

Minnesota and North Dakota
Farm Business Management Education

Red River Valley 2018 Report



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Minnesota Farm Business Management Education
and
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RED RIVER VALLEY AVERAGES
2018 ANNUAL REPORT

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2018 Red River Valley Report
Minnesota and North Dakota Farm Business Management Education

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INTRODUCTION

This report summarizes the individual farm records of farms in the Red River Valley that are enrolled in Farm Management Education programs. The current financial status of farm operators and net returns from each crop enterprise is reported. In addition to the average of all farms, the averages for the high and low net income groups are also presented. To insure anonymity, only averages of five or more farms are reported. Regional averages reports can be used by producers for comparison purposes to identify 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 data contained in this report should also be useful to instructors, extension agents, bankers and agricultural consultants.

The Red River Valley averages reports are divided into two major categories. Explanatory notes precede the farm operators' reports and the crop reports.

The 2018 Red River Valley Report is based upon data generated by individual farm analysis completed by farm/ranch families enrolled in the Farm and Ranch Business Management Education programs in Minnesota and North Dakota. The tables in this report were created using FINPACK and RankEm Central copyrighted software of the Center for Farm Financial Management, University of Minnesota.

You may contact Ron Dvergsten, Northland Community and Technical College, Highway 1 East, Thief River Falls, MN 56701, phone: (218) 683-8747, to order a copy of this report. This report and regional reports for north central, south central and western North Dakota can be ordered for \$5 per copy from Farm Business Management, PO Box 6022, Bismarck, ND 58506-6022, phone: (701) 224-8390. A state average book for North Dakota farms is also available. 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, income taxes paid, and interest on term debt are subtracted to determine the capital debt repayment capacity.

Balance Sheets

The ending balance sheet statements and solvency measures are for all farms; in previous Red River Valley reports they were 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."

Operator and Labor Information

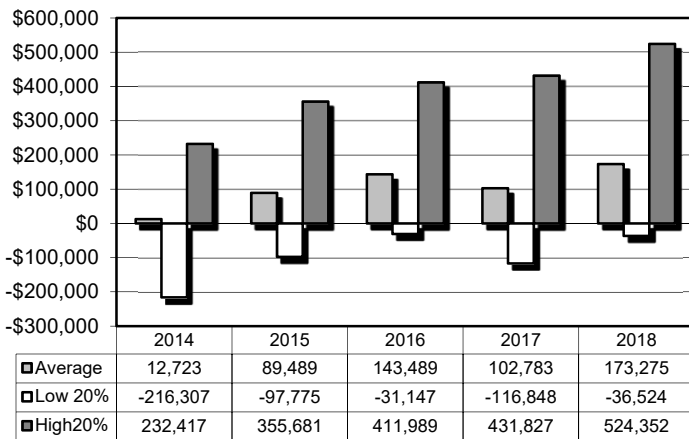
This table reports the average for the number of operators per farm, the operator's age, and the number of years farming.

Nonfarm Summary

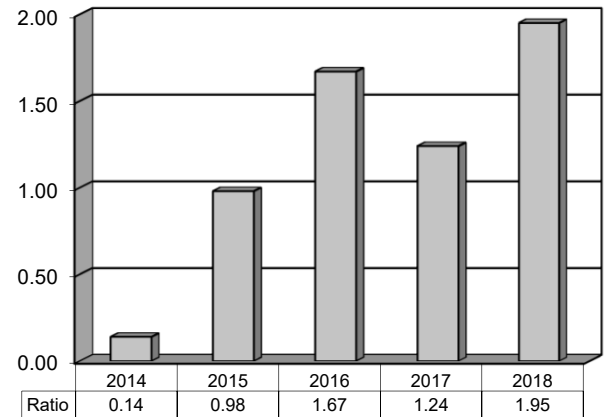
This table also reports nonfarm income. The figure reported is the average over all farms not just those reporting nonfarm income.

Five Year Trend of Financial Measures Red River Valley Farm Business Management Education

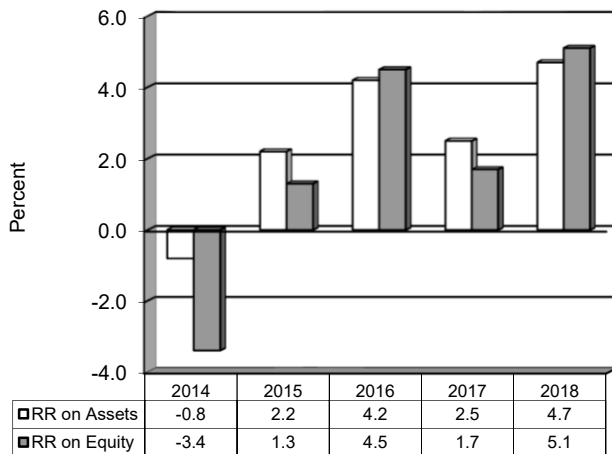
Net Farm Income



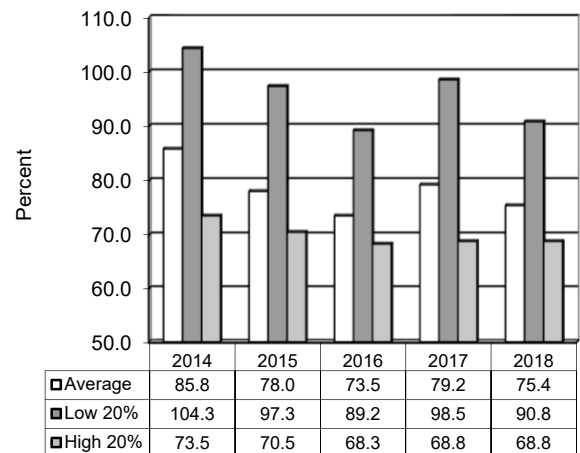
Term Debt Coverage Ratio (accrual)



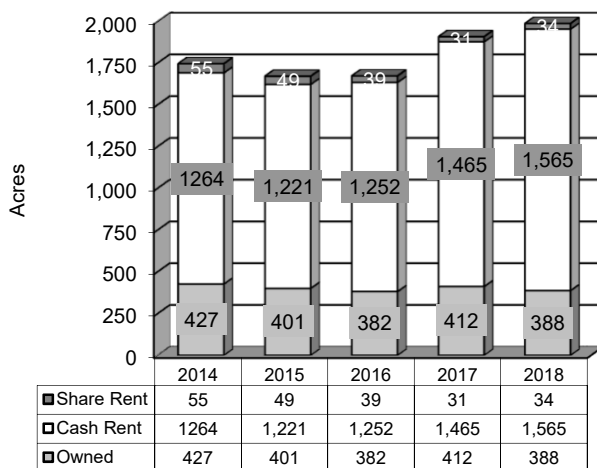
Rate of Return (cost)



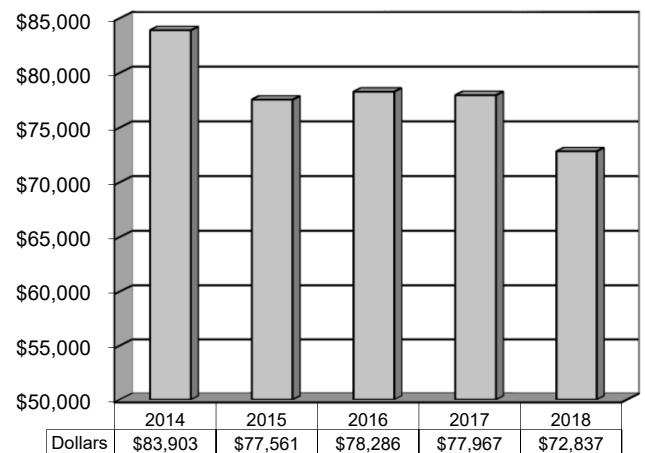
Operating Expense Ratio



Crop Acres



Apparent Family Living



Farm Income Statement
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Cash Farm Income				
Barley	4,790	780	424	4,523
Beans, Black Turtle	5,300	758	5,747	12,381
Beans, Dark Red Kidney	594	-	-	2,972
Beans, Navy	5,720	6,093	6,606	3,441
Beans, Pink	1,017	-	-	-
Beans, Pinto	6,248	12,199	8,255	8,976
Corn	293,711	193,279	238,890	528,363
Corn Silage	59	294	-	-
Hay, Alfalfa	807	383	2,977	414
Oats	29	-	-	144
Peas, Field	265	755	568	-
Potatoes	28,731	21,923	-	117,020
Rye	479	-	-	1,146
Soybeans	245,776	204,860	193,332	422,971
Soybeans Seed	13,269	19,629	1,529	28,085
Sugar Beets	206,282	165,035	137,109	467,637
Sunflowers	6,684	6,926	-	12,090
Wheat, Durum	24	-	118	-
Wheat, Spring	127,809	147,546	75,749	235,439
Soybeans, Natto	1,574	-	1,486	-
Peas, Organic	211	-	1,055	-
Hay	1,120	258	3,220	2,122
Other Crops	3,618	3,031	873	-
Miscellaneous crop income	8,933	32,395	2,271	5,559
Beef Cow-Calf, Beef Calves	1,964	9,364	56	305
Beef Finishing	5,914	5,132	-	10,820
Dairy Finishing	23	-	117	-
Hogs, Weaning to Finish	6,097	30,486	-	-
Misc. livestock income	76	-	-	-
Crop government payments	9,804	7,825	8,928	19,103
CRP payments	1,197	1,147	1,310	2,170
Other government payments	45,807	47,545	43,212	63,120
Custom work income	14,213	12,194	15,692	27,183
Patronage dividends, cash	16,409	15,076	10,660	36,478
Crop insurance income	16,160	11,602	6,717	38,556
Property insurance income	2,003	2,859	476	3,235
Sale of resale items	4,182	11	11,779	523
Other farm income	39,692	21,973	32,833	68,869
Gross Cash Farm Income	1,126,590	981,359	811,990	2,123,645

Farm Income Statement (continued)
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Cash Farm Expense				
Seed and plants	130,209	96,632	101,943	236,146
Fertilizer	125,036	91,407	87,354	258,163
Crop chemicals	80,546	65,664	68,775	141,768
Crop insurance	35,954	32,670	27,042	58,713
Drying expense	7,966	4,683	5,052	16,329
Storage	2,377	1,100	1,130	4,000
Irrigation energy	464	-	20	2,301
Crop miscellaneous	4,594	7,996	5,403	3,421
Consultants	4,184	2,643	2,639	7,994
Feeder livestock purchase	7,616	14,182	40	14,373
Purchased feed	3,507	14,360	102	2,309
Veterinary	809	3,636	54	244
Interest	46,685	43,587	31,591	78,283
Fuel & oil	49,540	50,119	37,315	83,537
Repairs	78,137	82,517	55,918	139,363
Custom hire	15,526	13,026	7,472	34,475
Hired labor	56,095	60,602	46,680	98,462
Land rent	198,002	173,781	136,761	356,636
Stock/quota lease	13,246	7,571	4,979	34,012
Machinery leases	21,377	18,059	28,033	28,651
Building leases	4,249	5,558	1,409	10,578
Real estate taxes	10,711	7,827	7,469	21,852
Farm insurance	15,852	17,227	10,016	27,833
Utilities	11,604	12,859	8,360	18,037
Hauling and trucking	3,020	2,718	270	8,855
Marketing	1,824	767	995	4,590
Dues & professional fees	8,537	10,564	5,593	13,471
Purchase of resale items	6,735	9,092	14,559	8,917
Miscellaneous	12,235	23,382	6,185	15,140
Total cash expense	956,634	874,229	703,160	1,728,457
Net cash farm income	169,956	107,130	108,830	395,188
Inventory Changes				
Prepays and supplies	9,764	-11,285	15,546	46,434
Accounts receivable	18,975	-7,016	-14,038	88,876
Hedging accounts	6,380	-506	1,380	26,261
Other current assets	5,980	367	-28	28,415
Crops and feed	32,766	-60,487	56,374	59,835
Market livestock	4,397	7,639	568	11,726
Breeding livestock	-267	-1,026	-	-268
Other assets	10,228	1,441	9,174	31,415
Accounts payable	-7,996	4,690	-9,851	-26,620
Accrued interest	-2,769	-8,607	14	-5,841
Total inventory change	77,458	-74,788	59,139	260,233
Net operating profit	247,414	32,342	167,970	655,421
Depreciation				
Machinery and equipment	-65,486	-59,949	-38,028	-123,285
Titled vehicles	-5,041	-5,562	-4,971	-6,374
Buildings and improvements	-6,838	-4,287	-5,106	-14,374
Total depreciation	-77,365	-69,797	-48,105	-144,033
Net farm income from operations	170,048	-37,455	119,865	511,389
Gain or loss on capital sales	3,226	931	1,131	12,963
Net farm income	173,275	-36,524	120,995	524,352

Inventory Changes
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Net cash farm income	169,956	107,130	108,830	395,188
Crops and Feed				
Ending inventory	661,512	469,610	419,768	1,403,044
Beginning inventory	628,746	530,097	363,394	1,343,209
Inventory change	32,766	-60,487	56,374	59,835
Market Livestock				
Ending inventory	11,242	26,235	814	15,612
Beginning inventory	6,845	18,596	247	3,886
Inventory change	4,397	7,639	568	11,726
Accts Receivable				
Ending inventory	101,881	53,051	46,599	233,891
Beginning inventory	82,905	60,067	60,637	145,016
Inventory change	18,975	-7,016	-14,038	88,876
Prepaid Expenses and Supplies				
Ending inventory	96,772	36,782	86,479	230,886
Beginning inventory	87,007	48,067	70,934	184,452
Inventory change	9,764	-11,285	15,546	46,434
Hedging Activities				
Ending inventory	9,623	3,024	5,960	27,541
Withdrawals	10,065	3,581	3,714	35,422
Beginning inventory	9,426	3,270	5,576	27,423
Deposits	3,882	3,841	2,718	9,279
Gain or loss	6,380	-506	1,380	26,261
Other Current Assets				
Ending inventory	13,669	1,420	77	62,452
Beginning inventory	7,690	1,053	105	34,037
Inventory change	5,980	367	-28	28,415
Breeding Livestock				
Ending inventory	4,132	16,584	466	-
Capital sales	530	1,170	-	-
Beginning inventory	3,667	13,188	466	-
Capital purchases	1,263	5,591	-	268
Depreciation, capital adjust	-267	-1,026	-	-268
Other Capital Assets				
Ending inventory	356,941	253,608	188,653	805,651
Capital sales	794	202	95	3,270
Beginning inventory	318,686	249,496	168,928	680,236
Capital purchases	28,821	2,872	10,646	97,270
Depreciation, capital adjust	10,228	1,441	9,174	31,415
Accounts Payable				
Beginning inventory	40,038	50,194	25,178	66,183
Ending inventory	48,034	45,503	35,029	92,803
Inventory change	-7,996	4,690	-9,851	-26,620
Accrued Interest				
Beginning inventory	19,579	15,983	15,967	30,677
Ending inventory	22,348	24,590	15,952	36,518
Inventory change	-2,769	-8,607	14	-5,841
Total inventory change	77,458	-74,788	59,139	260,233
Net operating profit	247,414	32,342	167,970	655,421

Depreciation
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Net operating profit	247,414	32,342	167,970	655,421
Machinery and Equipment				
Ending inventory	679,693	616,064	396,745	1,283,881
Capital sales	24,147	9,039	11,249	41,236
Beginning inventory	674,542	631,809	401,819	1,209,773
Capital purchases	94,784	53,242	44,202	238,629
Depreciation, capital adjust.	-65,486	-59,949	-38,028	-123,285
Titled Vehicles				
Ending inventory	46,796	51,052	43,305	78,058
Capital sales	773	345	118	2,340
Beginning inventory	43,856	51,518	42,766	63,034
Capital purchases	8,755	5,441	5,627	23,738
Depreciation, capital adjust.	-5,041	-5,562	-4,971	-6,374
Buildings and Improvements				
Ending inventory	260,328	238,090	186,707	505,471
Capital sales	94	468	-	-
Beginning inventory	247,338	229,993	181,313	490,925
Capital purchases	19,922	12,851	10,500	28,920
Depreciation, capital adjust.	-6,838	-4,287	-5,106	-14,374
Total depreciation, capital adj.	-77,365	-69,797	-48,105	-144,033
Net farm income from operations	170,048	-37,455	119,865	511,389
Gain or loss on capital sales	3,226	931	1,131	12,963
Net farm income	173,275	-36,524	120,995	524,352

Profitability Measures
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Profitability (assets valued at cost)				
Net farm income from operations	170,048	-37,455	119,865	511,389
Rate of return on assets	4.7 %	-2.2 %	4.3 %	7.6 %
Rate of return on equity	5.1 %	-8.7 %	4.6 %	9.7 %
Operating profit margin	12.0 %	-6.0 %	9.8 %	19.8 %
Asset turnover rate	38.9 %	36.6 %	44.3 %	38.4 %
Farm interest expense	49,454	52,194	31,577	84,124
Value of operator lbr and mgmt.	77,594	67,799	68,114	131,634
Return on farm assets	141,908	-53,061	83,327	463,878
Average farm assets	3,051,273	2,414,664	1,922,537	6,103,674
Return on farm equity	92,454	-105,255	51,751	379,754
Average farm equity	1,813,949	1,207,811	1,122,765	3,922,603
Value of farm production	1,187,040	883,526	850,783	2,344,305

Liquidity & Repayment Capacity Measures
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Liquidity				
Current ratio	1.70	1.18	1.67	2.08
Working capital	403,506	94,769	247,830	1,100,646
Working capital to gross inc	33.5 %	10.3 %	28.6 %	46.4 %
Current assets	976,910	634,084	615,360	2,120,527
Current liabilities	573,404	539,314	367,529	1,019,882
Gross revenues (accrual)	1,204,898	921,160	865,485	2,369,905
Repayment capacity				
Net farm income from operations	170,048	-37,455	119,865	511,389
Depreciation	77,365	69,797	48,105	144,033
Personal income	28,899	29,673	31,258	32,676
Family living/owner withdrawals	-73,174	-62,286	-67,708	-114,074
Cash discrepancy	-77	-98	25	-196
Payments on personal debt	-5,744	-5,064	-5,485	-8,185
Income taxes paid	-20,503	-8,287	-9,452	-45,783
Interest on term debt	30,038	29,594	20,195	50,080
Capital debt repayment capacity	206,851	15,874	136,803	569,939
Scheduled term debt payments	-106,174	-100,482	-74,243	-174,651
Capital debt repayment margin	100,677	-84,608	62,560	395,288
Cash replacement allowance	-46,437	-52,357	-30,432	-90,001
Replacement margin	54,240	-136,966	32,128	305,288
Term debt coverage ratio	1.95	0.16	1.84	3.26
Replacement coverage ratio	1.36	0.10	1.31	2.15

Balance Sheet at Cost Values
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Assets				
Current Farm Assets				
Cash and checking balance	82,212	43,960	55,663	147,101
Prepaid expenses & supplies	96,772	36,782	86,479	230,886
Growing crops	179	612	-	-
Accounts receivable	101,881	53,051	46,599	233,891
Hedging accounts	9,623	3,024	5,960	27,541
Crops held for sale or feed	661,512	469,610	419,768	1,403,044
Market livestock held for sale	11,242	26,235	814	15,612
Other current assets	13,490	809	77	62,452
Total current farm assets	976,910	634,084	615,360	2,120,527
Intermediate Farm Assets				
Breeding livestock	4,132	16,584	466	-
Machinery and equipment	679,693	616,064	396,745	1,283,881
Titled vehicles	46,796	51,052	43,305	78,058
Other intermediate assets	248,953	202,016	125,935	528,304
Total intermediate farm assets	979,574	885,715	566,451	1,890,244
Long Term Farm Assets				
Farm land	820,669	594,568	563,801	1,574,207
Buildings and improvements	260,328	238,090	186,707	505,471
Other long-term assets	107,988	51,592	62,718	277,347
Total long-term farm assets	1,188,985	884,250	813,226	2,357,025
Total Farm Assets	3,145,469	2,404,049	1,995,036	6,367,796
Total Nonfarm Assets	359,288	256,003	253,006	612,376
Total Assets	3,504,757	2,660,052	2,248,042	6,980,173
Liabilities				
Current Farm Liabilities				
Accrued interest	22,348	24,590	15,952	36,518
Accounts payable	48,034	45,503	35,029	92,803
Current notes	427,871	403,069	267,331	767,097
Principal due on term debt	75,151	66,153	49,217	123,464
Total current farm liabilities	573,404	539,314	367,529	1,019,882
Total intermediate farm liabs	185,425	178,420	124,289	283,421
Total long term farm liabilities	522,795	519,710	348,804	964,246
Total farm liabilities	1,281,624	1,237,445	840,622	2,267,548
Total nonfarm liabilities	96,388	74,913	82,366	145,406
Total liabilities	1,378,013	1,312,357	922,988	2,412,954
Net worth (farm and nonfarm)	2,126,744	1,347,695	1,325,054	4,567,219
Net worth change	109,024	-80,113	70,558	379,525
Percent net worth change	5 %	-6 %	6 %	9 %
Ratio Analysis				
Current farm liabilities / assets	59 %	85 %	60 %	48 %
Intermediate farm liab. / assets	19 %	20 %	22 %	15 %
Long term farm liab. / assets	44 %	59 %	43 %	41 %
Total debt to asset ratio	39 %	49 %	41 %	35 %

Balance Sheet at Market Values
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Assets				
Current Farm Assets				
Cash and checking balance	82,212	43,960	55,663	147,101
Prepaid expenses & supplies	96,772	36,782	86,479	230,886
Growing crops	179	612	-	-
Accounts receivable	101,881	53,051	46,599	233,891
Hedging accounts	9,623	3,024	5,960	27,541
Crops held for sale or feed	661,512	469,610	419,768	1,403,044
Market livestock held for sale	11,242	26,235	814	15,612
Other current assets	13,490	809	77	62,452
Total current farm assets	976,910	634,084	615,360	2,120,527
Intermediate Farm Assets				
Breeding livestock	4,249	16,869	415	-
Machinery and equipment	858,659	816,678	536,845	1,590,158
Titled vehicles	59,726	63,655	59,821	102,504
Other intermediate assets	328,046	332,888	150,206	696,836
Total intermediate farm assets	1,250,680	1,230,089	747,288	2,389,498
Long Term Farm Assets				
Farm land	1,451,433	1,083,425	1,110,925	2,742,770
Buildings and improvements	297,873	259,508	243,042	550,581
Other long-term assets	130,280	61,158	103,239	327,314
Total long-term farm assets	1,879,587	1,404,091	1,457,206	3,620,664
Total Farm Assets	4,107,177	3,268,264	2,819,853	8,130,690
Total Nonfarm Assets	455,147	337,898	308,639	773,514
Total Assets	4,562,325	3,606,162	3,128,492	8,904,203
Liabilities				
Current Farm Liabilities				
Accrued interest	22,348	24,590	15,952	36,518
Accounts payable	48,034	45,503	35,029	92,803
Current notes	427,871	403,069	267,331	767,097
Principal due on term debt	75,151	66,153	49,217	123,464
Total current farm liabilities	573,404	539,314	367,529	1,019,882
Total intermediate farm liab	185,425	178,420	124,289	283,421
Total long term farm liabilities	522,795	519,710	348,804	964,246
Total farm liabilities	1,281,624	1,237,445	840,622	2,267,548
Total nonfarm liabilities	96,388	74,913	82,366	145,406
Total liab. excluding deferreds	1,378,013	1,312,357	922,988	2,412,954
Total deferred liabilities	333,060	305,679	230,883	718,569
Total liabilities	1,711,073	1,618,037	1,153,871	3,131,523
Retained earnings	2,126,744	1,347,695	1,325,054	4,567,219
Market valuation equity	724,508	640,431	649,567	1,205,462
Net worth (farm and nonfarm)	2,851,252	1,988,126	1,974,621	5,772,680
Net worth excluding deferreds	3,184,312	2,293,805	2,205,504	6,491,249
Net worth change	137,648	-45,806	79,280	387,451
Percent net worth change	5 %	-2 %	4 %	7 %
Ratio Analysis				
Current farm liabilities / assets	59 %	85 %	60 %	48 %
Intermediate farm liab. / assets	15 %	15 %	17 %	12 %
Long term farm liab. / assets	28 %	37 %	24 %	27 %
Total debt to asset ratio	38 %	45 %	37 %	35 %
Debt to assets excl deferreds	30 %	36 %	30 %	27 %

Statement Of Cash Flows
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Beginning cash (farm & nonfarm)	72,522	29,799	39,689	127,148
Cash Provided By Operating Activities				
Gross cash farm income	1,126,590	981,359	811,990	2,123,645
Total cash farm expense	-956,634	-874,229	-703,160	-1,728,457
Net cash from hedging transactions	6,183	-260	996	26,143
Cash provided by operating	176,138	106,870	109,826	421,330
Cash Provided By Investing Activities				
Sale of breeding livestock	530	1,170	-	-
Sale of machinery & equipment	24,826	9,147	12,379	42,106
Sale of titled vehicles	765	452	118	2,368
Sale of farm land	5,087	2,843	-	21,852
Sale of farm buildings	94	468	-	-
Sale of other farm assets	794	202	95	3,270
Sale of nonfarm assets	6,098	1,277	2,134	17,715
Purchase of breeding livestock	-1,263	-5,591	-	-268
Purchase of machinery & equip.	-94,784	-53,242	-44,202	-238,629
Purchase of titled vehicles	-8,755	-5,441	-5,627	-23,738
Purchase of farm land	-30,264	-28,426	-34,071	-34,356
Purchase of farm buildings	-19,922	-12,851	-10,500	-28,920
Purchase of other farm assets	-28,821	-2,872	-10,646	-97,270
Purchase of nonfarm assets	-29,093	-13,610	-17,960	-66,721
Cash provided by investing	-174,708	-106,474	-108,280	-402,592
Cash Provided By Financing Activities				
Money borrowed	564,997	477,874	357,945	1,041,901
Principal payments	-482,484	-418,796	-284,847	-894,015
Personal income	28,899	29,673	31,258	32,676
Family living/owner withdrawals	-72,837	-62,286	-66,020	-114,074
Income and social security tax	-16,848	-7,279	-8,802	-40,767
Capital contributions	294	142	-	-2,837
Capital distributions	-4,127	-2,128	-	-13,466
Dividends paid	-338	-	-1,688	-
Cash gifts and inheritances	7,603	7,279	751	11,879
Gifts given	-1,873	-553	-657	-2,603
Other cash flows	-	-	-	-
Cash provided by financing	23,287	23,926	27,940	18,695
Net change in cash balance	24,717	24,322	29,486	37,434
Ending cash (farm & nonfarm)	97,162	54,023	69,200	164,386
Discrepancy	77	98	-25	196

Financial Standards Measures
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Liquidity				
Current ratio	1.70	1.18	1.67	2.08
Working capital	403,506	94,769	247,830	1,100,646
Working capital to gross inc	33.5 %	10.3 %	28.6 %	46.4 %
Solvency (market)				
Farm debt to asset ratio	39 %	47 %	38 %	36 %
Farm equity to asset ratio	61 %	53 %	62 %	64 %
Farm debt to equity ratio	0.64	0.88	0.61	0.57
Profitability (cost)				
Rate of return on farm assets	4.7 %	-2.2 %	4.3 %	7.6 %
Rate of return on farm equity	5.1 %	-8.7 %	4.6 %	9.7 %
Operating profit margin	12.0 %	-6.0 %	9.8 %	19.8 %
Net farm income	173,275	-36,524	120,995	524,352
EBITDA	296,868	84,536	199,546	739,545
Repayment Capacity				
Capital debt repayment capacity	206,851	15,874	136,803	569,939
Capital debt repayment margin	100,677	-84,608	62,560	395,288
Replacement margin	54,240	-136,966	32,128	305,288
Term debt coverage ratio	1.95	0.16	1.84	3.26
Replacement coverage ratio	1.36	0.10	1.31	2.15
Efficiency				
Asset turnover rate (cost)	38.9 %	36.6 %	44.3 %	38.4 %
Operating expense ratio	75.4 %	90.8 %	76.9 %	68.8 %
Depreciation expense ratio	6.4 %	7.6 %	5.6 %	6.1 %
Interest expense ratio	4.1 %	5.7 %	3.6 %	3.5 %
Net farm income ratio	14.4 %	-4.0 %	14.0 %	22.1 %

Crop Production and Marketing Summary
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Acreage Summary				
Total acres owned	450	357	351	784
Total crop acres	1,988	1,832	1,499	3,456
Crop acres owned	388	340	308	616
Crop acres cash rented	1,565	1,481	1,145	2,811
Crop acres share rented	34	11	47	29
Total pasture acres	1	4	-	-
Percent crop acres owned	20 %	19 %	21 %	18 %
Mach invest/crop acre cost	363	369	295	381
Mach invest/crop acre market	455	481	395	470
Average Price Received (Cash Sales Only)				
Soybeans per bushel	8.74	7.99	8.93	9.00
Wheat, Spring per bushel	5.73	5.62	5.51	5.81
Corn per bushel	3.16	3.18	3.07	3.18
Soybeans Seed per bushel	10.36	-	-	10.67
Beans, Navy per cwt	23.98	-	-	-
Beans, Pinto per cwt	24.34	-	-	-
Beans, Black Turtle per cwt	26.45	-	-	-
Soybeans, Food per bushel	12.05	-	-	-
Sunflowers per cwt	19.22	-	-	-
Barley per bushel	4.64	-	-	-
Average Yield Per Acre				
Soybeans (bushel)	45.28	42.69	44.49	45.67
Wheat, Spring (bushel)	64.31	60.39	64.75	66.96
Corn (bushel)	188.95	181.54	187.55	192.20
Sugar Beets (ton)	28.02	27.49	28.96	29.92
Soybeans Seed (bushel)	45.85	47.78	-	44.49
Soybeans, Food (bushel)	36.80	-	-	35.73
Beans, Navy (cwt)	17.50	-	-	-
Barley (bushel)	78.57	-	-	-
Beans, Black Turtle (cwt)	19.37	-	-	-
Hay, Alfalfa (ton)	3.16	-	-	-
Sunflowers (cwt)	23.02	-	-	-
Beans, Pinto (cwt)	21.95	-	-	-

Operator and Labor Information
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Operator Information				
Average number of operators	1.1	1.1	1.1	1.4
Average age of operators	47.0	51.7	40.6	49.0
Average number of years farming	23.2	27.0	17.0	27.5
Results Per Operator				
Working capital	360,822	84,120	235,314	795,852
Total assets (market)	4,079,704	3,200,937	2,970,488	6,438,424
Total liabilities	1,530,069	1,436,218	1,095,595	2,264,332
Net worth (market)	2,549,635	1,764,720	1,874,893	4,174,092
Net worth excl deferred liabs	2,847,463	2,036,050	2,094,115	4,693,673
Gross farm income	1,077,439	817,649	821,774	1,713,623
Total farm expense	925,379	850,896	707,963	1,343,850
Net farm income from operations	152,060	-33,246	113,811	369,773
Net nonfarm income	25,842	26,339	29,680	23,628
Family living & tax withdrawals	83,837	62,730	73,239	115,731
Total acres owned	402.6	317.1	333.6	566.7
Total crop acres	1,777.6	1,626.4	1,423.6	2,499.0
Crop acres owned	347.3	301.9	292.1	445.4
Crop acres cash rented	1,399.6	1,314.7	1,087.1	2,032.9
Crop acres share rented	30.7	9.9	44.4	20.7
Total pasture acres	1.1	3.4	-	-
Labor Analysis				
Number of farms	235	47	47	47
Total unpaid labor hours	1,779	1,540	1,633	2,526
Total hired labor hours	2,440	2,681	2,501	4,486
Total labor hours per farm	4,218	4,221	4,134	7,012
Unpaid hours per operator	1,590	1,367	1,551	1,826

Nonfarm Summary
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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	235	47	47	47
Nonfarm Income				
Personal wages & salary	18,787	13,108	28,574	10,915
Net nonfarm business income	1,256	769	1,260	1,533
Personal rental income	714	1,911	-	348
Personal interest income	163	115	279	164
Personal cash dividends	10	4	2	0
Tax refunds	1,509	1,138	425	3,905
Other nonfarm income	6,461	12,626	718	15,811
Total nonfarm income	28,899	29,673	31,258	32,676
Gifts and inheritances	7,603	7,279	751	11,879

Financial Summary
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 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>	<u>Over 2,000,000</u>
Number of farms	235	7	19	42	75	55	37
Income Statement							
Gross cash farm income	1,126,590	63,895	174,976	354,721	756,184	1,364,264	3,090,003
Total cash farm expense	956,634	59,653	146,238	311,318	634,460	1,169,350	2,611,858
Net cash farm income	169,956	4,242	28,738	43,403	121,724	194,914	478,145
Inventory change	77,458	28,407	24,291	62,362	58,718	116,862	110,589
Depreciation	-77,365	-4,417	-6,786	-27,827	-58,880	-102,358	-183,962
Net farm income from operations	170,048	28,232	46,243	77,938	121,562	209,419	404,773
Gain or loss on capital sales	3,226	-	188	9,122	2,683	1,734	2,023
Average net farm income	173,275	28,232	46,431	87,061	124,245	211,153	406,795
Median net farm income	111,008	32,634	46,065	87,157	121,231	163,119	352,791
Profitability (cost)							
Rate of return on assets	4.7 %	11.3 %	7.9 %	5.0 %	4.5 %	4.6 %	4.6 %
Rate of return on equity	5.1 %	27.3 %	9.8 %	5.6 %	4.7 %	5.1 %	5.0 %
Operating profit margin	12.0 %	27.3 %	14.1 %	12.9 %	12.0 %	12.6 %	11.2 %
Asset turnover rate	38.9 %	41.5 %	56.3 %	38.5 %	37.1 %	36.7 %	41.2 %
Liquidity & Repayment (end of year)							
Current assets	976,910	65,622	115,142	338,543	661,063	1,242,800	2,561,469
Current liabilities	573,404	34,701	55,187	152,615	375,570	777,428	1,516,820
Current ratio	1.70	1.89	2.09	2.22	1.76	1.60	1.69
Working capital	403,506	30,921	59,955	185,928	285,493	465,371	1,044,649
Change in working capital	52,192	12,149	18,370	45,565	53,112	54,059	80,016
Working capital to gross inc	33.5 %	33.1 %	30.0 %	44.4 %	34.9 %	31.5 %	32.6 %
Term debt coverage ratio	1.95	4.18	4.32	2.37	1.84	1.89	1.93
Replacement coverage ratio	1.36	2.98	2.61	1.69	1.23	1.25	1.44
Term debt to EBITDA	2.24	2.47	0.88	2.11	2.24	2.20	2.35
Solvency (end of year at cost)							
Number of farms	235	7	19	42	75	55	37
Total assets	3,504,757	402,663	555,988	1,458,780	2,594,574	4,417,808	8,416,060
Total liabilities	1,378,013	254,508	256,252	497,311	976,529	1,749,194	3,428,385
Net worth	2,126,744	148,155	299,736	961,469	1,618,045	2,668,614	4,987,674
Net worth change	109,024	20,263	49,581	68,287	71,224	117,865	266,063
Farm debt to asset ratio	41 %	71 %	39 %	37 %	40 %	41 %	42 %
Total debt to asset ratio	39 %	63 %	46 %	34 %	38 %	40 %	41 %
Change in earned net worth %	5 %	16 %	20 %	8 %	5 %	5 %	6 %
Solvency (end of year at market)							
Number of farms	235	7	19	42	75	55	37
Total assets	4,562,325	499,723	772,725	1,968,034	3,526,076	5,692,022	10,643,030
Total liabilities	1,711,073	261,493	296,247	602,603	1,165,535	2,190,615	4,363,098
Net worth	2,851,252	238,230	476,478	1,365,431	2,360,541	3,501,406	6,279,933
Total net worth change	137,648	35,125	66,824	114,323	99,987	130,809	306,397
Farm debt to asset ratio	39 %	59 %	35 %	34 %	35 %	40 %	42 %
Total debt to asset ratio	38 %	52 %	38 %	31 %	33 %	38 %	41 %
Change in total net worth %	5 %	17 %	16 %	9 %	4 %	4 %	5 %
Nonfarm Information							
Net nonfarm income	28,899	23,843	31,753	33,211	34,064	16,887	30,886
Crop Acres							
Total crop acres	1,988	192	364	826	1,456	2,628	4,606
Total crop acres owned	388	63	62	186	312	540	776
Total crop acres cash rented	1,565	130	301	573	1,115	2,054	3,798
Total crop acres share rented	34	-	-	67	29	34	32
Machinery value per crop acre	363	141	178	302	384	372	365

Financial Summary
Minnesota and North Dakota Farm Business Management Education
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(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	235	29	55	43	64	44
Income Statement						
Gross cash farm income	1,126,590	484,228	926,118	1,214,090	1,503,164	1,167,297
Total cash farm expense	956,634	451,363	785,932	1,051,412	1,285,389	932,216
Net cash farm income	169,956	32,865	140,185	162,679	217,775	235,081
Inventory change	77,458	84,938	70,357	177,553	25,204	59,590
Depreciation	-77,365	-17,026	-59,054	-83,684	-101,004	-99,465
Net farm income from operations	170,048	100,777	151,488	256,548	141,975	195,206
Gain or loss on capital sales	3,226	201	10,208	58	1,893	1,527
Average net farm income	173,275	100,978	161,697	256,606	143,868	196,733
Median net farm income	111,008	75,741	98,204	157,020	128,191	149,523
Profitability (cost)						
Rate of return on assets	4.7 %	8.4 %	6.9 %	6.2 %	2.8 %	4.0 %
Rate of return on equity	5.1 %	11.4 %	9.5 %	8.2 %	2.0 %	4.0 %
Operating profit margin	12.0 %	15.1 %	13.2 %	15.8 %	7.4 %	13.6 %
Asset turnover rate	38.9 %	56.0 %	52.0 %	39.3 %	37.8 %	29.6 %
Liquidity & Repayment (end of year)						
Current assets	976,910	371,496	624,811	1,210,874	1,212,023	1,245,429
Current liabilities	573,404	214,482	418,384	704,812	803,213	541,053
Current ratio	1.70	1.73	1.49	1.72	1.51	2.30
Working capital	403,506	157,015	206,427	506,061	408,810	704,377
Change in working capital	52,192	48,282	61,805	79,824	17,075	66,825
Working capital to gross inc	33.5 %	27.7 %	20.4 %	36.6 %	26.8 %	57.7 %
Term debt coverage ratio	1.95	2.60	2.17	2.58	1.32	2.16
Replacement coverage ratio	1.36	2.29	1.69	1.85	0.91	1.31
Term debt to EBITDA	2.24	1.22	2.35	1.94	2.77	2.07
Solvency (end of year at cost)						
Number of farms	235	29	55	43	64	44
Total assets	3,504,757	1,212,302	2,281,513	4,017,336	4,534,661	4,545,776
Total liabilities	1,378,013	578,186	1,134,438	1,701,557	1,803,741	1,274,208
Net worth	2,126,744	634,116	1,147,075	2,315,779	2,730,920	3,271,569
Net worth change	109,024	91,731	117,274	187,656	56,263	110,008
Farm debt to asset ratio	41 %	45 %	51 %	43 %	42 %	30 %
Total debt to asset ratio	39 %	48 %	50 %	42 %	40 %	28 %
Change in earned net worth %	5 %	17 %	11 %	9 %	2 %	3 %
Solvency (end of year at market)						
Number of farms	235	29	55	43	64	44
Total assets	4,562,325	1,255,953	2,593,720	5,003,333	6,052,979	6,603,070
Total liabilities	1,711,073	652,212	1,278,397	2,141,235	2,265,255	1,723,333
Net worth	2,851,252	603,740	1,315,323	2,862,098	3,787,723	4,879,737
Total net worth change	137,648	90,147	165,839	218,703	93,942	118,077
Farm debt to asset ratio	39 %	50 %	51 %	44 %	40 %	27 %
Total debt to asset ratio	38 %	52 %	49 %	43 %	37 %	26 %
Change in total net worth %	5 %	18 %	14 %	8 %	3 %	2 %
Nonfarm Information						
Net nonfarm income	28,899	20,639	23,347	37,901	30,701	29,867
Crop Acres						
Total crop acres	1,988	1,124	1,693	2,190	2,483	2,007
Total crop acres owned	388	87	173	421	555	582
Total crop acres cash rented	1,565	1,037	1,448	1,743	1,894	1,407
Total crop acres share rented	34	-	71	26	34	19
Machinery value per crop acre	363	180	291	349	389	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.

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.

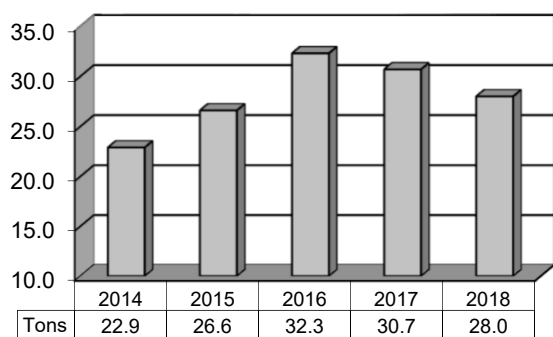
"Total direct expense per unit" and "Total dir & ovhd exp per unit" are calculated by dividing "Total direct expense per acre" and "Total dir & ovhd expenses per acre," respectively, by "Yield per acre." "With labor & management" is the breakeven yield after direct, overhead and a labor and management 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.

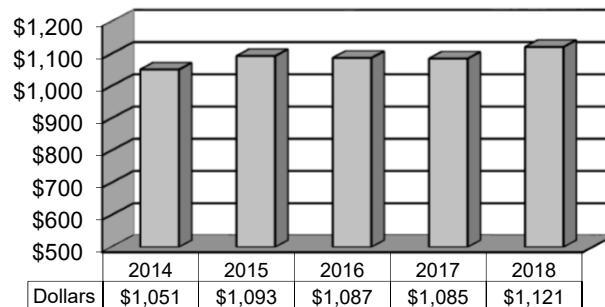
Rounding of individual items for the report may have caused minor discrepancies with the calculated totals.

Five Year Crop History of Yields and Cost of Production Red River Valley Farm Business Management Education

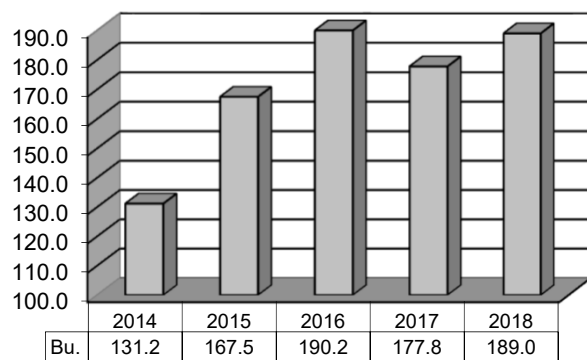
Sugar Beet Yields



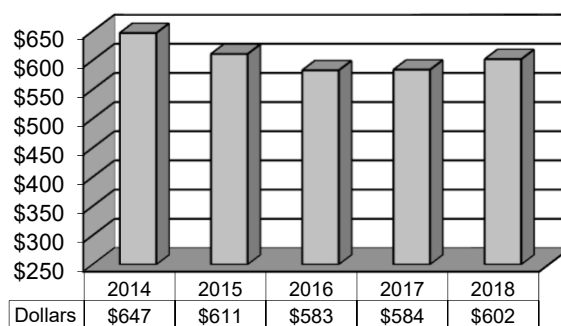
**Sugar Beet Total Listed Cost
(cash rented land)**



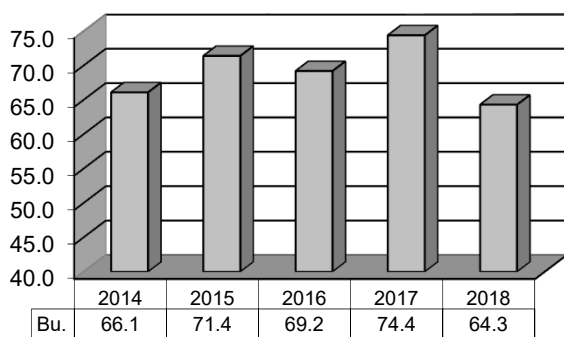
Corn Yields



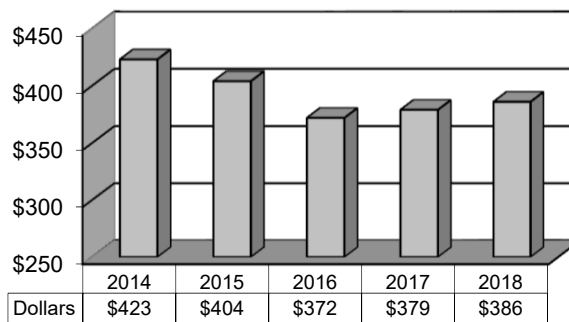
**Corn Total Listed Cost
(cash rented land)**



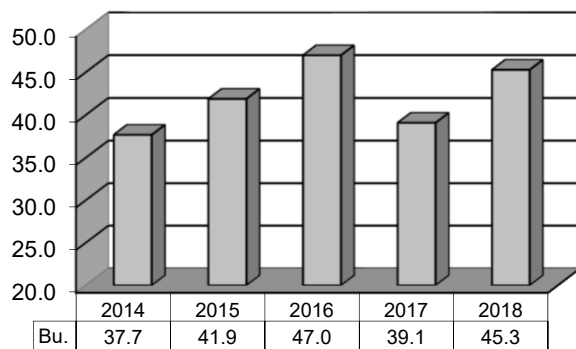
Spring Wheat Yields



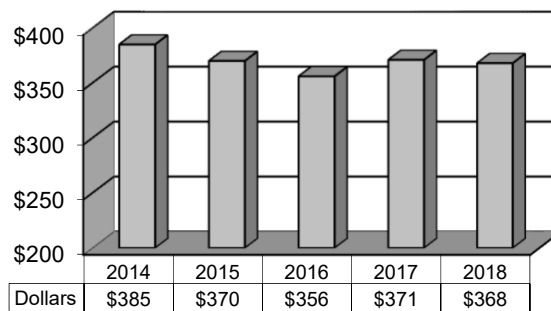
**Spring Wheat Total Listed Cost
(cash rented land)**



Soybeans Yields



**Soybeans Total Listed Cost
(cash rented land)**



Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Barley on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	9
Acres	220.33
Yield per acre (bu.)	78.72
Operators share of yield %	100.00
Value per bu.	4.55
Total product return per acre	357.83
Other crop income per acre	8.75
Gross return per acre	366.58
Direct Expenses	
Seed and plants	16.39
Fertilizer	55.87
Crop chemicals	29.68
Crop insurance	17.14
Fuel & oil	15.33
Repairs	20.88
Custom hire	3.92
Land rent	112.01
Machinery leases	6.38
Operating interest	6.78
Miscellaneous	3.13
Total direct expenses per acre	287.50
Return over direct exp per acre	79.08
Overhead Expenses	
Hired labor	14.17
Machinery leases	0.69
Farm insurance	5.46
Utilities	4.25
Dues & professional fees	3.45
Interest	3.78
Mach & bldg depreciation	23.01
Miscellaneous	3.12
Total overhead expenses per acre	57.92
Total dir & ovhd expenses per acre	345.42
Net return per acre	21.16
Government payments	3.70
Net return with govt pmts	24.87
Labor & management charge	24.67
Net return over lbr & mgt	0.19
Cost of Production	
Total direct expense per bu.	3.65
Total dir & ovhd exp per bu.	4.39
Less govt & other income	4.23
With labor & management	4.54
Net value per unit	4.55
Machinery cost per acre	71.99
Est. labor hours per acre	1.35

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Beans, Black Turtle on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	5
Acres	329.72
Yield per acre (cwt.)	20.15
Operators share of yield %	100.00
Value per cwt.	25.48
Total product return per acre	513.31
Crop insurance per acre	2.07
Other crop income per acre	4.64
Gross return per acre	520.01
Direct Expenses	
Seed and plants	51.32
Fertilizer	41.38
Crop chemicals	62.73
Crop insurance	23.27
Fuel & oil	22.29
Repairs	39.52
Land rent	118.14
Machinery leases	1.10
Operating interest	8.10
Miscellaneous	4.70
Total direct expenses per acre	372.55
Return over direct exp per acre	147.47
Overhead Expenses	
Hired labor	21.03
Building leases	1.70
Farm insurance	6.89
Utilities	3.54
Dues & professional fees	5.10
Interest	4.80
Mach & bldg depreciation	37.97
Miscellaneous	1.67
Total overhead expenses per acre	82.69
Total dir & ovhd expenses per acre	455.23
Net return per acre	64.78
Government payments	-
Net return with govt pmts	64.78
Labor & management charge	38.38
Net return over lbr & mgt	26.40
Cost of Production	
Total direct expense per cwt.	18.49
Total dir & ovhd exp per cwt.	22.60
Less govt & other income	22.26
With labor & management	24.17
Net value per unit	25.48
Machinery cost per acre	101.98
Est. labor hours per acre	2.24

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Beans, Navy on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	9
Acres	273.52
Yield per acre (cwt.)	17.39
Operators share of yield %	100.00
Value per cwt.	23.37
Total product return per acre	406.40
Crop insurance per acre	9.96
Other crop income per acre	0.17
Gross return per acre	416.53
Direct Expenses	
Seed and plants	52.62
Fertilizer	36.87
Crop chemicals	62.05
Crop insurance	33.42
Fuel & oil	20.90
Repairs	33.28
Custom hire	6.69
Hired labor	22.28
Land rent	132.89
Operating interest	15.31
Miscellaneous	0.92
Total direct expenses per acre	417.22
Return over direct exp per acre	-0.69
Overhead Expenses	
Hired labor	7.68
Machinery leases	12.57
Building leases	1.65
Farm insurance	7.18
Utilities	6.58
Dues & professional fees	3.50
Interest	4.90
Mach & bldg depreciation	23.43
Miscellaneous	22.23
Total overhead expenses per acre	89.72
Total dir & ovhd expenses per acre	506.93
Net return per acre	-90.41
Government payments	-
Net return with govt pmts	-90.41
Labor & management charge	23.63
Net return over lbr & mgt	-114.03
Cost of Production	
Total direct expense per cwt.	23.99
Total dir & ovhd exp per cwt.	29.15
Less govt & other income	28.57
With labor & management	29.93
Net value per unit	23.37
Machinery cost per acre	101.32
Est. labor hours per acre	1.85

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Corn on Owned Land

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	70	14	14	14
Acres	257.29	232.60	213.66	213.66
Yield per acre (bu.)	189.86	168.63	187.82	206.67
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	3.34	3.30	3.34	3.45
Total product return per acre	633.82	557.02	626.82	712.03
Hedging gains/losses per acre	4.77	-	-	11.68
Crop insurance per acre	4.20	2.03	0.21	4.26
Other crop income per acre	6.43	5.11	16.57	6.75
Gross return per acre	649.23	564.16	643.60	734.72
Direct Expenses				
Seed and plants	93.07	89.00	103.95	88.40
Fertilizer	108.83	112.09	109.16	109.56
Crop chemicals	26.35	22.84	29.90	24.65
Crop insurance	21.38	24.53	20.14	23.02
Drying expense	16.88	10.91	11.63	18.92
Storage	1.45	-	1.12	0.00
Fuel & oil	28.32	32.00	25.53	26.08
Repairs	44.83	51.32	41.02	38.65
Custom hire	7.46	11.50	1.54	7.67
Hired labor	5.80	23.26	0.77	0.57
Machinery leases	4.39	1.93	11.20	-
Marketing	1.06	0.09	0.67	0.01
Operating interest	15.66	18.24	15.60	11.72
Miscellaneous	3.17	1.41	5.71	3.62
Total direct expenses per acre	378.62	399.12	377.94	352.86
Return over direct exp per acre	270.61	165.04	265.66	381.86
Overhead Expenses				
Custom hire	0.63	0.38	-	1.65
Hired labor	25.08	11.43	20.02	28.74
Machinery leases	6.03	2.81	3.86	7.24
Building leases	2.80	0.20	0.39	0.94
RE & pers. property taxes	23.62	21.53	22.33	22.68
Farm insurance	8.48	7.07	8.07	7.76
Utilities	7.91	4.25	6.54	7.00
Dues & professional fees	4.30	6.55	4.31	5.47
Interest	49.84	31.42	45.77	49.62
Mach & bldg depreciation	50.43	36.01	64.62	52.73
Miscellaneous	10.14	33.70	4.76	7.29
Total overhead expenses per acre	189.25	155.35	180.68	191.12
Total dir & ovhd expenses per acre	567.87	554.46	558.62	543.98
Net return per acre	81.36	9.69	84.98	190.74
Government payments	1.57	3.43	1.52	0.83
Net return with govt pmts	82.93	13.12	86.51	191.57
Labor & management charge	41.22	31.44	56.94	39.02
Net return over lbr & mgt	41.71	-18.32	29.57	152.55
Cost of Production				
Total direct expense per bu.	1.99	2.37	2.01	1.71
Total dir & ovhd exp per bu.	2.99	3.29	2.97	2.63
Less govt & other income	2.90	3.23	2.88	2.52
With labor & management	3.12	3.41	3.18	2.71
Net value per unit	3.36	3.30	3.34	3.50
Machinery cost per acre	140.96	135.11	146.74	132.98
Est. labor hours per acre	2.35	2.37	2.56	2.09

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Corn on Cash Rent

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	128	25	25	26
Acres	589.77	620.77	677.96	617.63
Yield per acre (bu.)	188.96	184.58	188.29	196.77
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	3.36	3.33	3.34	3.43
Total product return per acre	634.24	614.45	629.32	675.36
Hedging gains/losses per acre	3.10	-	2.88	7.35
Crop insurance per acre	2.59	0.50	1.59	5.18
Other crop income per acre	6.58	3.28	7.79	6.60
Gross return per acre	646.51	618.23	641.59	694.49
Direct Expenses				
Seed and plants	90.81	90.00	90.35	87.46
Fertilizer	105.85	101.74	109.10	105.38
Crop chemicals	24.28	23.67	25.95	21.23
Crop insurance	18.57	17.23	19.51	18.21
Drying expense	17.40	25.58	21.72	14.17
Storage	1.77	0.94	2.54	0.00
Fuel & oil	25.55	24.57	25.83	26.64
Repairs	39.68	39.14	41.16	38.74
Custom hire	6.73	18.88	3.29	2.14
Hired labor	3.45	11.09	-	0.93
Land rent	143.79	186.77	139.78	124.97
Machinery leases	3.81	2.64	1.82	0.29
Marketing	0.45	0.83	0.17	0.01
Operating interest	14.04	19.49	13.67	8.30
Miscellaneous	1.88	1.10	0.44	1.18
Total direct expenses per acre	498.05	563.67	495.31	449.66
Return over direct exp per acre	148.47	54.56	146.28	244.84
Overhead Expenses				
Custom hire	0.66	-	-	0.25
Hired labor	21.44	10.83	21.15	27.30
Machinery leases	10.27	12.45	9.53	8.89
Building leases	2.82	8.41	1.49	1.09
Farm insurance	6.90	6.83	5.70	7.25
Utilities	5.99	5.56	4.88	4.70
Dues & professional fees	3.91	3.43	5.69	3.72
Interest	4.56	3.78	4.58	4.60
Mach & bldg depreciation	41.29	32.26	44.28	42.95
Miscellaneous	6.48	11.30	4.99	4.83
Total overhead expenses per acre	104.32	94.86	102.28	105.58
Total dir & ovhd expenses per acre	602.37	658.53	597.59	555.24
Net return per acre	44.15	-40.30	44.00	139.25
Government payments	1.69	1.66	1.37	1.85
Net return with govt pmts	45.84	-38.64	45.36	141.10
Labor & management charge	38.96	28.19	40.37	39.63
Net return over lbr & mgt	6.88	-66.83	5.00	101.47
Cost of Production				
Total direct expense per bu.	2.64	3.05	2.63	2.29
Total dir & ovhd exp per bu.	3.19	3.57	3.17	2.82
Less govt & other income	3.11	3.54	3.10	2.72
With labor & management	3.32	3.69	3.32	2.92
Net value per unit	3.37	3.33	3.36	3.47
Machinery cost per acre	129.10	132.08	125.25	121.47
Est. labor hours per acre	2.01	1.93	1.88	1.97

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Hay, Alfalfa on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	6
Acres	73.67
Yield per acre (ton)	3.01
Operators share of yield %	100.00
Value per ton	104.12
Total product return per acre	313.53
Other crop income per acre	9.11
Gross return per acre	322.64
Direct Expenses	
Fertilizer	18.22
Crop chemicals	3.26
Fuel & oil	14.80
Repairs	42.98
Hired labor	1.29
Land rent	126.59
Operating interest	4.19
Miscellaneous	1.83
Total direct expenses per acre	213.15
Return over direct exp per acre	109.50
Overhead Expenses	
Hired labor	30.09
Machinery leases	2.79
Farm insurance	8.52
Utilities	5.57
Dues & professional fees	2.74
Interest	2.66
Mach & bldg depreciation	39.01
Miscellaneous	5.11
Total overhead expenses per acre	96.48
Total dir & ovhd expenses per acre	309.63
Net return per acre	13.01
Government payments	4.26
Net return with govt pmts	17.27
Labor & management charge	38.03
Net return over lbr & mgt	-20.76
Cost of Production	
Total direct expense per ton	70.78
Total dir & ovhd exp per ton	102.82
Less govt & other income	98.38
With labor & management	111.01
Net value per unit	104.12
Machinery cost per acre	97.90
Est. labor hours per acre	2.09

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Soybeans on Owned Land

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	111	22	22	23
Acres	276.41	289.90	340.35	242.82
Yield per acre (bu.)	46.28	35.96	47.59	53.40
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	8.35	8.15	8.35	8.70
Total product return per acre	386.53	293.17	397.46	464.45
Hedging gains/losses per acre	1.55	-	-	4.43
Crop insurance per acre	9.49	14.64	5.58	11.18
Other crop income per acre	75.95	53.05	77.30	99.04
Gross return per acre	473.52	360.87	480.33	579.10
Direct Expenses				
Seed and plants	63.53	63.34	58.76	59.74
Fertilizer	9.21	17.51	6.16	6.34
Crop chemicals	34.22	31.28	36.97	33.43
Crop insurance	19.49	20.02	20.94	17.29
Storage	0.60	0.73	0.08	-
Fuel & oil	15.21	16.65	14.07	15.77
Repairs	24.52	22.73	24.23	24.46
Custom hire	4.58	4.10	7.09	2.80
Hired labor	1.48	5.24	0.72	0.11
Machinery leases	5.85	2.12	15.59	0.38
Marketing	0.61	0.23	0.13	0.11
Operating interest	7.06	5.27	8.71	7.47
Miscellaneous	2.59	1.48	4.78	2.42
Total direct expenses per acre	188.94	190.71	198.22	170.34
Return over direct exp per acre	284.58	170.15	282.11	408.75
Overhead Expenses				
Custom hire	0.36	-	0.08	1.74
Hired labor	14.22	10.14	14.74	13.25
Machinery leases	2.54	3.29	0.97	4.71
Building leases	0.95	0.23	1.69	0.64
RE & pers. property taxes	22.01	14.55	20.98	25.71
Farm insurance	7.57	7.95	7.11	8.00
Utilities	5.44	6.47	4.80	5.26
Dues & professional fees	3.62	3.08	3.22	5.26
Interest	46.15	37.62	36.65	47.37
Mach & bldg depreciation	31.97	32.81	25.26	32.51
Miscellaneous	3.70	1.78	3.58	4.85
Total overhead expenses per acre	138.52	117.92	119.10	149.31
Total dir & ovhd expenses per acre	327.46	308.63	317.32	319.65
Net return per acre	146.07	52.23	163.01	259.44
Government payments	2.83	3.18	2.55	1.38
Net return with govt pmts	148.90	55.41	165.56	260.82
Labor & management charge	28.25	26.66	26.93	30.40
Net return over lbr & mgt	120.65	28.75	138.63	230.42
Cost of Production				
Total direct expense per bu.	4.08	5.30	4.17	3.19
Total dir & ovhd exp per bu.	7.08	8.58	6.67	5.99
Less govt & other income	5.13	6.61	4.87	3.81
With labor & management	5.75	7.35	5.44	4.38
Net value per unit	8.39	8.15	8.35	8.78
Machinery cost per acre	84.44	81.15	84.76	80.58
Est. labor hours per acre	1.42	1.28	1.52	1.19

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Soybeans on Cash Rent

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	175	35	35	35
Acres	678.89	704.96	772.73	705.65
Yield per acre (bu.)	45.26	38.19	46.57	50.45
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	8.40	8.27	8.24	8.73
Total product return per acre	380.01	315.94	383.70	440.61
Hedging gains/losses per acre	2.36	0.10	7.04	-
Crop insurance per acre	10.11	16.63	10.45	13.31
Other crop income per acre	74.13	60.63	71.93	86.53
Gross return per acre	466.61	393.30	473.12	540.46
Direct Expenses				
Seed and plants	59.45	60.79	58.73	54.14
Fertilizer	10.77	12.86	8.22	9.99
Crop chemicals	32.40	32.30	33.22	29.09
Crop insurance	18.98	20.74	19.46	18.99
Storage	0.47	1.42	0.19	0.16
Fuel & oil	14.65	14.38	14.68	13.40
Repairs	22.82	24.24	19.70	22.39
Custom hire	4.20	5.72	3.89	2.48
Hired labor	0.72	2.10	1.00	-
Land rent	127.65	144.04	133.47	116.70
Machinery leases	3.95	2.38	10.49	0.40
Operating interest	6.51	6.36	7.86	5.70
Miscellaneous	1.91	1.11	3.15	1.18
Total direct expenses per acre	304.48	328.45	314.05	274.62
Return over direct exp per acre	162.12	64.86	159.07	265.84
Overhead Expenses				
Hired labor	13.06	8.62	13.75	16.01
Machinery leases	4.42	4.30	4.00	7.06
Building leases	1.32	2.00	1.01	0.57
Farm insurance	5.82	4.52	5.13	6.04
Utilities	3.92	3.60	3.18	3.71
Dues & professional fees	3.61	2.47	3.89	4.60
Interest	2.81	3.06	2.21	2.61
Mach & bldg depreciation	25.35	22.89	20.16	27.81
Miscellaneous	3.10	1.98	3.83	2.87
Total overhead expenses per acre	63.42	53.45	57.15	71.29
Total dir & ovhd expenses per acre	367.90	381.90	371.20	345.91
Net return per acre	98.70	11.41	101.92	194.55
Government payments	2.24	2.20	2.68	2.62
Net return with govt pmts	100.95	13.61	104.60	197.17
Labor & management charge	25.11	22.00	23.33	26.43
Net return over lbr & mgt	75.84	-8.39	81.26	170.74
Cost of Production				
Total direct expense per bu.	6.73	8.60	6.74	5.44
Total dir & ovhd exp per bu.	8.13	10.00	7.97	6.86
Less govt & other income	6.17	7.92	5.99	4.83
With labor & management	6.72	8.49	6.49	5.35
Net value per unit	8.45	8.28	8.39	8.73
Machinery cost per acre	76.35	74.11	73.03	74.90
Est. labor hours per acre	1.35	1.28	1.34	1.43

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Soybeans Seed on Owned Land

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	178.19
Yield per acre (bu.)	48.92
Operators share of yield %	100.00
Value per bu.	9.12
Total product return per acre	446.42
Hedging gains/losses per acre	15.09
Other crop income per acre	79.08
Gross return per acre	540.58
Direct Expenses	
Seed and plants	64.58
Fertilizer	19.35
Crop chemicals	38.01
Crop insurance	18.55
Fuel & oil	20.75
Repairs	33.82
Custom hire	2.43
Machinery leases	3.53
Marketing	1.64
Operating interest	9.23
Miscellaneous	2.51
Total direct expenses per acre	214.42
Return over direct exp per acre	326.16
Overhead Expenses	
Hired labor	22.20
Machinery leases	4.17
Building leases	2.31
RE & pers. property taxes	17.60
Farm insurance	6.66
Utilities	4.64
Dues & professional fees	5.08
Interest	68.60
Mach & bldg depreciation	33.50
Miscellaneous	4.66
Total overhead expenses per acre	169.42
Total dir & ovhd expenses per acre	383.84
Net return per acre	156.74
Government payments	5.75
Net return with govt pmts	162.49
Labor & management charge	32.72
Net return over lbr & mgt	129.78
Cost of Production	
Total direct expense per bu.	4.38
Total dir & ovhd exp per bu.	7.85
Less govt & other income	5.80
With labor & management	6.47
Net value per unit	9.43
Machinery cost per acre	94.51
Est. labor hours per acre	1.93

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Soybeans Seed on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	18
Acres	492.00
Yield per acre (bu.)	45.34
Operators share of yield %	100.00
Value per bu.	9.74
Total product return per acre	441.53
Hedging gains/losses per acre	14.47
Crop insurance per acre	4.96
Other crop income per acre	74.31
Gross return per acre	535.26
Direct Expenses	
Seed and plants	60.99
Fertilizer	18.73
Crop chemicals	35.29
Crop insurance	17.65
Fuel & oil	16.60
Repairs	27.97
Custom hire	3.10
Hired labor	0.69
Land rent	127.83
Machinery leases	2.64
Marketing	0.63
Operating interest	6.53
Miscellaneous	3.73
Total direct expenses per acre	322.38
Return over direct exp per acre	212.88
Overhead Expenses	
Hired labor	16.74
Machinery leases	1.30
Building leases	0.81
Farm insurance	5.69
Utilities	3.50
Dues & professional fees	3.57
Interest	2.36
Mach & bldg depreciation	30.50
Miscellaneous	3.07
Total overhead expenses per acre	67.54
Total dir & ovhd expenses per acre	389.92
Net return per acre	145.34
Government payments	4.63
Net return with govt pmts	149.97
Labor & management charge	36.09
Net return over lbr & mgt	113.89
Cost of Production	
Total direct expense per bu.	7.11
Total dir & ovhd exp per bu.	8.60
Less govt & other income	6.43
With labor & management	7.23
Net value per unit	10.06
Machinery cost per acre	81.06
Est. labor hours per acre	1.72

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Soybeans, Food on Owned Land

	<u>Avg. Of All Farms</u>
Number of farms	5
Acres	253.15
Yield per acre (bu.)	34.16
Operators share of yield %	100.00
Value per bu.	12.63
Total product return per acre	431.49
Crop insurance per acre	7.19
Other crop income per acre	56.25
Gross return per acre	494.93
Direct Expenses	
Seed and plants	29.40
Fertilizer	5.74
Crop chemicals	35.79
Crop insurance	15.18
Fuel & oil	14.31
Repairs	18.79
Custom hire	3.88
Hired labor	3.16
Operating interest	10.97
Miscellaneous	3.07
Total direct expenses per acre	140.29
Return over direct exp per acre	354.64
Overhead Expenses	
Hired labor	9.27
Machinery leases	5.26
Building leases	6.28
RE & pers. property taxes	25.07
Farm insurance	5.56
Utilities	4.81
Dues & professional fees	2.30
Interest	103.85
Mach & bldg depreciation	19.73
Miscellaneous	2.81
Total overhead expenses per acre	184.95
Total dir & ovhd expenses per acre	325.24
Net return per acre	169.68
Government payments	2.74
Net return with govt pmts	172.43
Labor & management charge	16.56
Net return over lbr & mgt	155.87
Cost of Production	
Total direct expense per bu.	4.11
Total dir & ovhd exp per bu.	9.52
Less govt & other income	7.58
With labor & management	8.07
Net value per unit	12.63
Machinery cost per acre	63.29
Est. labor hours per acre	0.94

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Soybeans, Food on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	13
Acres	380.19
Yield per acre (bu.)	37.48
Operators share of yield %	100.00
Value per bu.	12.02
Total product return per acre	450.39
Crop insurance per acre	2.38
Other crop income per acre	63.26
Gross return per acre	516.04
Direct Expenses	
Seed and plants	24.37
Fertilizer	7.82
Crop chemicals	44.27
Crop insurance	17.80
Fuel & oil	15.64
Repairs	27.43
Custom hire	3.95
Hired labor	0.95
Land rent	158.39
Machinery leases	0.73
Operating interest	9.34
Miscellaneous	2.69
Total direct expenses per acre	313.38
Return over direct exp per acre	202.66
Overhead Expenses	
Hired labor	11.83
Machinery leases	3.63
Building leases	3.38
Farm insurance	7.20
Utilities	4.89
Dues & professional fees	4.44
Interest	3.06
Mach & bldg depreciation	30.20
Miscellaneous	3.37
Total overhead expenses per acre	71.99
Total dir & ovhd expenses per acre	385.37
Net return per acre	130.66
Government payments	3.24
Net return with govt pmts	133.90
Labor & management charge	27.64
Net return over lbr & mgt	106.27
Cost of Production	
Total direct expense per bu.	8.36
Total dir & ovhd exp per bu.	10.28
Less govt & other income	8.44
With labor & management	9.18
Net value per unit	12.02
Machinery cost per acre	81.97
Est. labor hours per acre	1.08

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Sugar Beets on Owned Land, Excluding Joint Venture

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	31	6	6	7
Acres	159.24	180.20	100.40	143.90
Yield per acre (ton)	25.74	19.55	29.97	28.44
Operators share of yield %	100.00	100.00	100.00	100.00
Value per ton	39.59	37.97	39.98	43.93
Total product return per acre	1,019.01	742.48	1,198.20	1,249.39
Crop insurance per acre	54.07	3.07	-	8.29
Other crop income per acre	6.87	22.97	1.24	0.82
Gross return per acre	1,079.96	768.52	1,199.44	1,258.51
Direct Expenses				
Seed and plants	221.93	188.07	257.46	220.38
Fertilizer	79.83	70.18	78.44	73.13
Crop chemicals	113.34	121.70	91.97	84.99
Crop insurance	30.86	33.49	24.29	28.97
Fuel & oil	56.63	52.24	58.15	54.10
Repairs	93.27	68.87	119.84	75.18
Custom hire	9.67	16.32	11.31	8.30
Hired labor	36.28	31.22	40.78	44.28
Machinery leases	5.23	15.50	0.15	-
Hauling and trucking	12.44	-	12.61	23.49
Operating interest	19.33	15.45	26.69	12.46
Miscellaneous	3.15	1.17	6.51	0.97
Total direct expenses per acre	681.96	614.20	728.20	626.26
Return over direct exp per acre	398.00	154.31	471.24	632.25
Overhead Expenses				
Custom hire	0.14	0.65	-	-
Hired labor	56.83	76.63	38.30	24.79
Machinery leases	15.20	15.24	14.03	12.64
Building leases	3.45	1.96	10.75	3.28
RE & pers. property taxes	25.91	27.02	24.20	20.36
Farm insurance	18.96	7.29	24.50	25.05
Utilities	16.90	9.47	10.93	12.05
Dues & professional fees	6.82	2.37	9.24	11.22
Interest	61.35	45.07	60.89	62.77
Mach & bldg depreciation	97.33	68.49	109.42	91.08
Miscellaneous	7.89	3.46	8.28	5.16
Total overhead expenses per acre	310.78	257.66	310.54	268.40
Total dir & ovhd expenses per acre	992.74	871.87	1,038.74	894.66
Net return per acre	87.22	-103.35	160.70	363.85
Government payments	2.73	1.45	3.67	3.51
Net return with govt pmts	89.95	-101.89	164.37	367.36
Labor & management charge	92.13	95.11	72.23	116.26
Net return over lbr & mgt	-2.18	-197.01	92.14	251.10
Cost of Production				
Total direct expense per ton	26.49	31.41	24.30	22.02
Total dir & ovhd exp per ton	38.57	44.59	34.66	31.45
Less govt & other income	36.09	43.18	34.49	31.01
With labor & management	39.67	48.04	36.90	35.10
Net value per unit	39.59	37.97	39.98	43.93
Machinery cost per acre	282.08	231.76	313.26	245.28
Est. labor hours per acre	5.23	4.33	4.68	4.69

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Sugar Beets on Owned Land, Including Joint Venture

	<u>Avg. Of All Farms</u>
Number of farms	18
Acres	129.91
Yield per acre (ton)	31.42
Operators share of yield %	100.00
Value per ton	36.36
Total product return per acre	1,142.50
Crop insurance per acre	1.34
Other crop income per acre	16.60
Gross return per acre	1,160.44
Direct Expenses	
Seed and plants	223.76
Fertilizer	78.10
Crop chemicals	107.55
Crop insurance	31.37
Fuel & oil	58.71
Repairs	85.11
Custom hire	21.58
Hired labor	33.62
Stock/quota lease	162.09
Machinery leases	3.73
Hauling and trucking	15.92
Operating interest	34.46
Miscellaneous	4.65
Total direct expenses per acre	860.63
Return over direct exp per acre	299.81
Overhead Expenses	
Hired labor	41.93
Machinery leases	13.56
Building leases	7.82
RE & pers. property taxes	24.43
Farm insurance	12.07
Utilities	12.52
Dues & professional fees	5.84
Interest	92.06
Mach & bldg depreciation	108.83
Miscellaneous	5.89
Total overhead expenses per acre	324.94
Total dir & ovhd expenses per acre	1,185.58
Net return per acre	-25.13
Government payments	1.55
Net return with govt pmts	-23.59
Labor & management charge	91.98
Net return over lbr & mgt	-115.57
Cost of Production	
Total direct expense per ton	27.39
Total dir & ovhd exp per ton	37.74
Less govt & other income	37.11
With labor & management	40.04
Net value per unit	36.36
Machinery cost per acre	299.38
Est. labor hours per acre	4.79

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Sugar Beets on Cash Rent, Excluding Joint Venture

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	63	12	12	13
Acres	252.18	262.46	241.60	314.11
Yield per acre (ton)	28.60	24.96	30.46	31.89
Operators share of yield %	100.00	100.00	100.00	100.00
Value per ton	38.13	28.70	38.95	42.63
Total product return per acre	1,090.47	716.51	1,186.53	1,359.53
Crop insurance per acre	8.30	19.95	-	-
Other crop income per acre	7.23	17.65	5.97	3.98
Gross return per acre	1,106.00	754.11	1,192.49	1,363.52
Direct Expenses				
Seed and plants	215.92	200.03	243.14	211.99
Fertilizer	75.05	84.49	71.62	69.16
Crop chemicals	110.39	126.22	103.58	108.60
Crop insurance	26.97	37.12	25.26	11.52
Fuel & oil	59.75	62.23	60.19	60.76
Repairs	99.21	111.18	100.95	87.45
Custom hire	12.20	6.14	24.64	12.32
Hired labor	37.02	10.41	47.32	41.82
Land rent	123.53	145.23	133.04	102.53
Machinery leases	3.99	2.20	1.72	0.80
Hauling and trucking	19.48	-	26.68	22.41
Operating interest	18.78	31.73	29.77	6.75
Miscellaneous	3.85	0.71	4.56	2.61
Total direct expenses per acre	806.14	817.68	872.47	738.71
Return over direct exp per acre	299.86	-63.58	320.02	624.81
Overhead Expenses				
Custom hire	1.57	7.71	-	-
Hired labor	60.31	61.69	58.50	63.55
Machinery leases	10.30	15.92	8.34	16.37
Building leases	1.94	0.21	2.17	1.18
Farm insurance	15.36	10.16	13.83	20.52
Utilities	12.20	10.18	12.00	13.42
Dues & professional fees	9.73	9.93	9.15	12.09
Interest	8.31	3.47	13.97	5.31
Mach & bldg depreciation	96.44	80.53	89.19	104.54
Miscellaneous	15.00	13.50	30.46	16.61
Total overhead expenses per acre	231.17	213.29	237.62	253.59
Total dir & ovhd expenses per acre	1,037.31	1,030.97	1,110.10	992.30
Net return per acre	68.69	-276.86	82.40	371.22
Government payments	3.07	1.11	5.02	4.64
Net return with govt pmts	71.76	-275.75	87.42	375.86
Labor & management charge	106.72	73.37	92.26	128.25
Net return over lbr & mgt	-34.97	-349.12	-4.84	247.60
Cost of Production				
Total direct expense per ton	28.19	32.76	28.64	23.16
Total dir & ovhd exp per ton	36.27	41.30	36.44	31.12
Less govt & other income	35.62	39.75	36.08	30.85
With labor & management	39.35	42.69	39.11	34.87
Net value per unit	38.13	28.70	38.95	42.63
Machinery cost per acre	283.60	287.96	286.52	278.68
Est. labor hours per acre	5.56	4.99	5.05	6.15

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Sugar Beets on Cash Rent, Including Joint Venture

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	47	9	10	10
Acres	284.47	317.14	221.33	204.98
Yield per acre (ton)	27.65	20.56	29.02	31.74
Operators share of yield %	100.00	100.00	100.00	100.00
Value per ton	39.58	38.90	40.84	40.42
Total product return per acre	1,094.39	799.70	1,185.17	1,282.80
Crop insurance per acre	6.99	19.05	0.61	6.85
Other crop income per acre	10.71	11.38	2.80	17.08
Gross return per acre	1,112.10	830.13	1,188.57	1,306.74
Direct Expenses				
Seed and plants	222.53	216.90	228.08	226.21
Fertilizer	75.72	73.05	74.96	82.55
Crop chemicals	108.31	122.67	116.09	84.74
Crop insurance	25.04	33.97	23.79	21.24
Fuel & oil	56.79	60.39	46.81	56.87
Repairs	93.28	91.67	71.21	101.98
Custom hire	18.86	20.29	25.15	10.36
Hired labor	39.93	35.27	46.43	34.07
Land rent	146.50	145.86	148.25	123.02
Stock/quota lease	182.81	173.89	192.91	160.28
Machinery leases	2.11	0.98	2.69	3.74
Hauling and trucking	17.86	6.10	42.71	0.40
Operating interest	26.43	31.31	13.98	25.46
Miscellaneous	4.44	2.48	4.01	7.87
Total direct expenses per acre	1,020.59	1,014.84	1,037.06	938.81
Return over direct exp per acre	91.50	-184.71	151.50	367.93
Overhead Expenses				
Hired labor	40.63	63.25	30.90	26.82
Machinery leases	18.86	22.51	27.32	4.57
Building leases	3.36	2.56	4.06	8.57
Farm insurance	12.79	9.83	10.85	20.25
Utilities	9.95	12.01	12.21	12.64
Dues & professional fees	6.94	3.78	6.89	12.92
Interest	11.87	9.69	9.82	14.10
Mach & bldg depreciation	85.88	75.10	71.18	110.53
Miscellaneous	8.86	23.92	4.25	5.76
Total overhead expenses per acre	199.15	222.64	177.48	216.18
Total dir & ovhd expenses per acre	1,219.74	1,237.49	1,214.55	1,154.99
Net return per acre	-107.64	-407.36	-25.98	151.75
Government payments	1.99	2.16	2.29	2.46
Net return with govt pmts	-105.65	-405.20	-23.69	154.21
Labor & management charge	92.84	84.82	107.01	108.63
Net return over lbr & mgt	-198.48	-490.02	-130.70	45.58
Cost of Production				
Total direct expense per ton	36.91	49.36	35.74	29.58
Total dir & ovhd exp per ton	44.11	60.19	41.86	36.39
Less govt & other income	43.40	58.61	41.66	35.56
With labor & management	46.76	62.74	45.35	38.99
Net value per unit	39.58	38.90	40.84	40.42
Machinery cost per acre	279.29	272.69	249.35	291.32
Est. labor hours per acre	4.47	4.24	5.17	4.83

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Sunflowers on Cash Rent

	<u>Avg. Of All Farms</u>
Number of farms	5
Acres	445.83
Yield per acre (cwt.)	23.18
Operators share of yield %	100.00
Value per cwt.	19.19
Total product return per acre	444.64
Other crop income per acre	6.70
Gross return per acre	451.34
Direct Expenses	
Seed and plants	34.89
Fertilizer	40.98
Crop chemicals	39.86
Crop insurance	14.56
Storage	1.58
Fuel & oil	19.14
Repairs	26.27
Custom hire	6.36
Land rent	118.51
Operating interest	6.72
Miscellaneous	1.01
Total direct expenses per acre	309.88
Return over direct exp per acre	141.47
Overhead Expenses	
Custom hire	2.16
Hired labor	9.19
Machinery leases	0.22
Building leases	3.34
Farm insurance	6.26
Utilities	5.34
Dues & professional fees	3.46
Interest	5.34
Mach & bldg depreciation	25.58
Miscellaneous	3.50
Total overhead expenses per acre	64.40
Total dir & ovhd expenses per acre	374.28
Net return per acre	77.07
Government payments	2.47
Net return with govt pmts	79.54
Labor & management charge	23.15
Net return over lbr & mgt	56.39
Cost of Production	
Total direct expense per cwt.	13.37
Total dir & ovhd exp per cwt.	16.15
Less govt & other income	15.75
With labor & management	16.75
Net value per unit	19.19
Machinery cost per acre	80.16
Est. labor hours per acre	1.71

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

Wheat, Spring on Owned Land

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	75	15	15	15
Acres	244.75	256.03	307.98	226.20
Yield per acre (bu.)	63.74	54.96	64.27	72.03
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	5.59	5.56	5.56	5.71
Total product return per acre	356.17	305.68	357.20	411.34
Hedging gains/losses per acre	0.67	-	-	3.46
Crop insurance per acre	6.51	6.30	16.08	3.71
Other crop income per acre	16.54	11.30	13.01	29.41
Gross return per acre	379.89	323.27	386.30	447.93
Direct Expenses				
Seed and plants	21.00	19.21	20.25	23.66
Fertilizer	79.75	80.25	84.53	80.95
Crop chemicals	33.30	41.55	35.27	32.97
Crop insurance	14.55	16.18	16.15	12.73
Fuel & oil	15.94	14.38	15.25	16.17
Repairs	25.01	25.74	24.23	22.94
Custom hire	6.42	3.98	8.61	3.36
Hired labor	4.44	10.91	3.25	-
Machinery leases	1.95	0.24	0.03	2.81
Operating interest	7.09	6.90	6.19	6.18
Miscellaneous	3.90	2.56	3.01	3.19
Total direct expenses per acre	213.35	221.91	216.77	204.96
Return over direct exp per acre	166.53	101.36	169.52	242.97
Overhead Expenses				
Hired labor	13.89	12.79	19.47	9.30
Machinery leases	1.85	1.58	0.55	4.08
Building leases	1.34	0.05	2.69	0.87
RE & pers. property taxes	20.27	15.00	18.16	24.95
Farm insurance	7.56	8.17	8.45	8.79
Utilities	4.27	5.70	3.96	5.08
Dues & professional fees	3.90	5.10	3.79	4.15
Interest	38.79	23.98	30.03	46.40
Mach & bldg depreciation	32.64	40.09	32.53	27.63
Miscellaneous	4.77	6.77	4.01	2.52
Total overhead expenses per acre	129.28	119.23	123.63	133.77
Total dir & ovhd expenses per acre	342.63	341.14	340.40	338.72
Net return per acre	37.25	-17.87	45.89	109.20
Government payments	4.38	6.22	5.56	6.65
Net return with govt pmts	41.63	-11.65	51.45	115.85
Labor & management charge	26.84	27.25	26.49	27.29
Net return over lbr & mgt	14.79	-38.90	24.97	88.56
Cost of Production				
Total direct expense per bu.	3.35	4.04	3.37	2.85
Total dir & ovhd exp per bu.	5.38	6.21	5.30	4.70
Less govt & other income	4.93	5.77	4.76	4.10
With labor & management	5.36	6.27	5.17	4.48
Net value per unit	5.60	5.56	5.56	5.76
Machinery cost per acre	83.12	85.39	80.18	74.61
Est. labor hours per acre	1.47	1.40	1.64	1.37

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2018
(Farms Sorted By Return to Overhead)

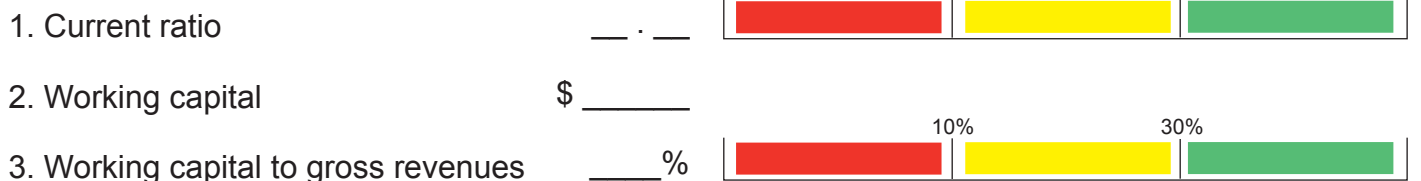
Wheat, Spring on Cash Rent

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	139	27	28	28
Acres	523.42	420.74	539.13	665.50
Yield per acre (bu.)	64.66	56.06	65.37	70.85
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	5.62	5.49	5.61	5.80
Total product return per acre	363.52	307.96	366.89	410.77
Hedging gains/losses per acre	2.12	0.57	-	4.13
Crop insurance per acre	6.25	1.95	4.61	12.14
Other crop income per acre	15.35	16.06	14.50	17.24
Gross return per acre	387.24	326.54	386.00	444.28
Direct Expenses				
Seed and plants	19.99	21.19	20.66	18.34
Fertilizer	78.28	77.73	77.75	78.40
Crop chemicals	30.07	29.81	28.25	30.67
Crop insurance	13.72	13.51	14.35	13.20
Fuel & oil	15.37	15.27	16.03	15.36
Repairs	24.56	24.69	25.69	25.29
Custom hire	6.77	8.89	9.51	3.60
Hired labor	2.15	5.57	2.72	0.38
Land rent	118.04	139.53	128.93	93.09
Machinery leases	2.62	0.88	1.80	2.16
Operating interest	5.95	8.17	6.61	3.33
Miscellaneous	3.85	4.15	4.36	3.30
Total direct expenses per acre	321.38	349.39	336.66	287.13
Return over direct exp per acre	65.86	-22.85	49.34	157.15
Overhead Expenses				
Hired labor	12.53	15.38	11.59	12.77
Machinery leases	3.21	2.20	2.60	4.87
Building leases	1.37	1.98	1.69	0.13
Farm insurance	6.62	6.40	6.60	6.03
Utilities	3.65	3.70	3.72	3.80
Dues & professional fees	3.58	2.89	4.56	3.50
Interest	3.13	3.34	3.09	2.53
Mach & bldg depreciation	26.69	23.10	29.21	29.36
Miscellaneous	3.79	7.87	2.32	4.56
Total overhead expenses per acre	64.57	66.84	65.38	67.55
Total dir & ovhd expenses per acre	385.94	416.23	402.04	354.68
Net return per acre	1.29	-89.69	-16.04	89.60
Government payments	4.20	3.13	2.98	5.70
Net return with govt pmts	5.49	-86.56	-13.06	95.30
Labor & management charge	27.41	24.55	28.84	32.31
Net return over lbr & mgt	-21.91	-111.12	-41.90	62.99
Cost of Production				
Total direct expense per bu.	4.97	6.23	5.15	4.05
Total dir & ovhd exp per bu.	5.97	7.42	6.15	5.01
Less govt & other income	5.54	7.04	5.81	4.45
With labor & management	5.96	7.48	6.25	4.91
Net value per unit	5.65	5.50	5.61	5.86
Machinery cost per acre	80.03	76.30	85.97	79.77
Est. labor hours per acre	1.42	1.35	1.40	1.43

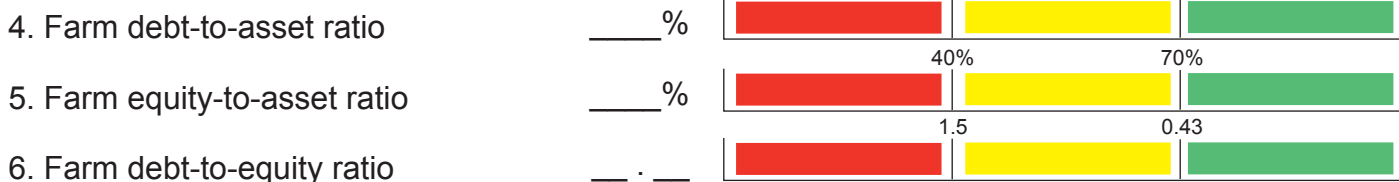
Farm Finance Scorecard

Year _____

Liquidity



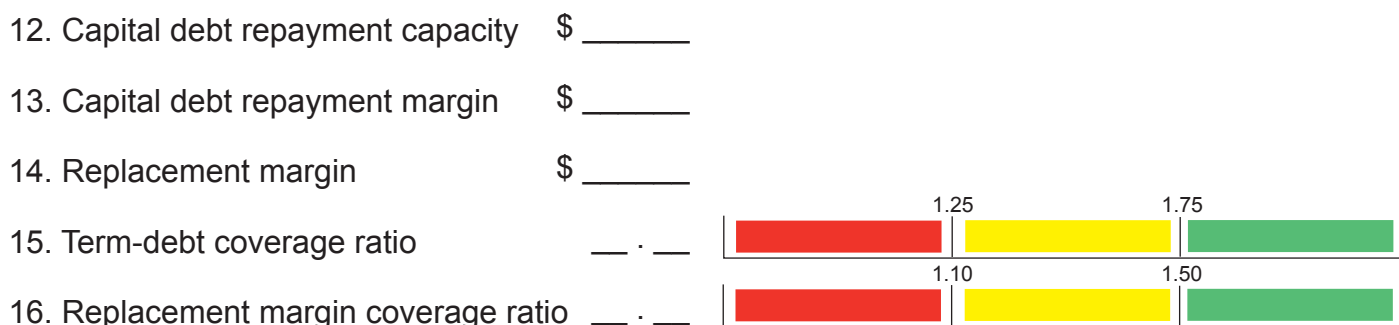
Solvency



Profitability



Repayment capacity



Financial efficiency

