9 %	10.7 %
Rate of return on equity	20.9 %	39.5 %	16.4 %	14.1 %
Operating profit margin	33.0 %	40.0 %	31.9 %	28.1 %
Asset turnover rate	43.5 %	54.8 %	40.6 %	37.9 %
Profitability (market)				
Rate of return on assets	12.0 %	21.3 %	10.8 %	8.6 %
Rate of return on equity	15.3 %	34.1 %	12.5 %	10.1 %
Operating profit margin	38.6 %	45.5 %	37.0 %	34.7 %
Asset turnover rate	31.2 %	46.9 %	29.1 %	24.6 %
Liquidity & Repayment (end of year)				
Current assets	708,425	591,994	790,006	746,623
Current liabilities	246,375	260,775	201,854	210,125
Current ratio	2.88	2.27	3.91	3.55
Working capital	462,050	331,219	588,152	536,499
Change in working capital	188,122	199,063	234,394	144,223
Working capital to gross inc	48.8 %	39.2 %	54.7 %	58.2 %
Term debt coverage ratio	4.77	6.11	5.77	3.98
Replacement coverage ratio	3.47	5.29	3.61	2.60
Term debt to EBITDA	1.18	0.92	0.90	1.48
Solvency (end of year at cost)				
Number of farms	27	8	9	7
Total assets	2,610,412	2,049,568	3,258,599	2,713,197
Total liabilities	857,273	901,638	761,555	741,128
Net worth	1,753,139	1,147,930	2,497,044	1,972,069
Net worth change	317,097	381,773	332,487	259,509
Farm debt to asset ratio	36 %	47 %	25 %	32 %
Total debt to asset ratio	33 %	44 %	23 %	27 %
Change in earned net worth %	22 %	50 %	15 %	15 %
Solvency (end of year at market)				
Number of farms	27	8	9	7
Total assets	3,519,241	2,331,382	4,432,713	3,993,129
Total liabilities	879,167	901,638	761,555	825,576
Net worth	2,640,074	1,429,744	3,671,158	3,167,553
Total net worth change	374,840	428,303	400,498	320,157
Farm debt to asset ratio	27 %	41 %	18 %	23 %
Total debt to asset ratio	25 %	39 %	17 %	21 %
Change in total net worth %	17 %	43 %	12 %	11 %
Nonfarm Information				
Net nonfarm income	49,217	60,696	36,413	55,360
Farms reporting living expenses	6	2	2	1
Total family living expense	79,965	-	-	-
Total living, invest, cap. purch	96,616	-	-	-
Crop Acres				
Total crop acres	1,959	1,630	2,197	1,915
Total crop acres owned	471	128	511	873
Total crop acres cash rented	1,383	1,488	1,574	936
Total crop acres share rented	106	15	113	106
Machinery value per crop acre	351	243	368	475

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.

Coronavirus Food Assistance Program 3, a 2020 USDA FSA program that provides producers with financial assistance that gives them the ability to absorb some of the increased marketing costs associated with the COVID-19 pandemic, are included under “Other crop income per acre.” “Government payments” are ARC and PLC payments as well as Coronavirus Food Assistance Program 1.

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, 2021
(Farms Sorted By Net Return)

Corn on Owned Land

	Avg. Of All Farms
Number of farms	6
Acres	323.52
Yield per acre (bu.)	24.18
Operators share of yield %	100.00
Value per bu.	6.10
Other product return per acre	27.82
Total product return per acre	175.31
Crop insurance per acre	297.48
Gross return per acre	472.78
Direct Expenses	
Seed and plants	65.52
Fertilizer	66.15
Crop chemicals	22.80
Crop insurance	22.22
Fuel & oil	11.66
Repairs	34.48
Custom hire	0.84
Hired labor	4.20
Machinery leases	0.41
Operating interest	3.70
Total direct expenses per acre	231.97
Return over direct exp per acre	240.82
Overhead Expenses	
Custom hire	5.66
Hired labor	3.21
Machinery leases	0.14
Building leases	0.87
RE & pers. property taxes	5.09
Farm insurance	7.02
Utilities	2.89
Dues & professional fees	0.44
Interest	23.62
Mach & bldg depreciation	55.29
Miscellaneous	13.69
Total overhead expenses per acre	117.91
Total dir & ovhd expenses per acre	349.88
Net return per acre	122.90
Government payments	21.39
Net return with govt pmts	144.29
Labor & management charge	42.69
Net return over lbr & mgt	101.60
Cost of Production	
Total direct expense per bu.	9.59
Total dir & ovhd exp per bu.	14.47
Less govt & other income	0.13
With labor & management	1.90
Net value per unit	6.10
Machinery cost per acre	104.93
Est. labor hours per acre	1.73

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Return)

Corn on Cash Rent

	Avg. Of All Farms
Number of farms	8
Acres	539.30
Yield per acre (bu.)	65.71
Operators share of yield %	100.00
Value per bu.	5.83
Total product return per acre	382.89
Crop insurance per acre	85.27
Gross return per acre	468.16
Direct Expenses	
Seed and plants	61.98
Fertilizer	66.58
Crop chemicals	23.72
Crop insurance	14.24
Fuel & oil	13.13
Repairs	28.00
Custom hire	0.85
Hired labor	0.57
Land rent	58.23
Machinery leases	1.81
Operating interest	3.10
Miscellaneous	0.09
Total direct expenses per acre	272.31
Return over direct exp per acre	195.85
Overhead Expenses	
Custom hire	8.47
Hired labor	11.74
Machinery leases	0.05
Building leases	0.35
Farm insurance	3.53
Utilities	2.05
Dues & professional fees	0.10
Interest	2.90
Mach & bldg depreciation	43.21
Miscellaneous	4.13
Total overhead expenses per acre	76.53
Total dir & ovhd expenses per acre	348.85
Net return per acre	119.32
Government payments	9.24
Net return with govt pmts	128.56
Labor & management charge	41.53
Net return over lbr & mgt	87.03
Cost of Production	
Total direct expense per bu.	4.14
Total dir & ovhd exp per bu.	5.31
Less govt & other income	3.87
With labor & management	4.50
Net value per unit	5.83
Machinery cost per acre	92.68
Est. labor hours per acre	1.37

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Return)

Soybeans on Cash Rent

	Avg. Of All Farms
Number of farms	7
Acres	696.74
Yield per acre (bu.)	16.93
Operators share of yield %	100.00
Value per bu.	11.47
Total product return per acre	194.08
Crop insurance per acre	85.22
Other crop income per acre	0.51
Gross return per acre	279.82
Direct Expenses	
Seed and plants	60.07
Fertilizer	9.72
Crop chemicals	25.01
Crop insurance	12.76
Fuel & oil	10.22
Repairs	23.43
Custom hire	0.02
Land rent	54.92
Machinery leases	1.05
Operating interest	2.74
Miscellaneous	0.12
Total direct expenses per acre	200.07
Return over direct exp per acre	79.75
Overhead Expenses	
Custom hire	5.85
Hired labor	6.94
Farm insurance	3.44
Utilities	2.32
Dues & professional fees	0.08
Interest	2.31
Mach & bldg depreciation	26.65
Miscellaneous	5.41
Total overhead expenses per acre	53.00
Total dir & ovhd expenses per acre	253.07
Net return per acre	26.75
Government payments	5.99
Net return with govt pmts	32.75
Labor & management charge	26.50
Net return over lbr & mgt	6.24
Cost of Production	
Total direct expense per bu.	11.82
Total dir & ovhd exp per bu.	14.95
Less govt & other income	9.53
With labor & management	11.10
Net value per unit	11.47
Machinery cost per acre	65.62
Est. labor hours per acre	0.93

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Return)

Wheat, Spring on Owned Land

	Avg. Of All Farms
Number of farms	7
Acres	500.74
Yield per acre (bu.)	17.95
Operators share of yield %	100.00
Value per bu.	8.82
Other product return per acre	12.30
Total product return per acre	170.65
Hedging gains/losses per acre	11.84
Crop insurance per acre	149.32
Other crop income per acre	0.54
Gross return per acre	332.35
Direct Expenses	
Seed and plants	15.71
Fertilizer	50.84
Crop chemicals	27.56
Crop insurance	16.69
Fuel & oil	8.57
Repairs	22.39
Custom hire	3.35
Hired labor	3.95
Operating interest	2.98
Total direct expenses per acre	152.03
Return over direct exp per acre	180.32
Overhead Expenses	
Custom hire	2.24
Hired labor	1.14
Machinery leases	0.18
Building leases	1.21
RE & pers. property taxes	5.40
Farm insurance	5.51
Utilities	2.26
Dues & professional fees	0.37
Interest	23.24
Mach & bldg depreciation	32.41
Miscellaneous	9.95
Total overhead expenses per acre	83.91
Total dir & ovhd expenses per acre	235.94
Net return per acre	96.41
Government payments	20.23
Net return with govt pmts	116.63
Labor & management charge	31.12
Net return over lbr & mgt	85.52
Cost of Production	
Total direct expense per bu.	8.47
Total dir & ovhd exp per bu.	13.15
Less govt & other income	2.32
With labor & management	4.06
Net value per unit	9.48
Machinery cost per acre	67.24
Est. labor hours per acre	1.14

Crop Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Return)

Wheat, Spring on Cash Rent

	Avg. Of All Farms
Number of farms	9
Acres	782.36
Yield per acre (bu.)	22.80
Operators share of yield %	100.00
Value per bu.	9.16
Other product return per acre	0.73
Total product return per acre	209.60
Crop insurance per acre	96.73
Other crop income per acre	3.65
Gross return per acre	309.99
Direct Expenses	
Seed and plants	15.74
Fertilizer	54.69
Crop chemicals	30.23
Crop insurance	13.40
Fuel & oil	7.98
Repairs	17.85
Custom hire	1.89
Hired labor	1.76
Land rent	45.42
Machinery leases	0.67
Operating interest	3.42
Miscellaneous	0.12
Total direct expenses per acre	193.16
Return over direct exp per acre	116.83
Overhead Expenses	
Custom hire	3.47
Hired labor	3.11
Machinery leases	0.18
Building leases	1.10
Farm insurance	3.98
Utilities	2.03
Dues & professional fees	0.32
Interest	2.45
Mach & bldg depreciation	26.71
Miscellaneous	4.42
Total overhead expenses per acre	47.78
Total dir & ovhd expenses per acre	240.94
Net return per acre	69.05
Government payments	13.47
Net return with govt pmts	82.52
Labor & management charge	30.38
Net return over lbr & mgt	52.14
Cost of Production	
Total direct expense per bu.	8.47
Total dir & ovhd exp per bu.	10.57
Less govt & other income	5.54
With labor & management	6.87
Net value per unit	9.16
Machinery cost per acre	58.37
Est. labor hours per acre	0.95

EXPLANATORY NOTES FOR LIVESTOCK TABLES

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

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

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

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

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

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

Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Return)

Beef Cow-Calf -- Average Per Cwt. Produced

	Avg. Of All Farms	
Number of farms	5	
	Quantity	Value
Beef Calves sold (lb)	59.38	88.74
Transferred out (lb)	55.83	83.08
Cull sales (lb)	-	28.18
Government payments		14.38
Other income		3.20
Purchased (lb)	-10.95	-37.63
Transferred in (lb)	-	-9.56
Inventory change (lb)	-5.71	20.70
Gross margin		191.09
Direct Expenses		
Protein Vit Minerals (lb.)	81.06	12.95
Aftermath Grazing (aum)	0.09	2.07
Corn (bu.)	1.42	7.80
Corn Silage (lb.)	1,249.56	23.31
Hay, Alfalfa (lb.)	31.05	1.32
Hay, Grass (lb.)	1,071.67	52.39
Pasture (aum)	1.38	29.08
DDGS, wet (lb.)	-	7.56
Other feed stuffs (lb)	87.24	1.62
Veterinary		7.21
Fuel & oil		4.92
Repairs		9.42
Hired labor		0.64
Utilities		1.69
Miscellaneous		5.60
Total direct expenses		167.59
Return over direct expense		23.50
Overhead Expenses		
Farm insurance		1.92
Interest		3.81
Mach & bldg depreciation		5.86
Miscellaneous		4.26
Total overhead expenses		15.85
Total dir & ovhd expenses		183.44
Net return		7.65
Labor & management charge		20.34
Net return over lbr & mgt		-12.69
Cost of Production Per Cwt. Produced		
Total direct expense per unit		167.59
Total dir& ovhd expense per unit		183.44
With other revenue adjustments		169.16
With labor and management		189.50
Est. labor hours per unit		1.01
Other Information		
Number of cows		195.8
Pregnancy percentage		96.4
Pregnancy loss percentage		3.6
Culling percentage		17.5
Calving percentage		92.9
Weaning percentage		87.9
Calves sold per cow		0.92
Calf death loss percent		4.5
Cow death loss percent		1.1
Cows per FTE		527.5
Average weaning weight		528
Lb. weaned/exposed female		464
Feed cost per cow		723.26
Avg wgt/ Beef Calves sold		640
Avg price / cwt.		149.43

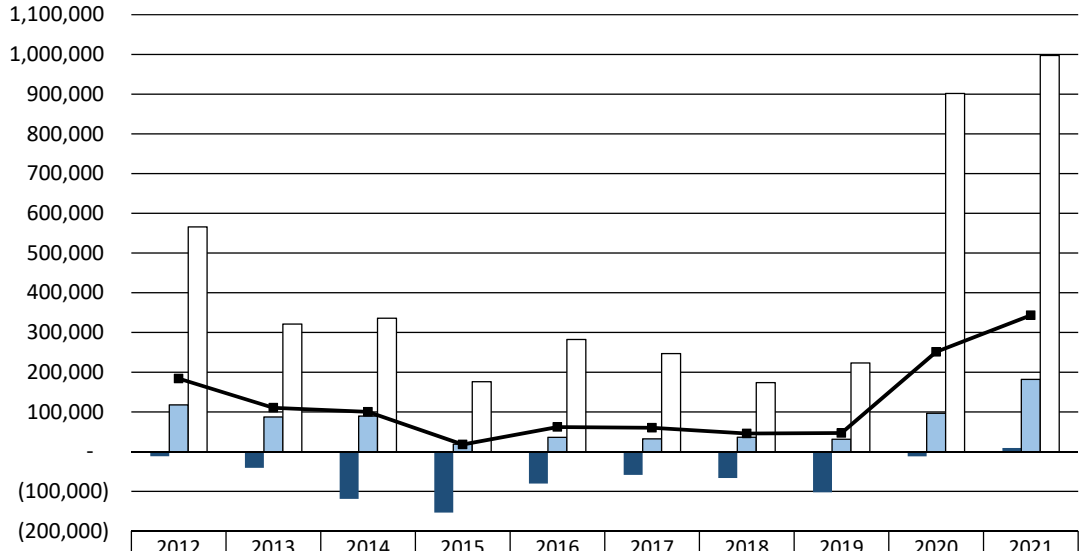
Livestock Enterprise Analysis
North Dakota Farm Business Management Education Program
Region 4 - Western North Dakota, 2021
(Farms Sorted By Net Return)

Beef Cow-Calf -- Average Per Cow

	Avg. Of All Farms	
Number of farms	5	
	Quantity	Value
Beef Calves sold (lb)	311.0	464.71
Transferred out (lb)	292.4	435.08
Cull sales (lb)	-	147.60
Government payments		75.32
Other income		16.75
Purchased (lb)	-57.4	-197.07
Transferred in (lb)	-	-50.05
Inventory change (lb)	-29.9	108.40
Gross margin		1,000.75
Direct Expenses		
Protein Vit Minerals (lb.)	424.5	67.80
Aftermath Grazing (aum)	0.5	10.85
Corn (bu.)	7.5	40.85
Corn Silage (lb.)	6,544.0	122.06
Hay, Alfalfa (lb.)	162.6	6.92
Hay, Grass (lb.)	5,612.4	274.37
Pasture (aum)	7.2	152.30
DDGS, wet (lb.)	-	39.62
Other feed stuffs (lb)	456.9	8.50
Veterinary		37.78
Fuel & oil		25.74
Repairs		49.35
Hired labor		3.36
Utilities		8.83
Miscellaneous		29.34
Total direct expenses		877.66
Return over direct expense		123.09
Overhead Expenses		
Farm insurance		10.03
Interest		19.97
Mach & bldg depreciation		30.69
Miscellaneous		22.33
Total overhead expenses		83.02
Total dir & ovhd expenses		960.68
Net return		40.07
Labor & management charge		106.54
Net return over lbr & mgt		-66.47
Cost of Production Per Cwt. Produced		
Total direct expense per unit		167.59
Total dir& ovhd expense per unit		183.44
With other revenue adjustments		169.16
With labor and management		189.50
Est. labor hours per unit		5.31
Other Information		
Number of cows		195.8
Pregnancy percentage		96.4
Pregnancy loss percentage		3.6
Culling percentage		17.5
Calving percentage		92.9
Weaning percentage		87.9
Calves sold per cow		0.92
Calf death loss percent		4.5
Cow death loss percent		1.1
Cows per FTE		527.5
Average weaning weight		528
Lb. weaned/exposed female		464
Feed cost per cow		723.26
Avg wgt/ Beef Calves sold		640
Avg price / cwt.		149.43

Figure 1. Net Farm Income (Accrual) Per Farm

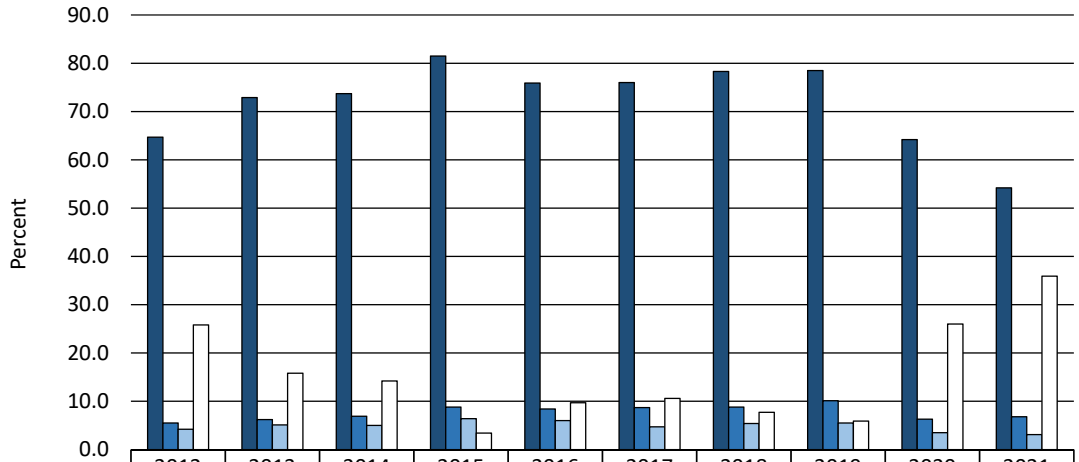
N.D. Farm Business Management Education Program – West Region



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
20% Low Profit	(11,839)	(41,038)	(119,185)	(153,690)	(80,547)	(58,778)	(66,606)	(102,573)	-12,030	8,960
Middle 60% Profit	117,677	87,315	89,422	18,780	35,876	32,102	36,217	31,200	96,678	181,923
20% High Profit	565,893	321,189	335,974	175,995	282,325	246,804	173,784	223,305	901,786	997,405
Average of All	183,863	110,311	100,155	17,838	61,881	60,043	45,544	46,789	251,033	343,111

Figure 2. Financial Efficiency Measures (As Percent of Gross Revenue)

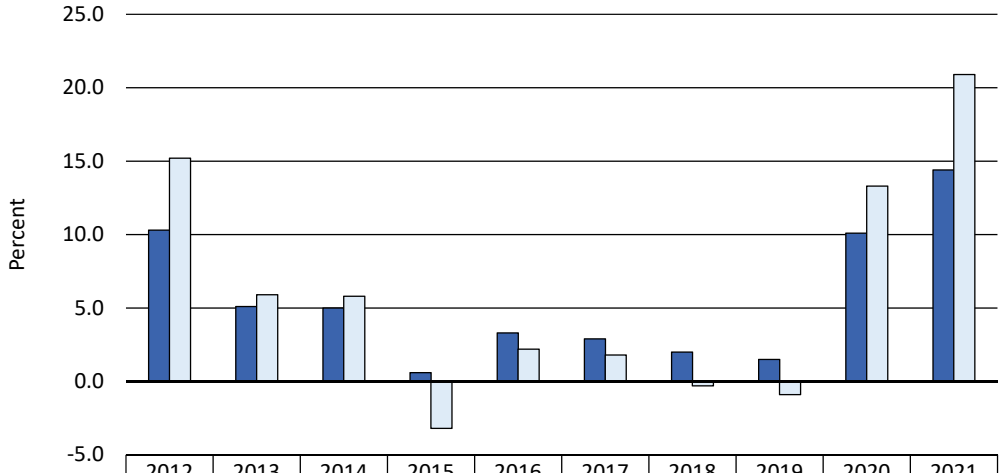
N.D. Farm Business Management Education Program – West Region



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Operating Exp. %	64.7	72.9	73.7	81.5	75.9	76	78.3	78.5	64.2	54.2
Depreciation %	5.5	6.2	6.9	8.8	8.4	8.7	8.8	10.1	6.3	6.8
Interest Exp. %	4.2	5.1	5	6.4	6	4.7	5.4	5.5	3.5	3.1
Net Farm Inc. %	25.8	15.8	14.2	3.4	9.7	10.6	7.7	5.9	26	35.9

Figure 3. Profitability Measures Per Farm

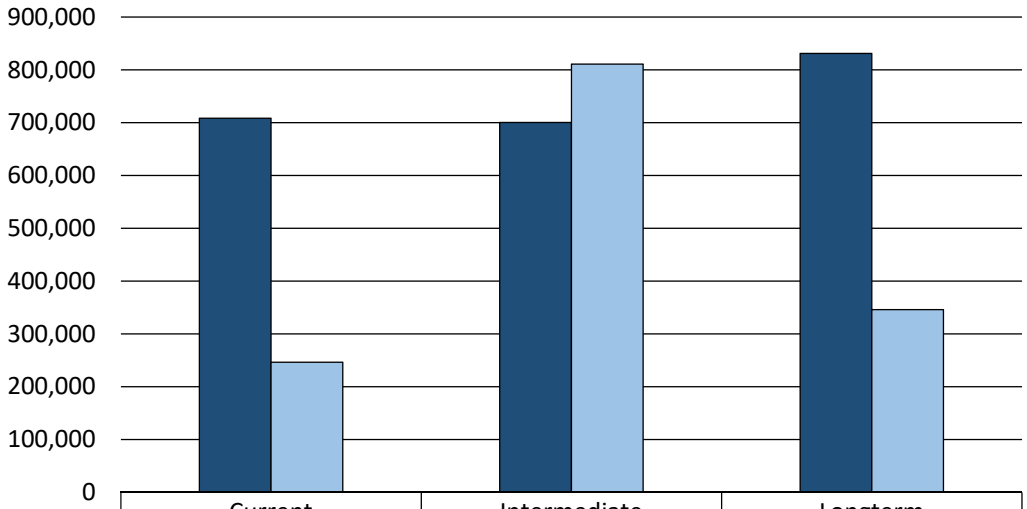
N.D. Farm Business Management Education Program – West Region



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Rate of Return on Assets	10.3	5.1	5.0	0.6	3.3	2.9	2.0	1.5	10.1	14.4
Rate of Return on Equity	15.2	5.9	5.8	-3.2	2.2	1.8	-0.3	-0.9	13.3	20.9

Figure 4. Assets and Liabilities Per Farm, 2021

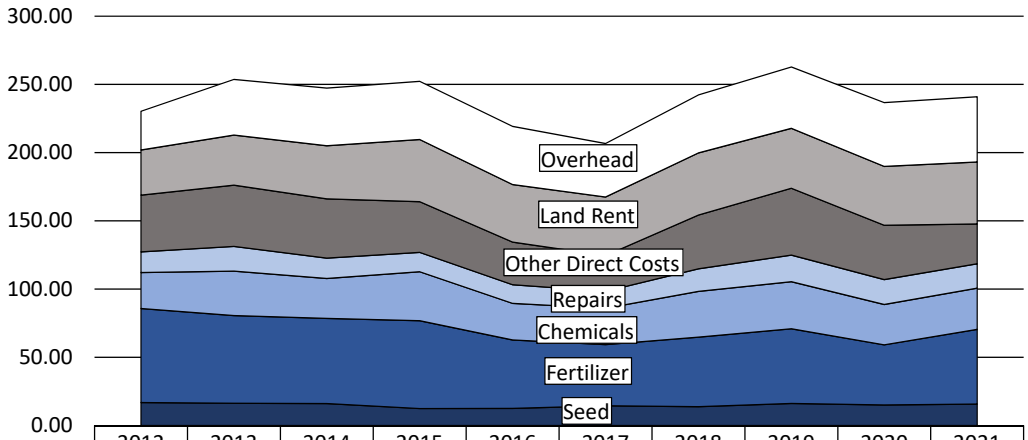
N.D. Farm Business Management Education Program – West Region



	Current	Intermediate	Longterm
Farm Assets	708,425	700,457	831,098
Farm Liabilities	246,375	810,919	346,071

Figure 5. Spring Wheat Costs Per Acre

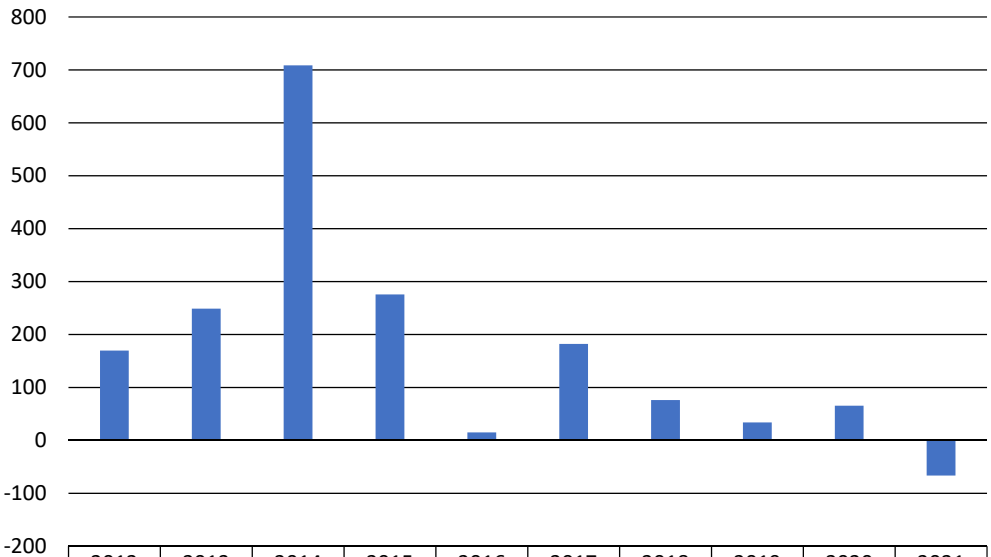
N.D. Farm Business Management Education Program – West Region



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Overhead	28.37	40.80	42.26	42.63	42.56	39.22	42.45	44.96	46.71	47.78
Land Rent	33.08	36.72	38.91	45.59	42.20	42.94	45.57	43.89	43.13	45.42
Other Direct Costs	41.61	44.88	43.40	37.16	31.22	26.19	39.39	49.00	39.82	29.24
Repairs	15.12	18.13	14.93	14.21	13.68	12.42	16.53	19.53	18.29	17.85
Chemicals	26.43	32.58	29.27	35.90	26.85	26.63	33.53	34.51	29.56	30.23
Fertilizer	68.87	64.24	62.44	64.33	50.14	44.85	51.01	54.67	44.05	54.69
Seed	16.84	16.31	16.07	12.44	12.53	14.44	13.79	16.19	15.07	15.74

Figure 6. Average Net Return Per Beef Cow

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



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Avg. Net Return	169.69	248.8	708.53	275.65	14.89	182.14	76.10	33.89	65.41	-66.47

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