Minnesota and North Dakota
Farm Business Management Education

Red River Valley
2015 Report

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Minnesota Farm Business Management Education
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RED RIVER VALLEY AVERAGES
2015 ANNUAL REPORT

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A special acknowledgment is due Northland Community and Technical College, Thief River Falls, Minnesota, and the North Dakota State Board for Vocational and Technical Education for cooperation in the development of the 22nd annual Red River Valley Report.

2015 Red River Valley Report
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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 2015 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 table lists cash farm income from all sources. There are three possible sources of cash income from crops. The first is income from cash sales. The second is income from crops stored under government loan programs when the loan is treated as income for the year in which the crop was stored. If the crop value has not been entered as income when it was stored, then it would be treated as cash income in the year it was sold. The third is Net Government Sales, which refers to the difference between income credited in the year a crop was stored and the actual cash income received at the time it was sold. There are two categories of cash income from livestock sales. "Raised" steer, hogs, and lambs refer to animals raised from birth to market weight on the farm. "Finished" animals refers to those purchased as feeders and fed to market weight. Government payments are grouped as “Direct, CCP & ACRE pymts;” “LDP payments” which are loan deficiency payments that may be received on production when local prices are below the county loan rate for the crop; “Other government payments” which refers to all other government payments such as disaster payments but not including CRP payments; and CRP payments.

The second section of the income statement lists cash expenses. "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 $20,000 per full time operator plus 5% of value of farm production is used.
"**Return of farm assets**" is calculated by adding "Farm interest expense" to "Net farm income" and then subtracting the "Value of operator's labor and management."
"**Average farm assets**" is the average of beginning and ending total farm assets.
"**Return on farm equity**" is calculated by subtracting the "Value of operator's labor and management" from "Net farm income."
"**Average farm equity**" is the average of beginning and ending farm net worth.
"**Value of farm production**" is gross cash farm income minus purchased feed and feeder livestock and adjusted for inventory changes in crops, market livestock, accounts receivable and breeding livestock.

Liquidity & Repayment Capacity Measures

The table shows several measures of liquidity and repayment capacity. Calculation of repayment capacity starts with net farm income from operations and adds back the non-cash expense of depreciation. Personal income is also added. Family living expenses, personal debt payments, 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

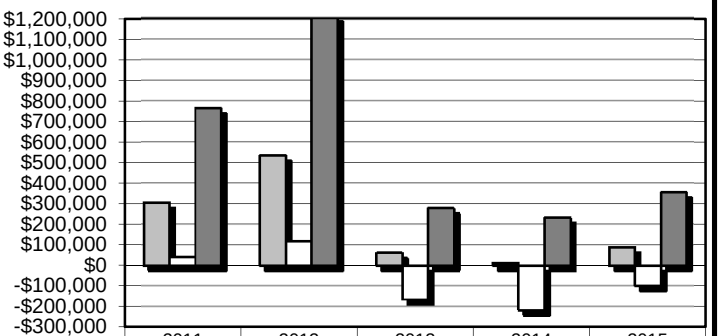
This table reports the average for the number of operators per farm, the operator's age, and the number of years farming.

Nonfarm Summary

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

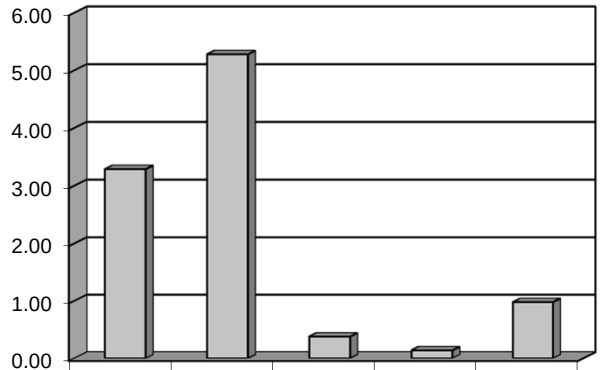
Five Year Trend of Financial Measures
Red River Valley Farm Business Management Education

Net Farm Income



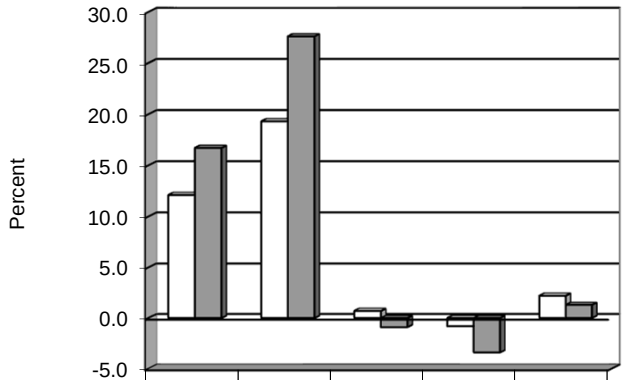
	2011	2012	2013	2014	2015
Average	307,053	536,722	61,749	12,723	89,489
Low 20%	41,702	118,136	-164,215	-216,307	-97,775
High20%	766,032	1,212,181	279,501	232,417	355,681

Term Debt Coverage Ratio (accrual)



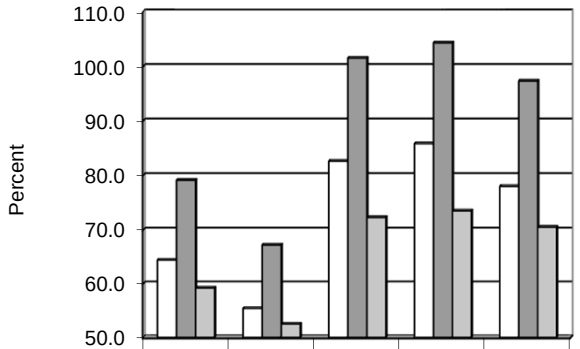
	2011	2012	2013	2014	2015
Ratio	3.29	5.28	0.38	0.14	0.98

Rate of Return (cost)



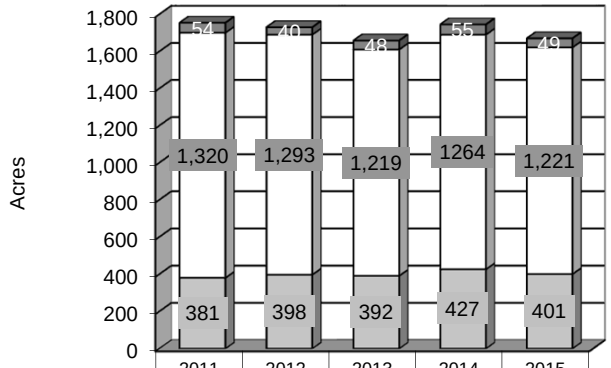
	2011	2012	2013	2014	2015
RR on Assets	12.1	19.3	0.7	-0.8	2.2
RR on Equity	16.7	27.6	-0.9	-3.4	1.3

Operating Expense Ratio



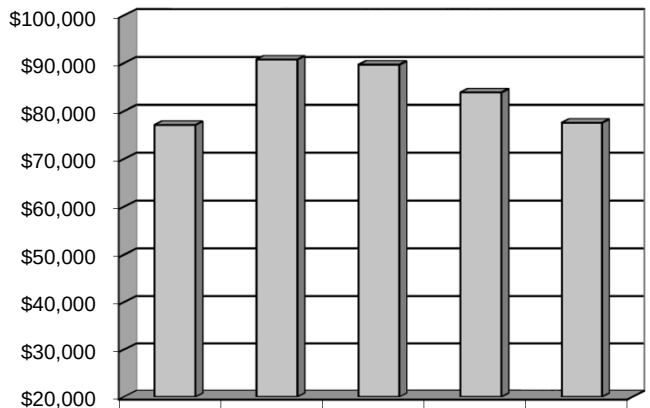
	2011	2012	2013	2014	2015
Average	64.4	55.4	82.6	85.8	78.0
Low 20%	79.1	67.2	101.5	104.3	97.3
High 20%	59.2	52.5	72.3	73.5	70.5

Crop Acres



	2011	2012	2013	2014	2015
Share Rent	54	40	48	55	49
Cash Rent	1,320	1,293	1,219	1264	1,221
Owned	381	398	392	427	401

Apparent Family Living



	2011	2012	2013	2014	2015
Dollars	$77,101	$90,773	$89,691	$83,903	$77,561

Farm Income Statement
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	266	53	53	54
Cash Farm Income				
Barley	5,867	455	9,903	8,501
Beans, Black Turtle	3,220	-	-	1,559
Beans, Dark Red Kidney	401	-	-	-
Beans, Navy	2,129	6,061	599	1,958
Beans, Pink	168	-	-	-
Beans, Pinto	3,671	8,246	-	7,305
Beans, Small Red	161	-	-	794
Canola	679	617	-	2,739
Corn	200,542	165,164	193,684	355,538
Hay, Alfalfa	1,372	1,092	-	5,537
Peas, Field	78	392	-	-
Potatoes	10,288	-	-	50,676
Rye	535	1,154	434	1,076
Soybeans	241,502	237,183	170,681	408,857
Soybeans Seed	1,339	-	-	6,596
Straw	3,944	304	17,236	1,647
Sugar Beets	144,206	80,735	85,904	353,838
Sunflowers	4,740	4,355	2,321	12,013
Sunflowers, Confectionary	662	-	-	-
Wheat, Durum	273	-	1,372	-
Wheat, Spring	95,454	106,204	53,317	172,843
Wheat, Winter	907	4,554	-	-
Soybeans, Organic	1,442	-	774	4,199
Soybeans, Food	7,908	1,640	4,846	15,935
Corn, Organic	423	-	2,121	-
Rye, Organic	132	-	-	651
Corn, Blue, Organic	1,160	-	-	5,713
User Added Crop	1,307	-	-	5,608
Miscellaneous crop income	58	12	85	192
Beef Replacement Heifers	95	472	-	-
Beef Backgrounding	1,912	160	8,859	567
Beef Finishing	7,569	37,690	-	294
Hogs, Farrow To Finish, Raised Hog	1,990	-	-	-
Sheep, Market Lamb Prod, Mkt Lambs	779	3,909	-	-
Cull breeding livestock	103	212	117	183
Misc. livestock income	151	496	-	37
Crop government payments	25,309	25,220	21,629	40,587
CRP payments	1,909	1,062	1,894	2,132
Other government payments	6,617	3,029	6,531	13,334
Custom work income	9,228	9,997	6,728	11,102
Patronage dividends, cash	15,874	15,352	10,642	29,087
Crop insurance income	36,256	28,325	30,944	77,262
Property insurance income	2,414	1,498	1,476	4,396
Sale of resale items	1,438	2,241	136	3,402
Other farm income	39,474	30,298	21,125	83,735
Gross Cash Farm Income	885,684	778,129	653,357	1,689,894

Farm Income Statement (continued)
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	266	53	53	54
Cash Farm Expense				
Seed	108,159	96,953	86,202	199,757
Fertilizer	109,225	95,558	80,239	207,106
Crop chemicals	62,040	53,398	36,561	123,307
Crop insurance	32,454	32,635	25,419	55,908
Drying expense	3,031	2,370	2,220	5,777
Storage	764	656	337	1,404
Irrigation energy	559	73	26	2,416
Crop custom hire	5,089	5,539	3,418	10,771
Hauling and trucking	1,562	65	1,049	5,789
Crop marketing	1,175	921	539	1,514
Crop miscellaneous	2,746	4,216	2,489	3,186
Consultants	2,874	2,572	1,855	5,635
Feeder livestock purchase	4,761	17,921	5,420	285
Purchased feed	2,279	5,885	1,910	207
Veterinary	125	347	67	50
Supplies	326	929	19	322
Livestock marketing	143	32	-	-
Interest	35,972	34,419	24,930	69,085
CCC buyback	3,730	-	8,021	10,003
Fuel & oil	34,276	31,759	27,738	59,195
Repairs	54,828	55,840	43,217	92,953
Custom hire	6,662	4,779	6,008	10,792
Hired labor	36,960	38,729	20,558	81,684
Land rent	156,283	139,575	110,003	305,768
Stock/quota lease	6,519	5,477	3,810	16,230
Machinery leases	10,167	9,536	7,605	20,102
Building leases	2,663	3,683	1,069	5,700
Real estate taxes	10,710	9,206	7,748	21,698
Farm insurance	14,153	15,234	10,830	23,763
Utilities	9,120	10,916	8,118	13,874
Dues & professional fees	6,467	7,945	6,102	10,514
Purchase of resale items	4,557	613	7,431	4,239
Miscellaneous	8,841	8,272	6,120	16,222
Total cash expense	739,220	696,056	547,078	1,385,253
Net cash farm income	146,465	82,074	106,279	304,641
Inventory Changes				
Prepaids and supplies	-14,729	-33,812	-14,101	-11,158
Accounts receivable	-32,385	-22,646	-17,484	-57,684
Hedging accounts	4,660	-3,407	-810	25,523
Other current assets	-426	-810	-1,127	666
Crops and feed	61,948	-16,541	42,695	179,966
Market livestock	-3,324	-16,263	-960	-9
Breeding livestock	-29	193	-1	-207
Other assets	7,653	373	2,936	28,851
Accounts payable	-2,457	-3,820	-1,949	12,014
Accrued interest	-2,480	-2,503	-935	-5,446
Total inventory change	18,432	-99,238	8,264	172,516
Net operating profit	164,897	-17,164	114,543	477,157
Depreciation				
Machinery and equipment	-67,282	-71,242	-52,186	-110,337
Titled vehicles	-4,814	-5,276	-4,122	-6,551
Buildings and improvements	-4,622	-4,093	-3,955	-10,806
Total depreciation	-76,719	-80,611	-60,263	-127,694
Net farm income from operations	88,178	-97,775	54,280	349,463
Gain or loss on capital sales	1,311	-	-	6,218
Net farm income	89,489	-97,775	54,280	355,681

Inventory Changes
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	266	53	53	54
Net cash farm income	146,465	82,074	106,279	304,641
Crops and Feed				
Ending inventory	510,194	369,900	394,741	1,026,669
Beginning inventory	448,245	386,441	352,046	846,703
Inventory change	61,948	-16,541	42,695	179,966
Market Livestock				
Ending inventory	5,256	13,594	6,514	1,025
Beginning inventory	8,580	29,857	7,474	1,034
Inventory change	-3,324	-16,263	-960	-9
Accts Receivable				
Ending inventory	77,804	80,952	57,325	127,875
Beginning inventory	110,189	103,599	74,809	185,559
Inventory change	-32,385	-22,646	-17,484	-57,684
Prepaid Expenses and Supplies				
Ending inventory	87,226	59,875	50,346	200,193
Beginning inventory	101,955	93,687	64,448	211,351
Inventory change	-14,729	-33,812	-14,101	-11,158
Hedging Activities				
Ending inventory	8,182	3,390	2,316	28,528
Withdrawals	6,984	895	807	29,034
Beginning inventory	8,287	5,834	2,532	28,277
Deposits	2,218	1,858	1,400	3,762
Gain or loss	4,660	-3,407	-810	25,523
Other Current Assets				
Ending inventory	2,929	409	615	12,996
Beginning inventory	3,355	1,220	1,742	12,330
Inventory change	-426	-810	-1,127	666
Breeding Livestock				
Ending inventory	1,964	5,025	2,174	1,995
Capital sales	101	470	37	-
Beginning inventory	1,920	4,814	1,827	2,203
Capital purchases	173	487	384	-
Depreciation, capital adjust	-29	193	-1	-207
Other Capital Assets				
Ending inventory	263,100	173,262	162,113	605,442
Capital sales	10,270	14,621	475	30,382
Beginning inventory	253,000	186,821	154,373	566,600
Capital purchases	12,717	689	5,280	40,372
Depreciation, capital adjust	7,653	373	2,936	28,851
Accounts Payable				
Beginning inventory	27,457	29,541	20,557	41,714
Ending inventory	29,914	33,361	22,506	29,699
Inventory change	-2,457	-3,820	-1,949	12,014
Accrued Interest				
Beginning inventory	14,963	14,933	10,248	26,532
Ending inventory	17,448	17,452	11,189	31,976
Inventory change	-2,480	-2,503	-935	-5,446
Total inventory change	18,432	-99,238	8,264	172,516
Net operating profit	164,897	-17,164	114,543	477,157

Depreciation
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	266	53	53	54
Net operating profit	164,897	-17,164	114,543	477,157
Machinery and Equipment				
Ending inventory	701,159	726,576	547,662	1,166,485
Capital sales	8,666	5,602	2,438	19,345
Beginning inventory	725,017	763,464	563,368	1,204,120
Capital purchases	52,090	39,955	38,918	92,046
Depreciation, capital adjust.	-67,282	-71,242	-52,186	-110,337
Titled Vehicles				
Ending inventory	46,795	50,544	36,277	67,746
Capital sales	773	684	1,809	124
Beginning inventory	47,508	51,737	38,164	66,204
Capital purchases	4,874	4,767	4,044	8,218
Depreciation, capital adjust.	-4,814	-5,276	-4,122	-6,551
Buildings and Improvements				
Ending inventory	210,159	195,832	164,672	416,585
Capital sales	1,430	-	9	7,037
Beginning inventory	203,990	197,056	158,294	396,585
Capital purchases	12,222	2,870	10,344	37,843
Depreciation, capital adjust.	-4,622	-4,093	-3,955	-10,806
Total depreciation, capital adj.	-76,719	-80,611	-60,263	-127,694
Net farm income from operations	88,178	-97,775	54,280	349,463
Gain or loss on capital sales	1,311	-	-	6,218
Net farm income	89,489	-97,775	54,280	355,681

Profitability Measures
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	***Low 20%***	***40 - 60%***	***High 20%***
Number of farms	266	53	53	54
Profitability (assets valued at cost)				
Net farm income from operations	88,178	-97,775	54,280	349,463
Rate of return on assets	2.2 %	-5.1 %	1.3 %	6.0 %
Rate of return on equity	1.3 %	-11.2 %	0.0 %	7.6 %
Operating profit margin	6.5 %	-17.4 %	3.9 %	16.6 %
Asset turnover rate	33.4 %	29.3 %	32.1 %	36.0 %
Farm interest expense	38,452	36,923	25,865	74,531
Value of operator lbr and mgmt.	66,861	60,380	54,121	114,161
Return on farm assets	59,770	-121,232	26,024	309,832
Average farm assets	2,734,341	2,375,714	2,071,139	5,177,520
Return on farm equity	21,317	-158,155	159	235,301
Average farm equity	1,686,779	1,414,914	1,365,556	3,115,094
Value of farm production	912,628	695,405	664,789	1,862,251

Liquidity & Repayment Capacity Measures
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	266	53	53	54
Liquidity				
Current ratio	1.71	1.24	1.83	1.95
Working capital	331,525	119,562	284,951	762,648
Working capital to gross inc	35.9 %	16.6 %	41.9 %	40.8 %
Current assets	795,697	612,123	626,262	1,567,138
Current liabilities	464,171	492,561	341,311	804,490
Gross revenues (accrual)	924,225	719,825	679,550	1,866,982
Repayment capacity				
Net farm income from operations	88,178	-97,775	54,280	349,463
Depreciation	76,719	80,611	60,263	127,694
Personal income	26,825	22,019	39,023	8,816
Family living/owner withdrawals	-77,693	-71,956	-66,732	-119,865
Cash discrepancy	258	-57	62	-427
Payments on personal debt	-4,843	-3,739	-4,077	-6,890
Income taxes paid	-26,155	-16,920	-18,908	-48,926
Interest on term debt	25,972	23,408	17,578	51,512
Capital debt repayment capacity	109,004	-64,352	81,428	361,804
Scheduled term debt payments	-110,838	-105,226	-82,973	-209,113
Capital debt repayment margin	-1,834	-169,578	-1,546	152,691
Cash replacement allowance	-41,263	-49,812	-27,853	-63,414
Replacement margin	-43,097	-219,390	-29,399	89,277
Term debt coverage ratio	0.98	-0.61	0.98	1.73
Replacement coverage ratio	0.72	-0.42	0.73	1.33

Balance Sheet at Cost Values
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	266	53	53	54
Assets				
Current Farm Assets				
Cash and checking balance	59,188	30,357	58,767	119,464
Prepaid expenses & supplies	87,226	59,875	50,346	200,193
Growing crops	66	206	-	122
Accounts receivable	77,804	80,952	57,325	127,875
Hedging accounts	8,182	3,390	2,316	28,528
Crops held for sale or feed	498,532	356,713	378,350	1,011,608
Crops under government loan	56,582	66,833	72,029	65,448
Market livestock held for sale	5,256	13,594	6,514	1,025
Other current assets	2,863	203	615	12,873
Total current farm assets	795,697	612,123	626,262	1,567,138
Intermediate Farm Assets				
Breeding livestock	1,964	5,025	2,174	1,995
Machinery and equipment	701,159	726,576	547,662	1,166,485
Titled vehicles	46,795	50,544	36,277	67,746
Other intermediate assets	173,616	126,792	109,526	398,777
Total intermediate farm assets	923,534	908,936	695,639	1,635,003
Long Term Farm Assets				
Farm land	758,460	570,847	568,844	1,484,907
Buildings and improvements	210,159	195,832	164,672	416,585
Other long-term assets	89,484	46,470	52,587	206,665
Total long-term farm assets	1,058,104	813,149	786,104	2,108,158
Total Farm Assets	2,777,334	2,334,208	2,108,006	5,310,299
Total Nonfarm Assets	317,048	308,155	233,347	490,039
Total Assets	3,094,382	2,642,363	2,341,352	5,800,337
Liabilities				
Current Farm Liabilities				
Accrued interest	17,484	17,496	11,216	31,981
Accounts payable	29,914	33,361	22,506	29,699
Current notes	299,627	309,203	206,386	550,929
Government crop loans	32,251	39,996	38,490	36,706
Principal due on term debt	84,896	92,505	62,713	155,175
Total current farm liabilities	464,171	492,561	341,311	804,490
Total intermediate farm liabs	173,421	195,109	118,796	281,290
Total long term farm liabilities	451,712	321,346	279,871	1,023,239
Total farm liabilities	1,089,305	1,009,016	739,978	2,109,019
Total nonfarm liabilities	75,753	46,674	53,391	143,583
Total liabilities	1,165,058	1,055,690	793,369	2,252,602
Net worth (farm and nonfarm)	1,929,324	1,586,673	1,547,983	3,547,736
Net worth change	21,956	-164,116	19,797	219,727
Percent net worth change	1 %	-9 %	1 %	7 %
Ratio Analysis				
Current farm liabilities / assets	58 %	80 %	54 %	51 %
Intermediate farm liab. / assets	19 %	21 %	17 %	17 %
Long term farm liab. / assets	43 %	40 %	36 %	49 %
Total debt to asset ratio	38 %	40 %	34 %	39 %

Balance Sheet at Market Values
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	266	53	53	54
Assets				
Current Farm Assets				
Cash and checking balance	59,188	30,357	58,767	119,464
Prepaid expenses & supplies	87,226	59,875	50,346	200,193
Growing crops	66	206	-	122
Accounts receivable	77,804	80,952	57,325	127,875
Hedging accounts	8,182	3,390	2,316	28,528
Crops held for sale or feed	498,532	356,713	378,350	1,011,608
Crops under government loan	56,582	66,833	72,029	65,448
Market livestock held for sale	5,256	13,594	6,514	1,025
Other current assets	2,863	203	615	12,873
Total current farm assets	795,697	612,123	626,262	1,567,138
Intermediate Farm Assets				
Breeding livestock	2,409	6,517	2,866	1,995
Machinery and equipment	870,669	963,939	704,696	1,392,203
Titled vehicles	55,717	60,657	41,942	81,384
Other intermediate assets	231,682	167,714	168,124	526,101
Total intermediate farm assets	1,160,476	1,198,826	917,628	2,001,684
Long Term Farm Assets				
Farm land	1,326,323	1,143,111	927,534	2,507,703
Buildings and improvements	233,391	229,044	182,300	451,824
Other long-term assets	99,444	57,844	56,475	232,607
Total long-term farm assets	1,659,158	1,429,999	1,166,309	3,192,134
Total Farm Assets	3,615,331	3,240,949	2,710,200	6,760,956
Total Nonfarm Assets	364,119	370,539	255,956	572,717
Total Assets	3,979,450	3,611,488	2,966,156	7,333,673
Liabilities				
Current Farm Liabilities				
Accrued interest	17,484	17,496	11,216	31,981
Accounts payable	29,914	33,361	22,506	29,699
Current notes	299,627	309,203	206,386	550,929
Government crop loans	32,251	39,996	38,490	36,706
Principal due on term debt	84,896	92,505	62,713	155,175
Total current farm liabilities	464,171	492,561	341,311	804,490
Total intermediate farm liabs	173,421	195,109	118,796	281,290
Total long term farm liabilities	451,712	321,346	279,871	1,023,239
Total farm liabilities	1,089,305	1,009,016	739,978	2,109,019
Total nonfarm liabilities	75,753	46,674	53,391	143,583
Total liabs excluding deferreds	1,165,058	1,055,690	793,369	2,252,602
Total deferred liabilities	297,212	242,102	210,198	652,271
Total liabilities	1,462,270	1,297,792	1,003,567	2,904,872
Retained earnings	1,929,324	1,586,673	1,547,983	3,547,736
Market valuation equity	587,856	727,023	414,605	881,065
Net worth (farm and nonfarm)	2,517,180	2,313,696	1,962,589	4,428,801
Net worth excluding deferreds	2,814,393	2,555,798	2,172,787	5,081,072
Net worth change	34,186	-142,741	46,704	213,146
Percent net worth change	1 %	-6 %	2 %	5 %
Ratio Analysis				
Current farm liabilities / assets	58 %	80 %	54 %	51 %
Intermediate farm liab. / assets	15 %	16 %	13 %	14 %
Long term farm liab. / assets	27 %	22 %	24 %	32 %
Total debt to asset ratio	37 %	36 %	34 %	40 %
Debt to assets excl deferreds	29 %	29 %	27 %	31 %

Statement Of Cash Flows
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	266	53	53	54
Beginning cash (farm & nonfarm)	59,449	32,785	66,208	98,517
Cash Provided By Operating Activities				
Gross cash farm income	885,684	778,129	653,357	1,689,894
Total cash farm expense	-739,220	-696,056	-547,078	-1,385,253
Net cash from hedging transactions	4,766	-963	-594	25,272
Cash provided by operating	151,231	81,110	105,686	329,913
Cash Provided By Investing Activities				
Sale of breeding livestock	101	470	37	-
Sale of machinery & equipment	8,715	5,602	2,438	19,345
Sale of titled vehicles	773	684	1,809	124
Sale of farm land	2,479	3,239	-	8,156
Sale of farm buildings	1,430	-	9	7,037
Sale of other farm assets	10,270	14,621	475	30,382
Sale of nonfarm assets	6,831	3,268	11,744	8,987
Purchase of breeding livestock	-173	-487	-384	-
Purchase of machinery & equip.	-52,090	-39,955	-38,918	-92,046
Purchase of titled vehicles	-4,874	-4,767	-4,044	-8,218
Purchase of farm land	-36,979	-4,062	-9,997	-90,136
Purchase of farm buildings	-12,222	-2,870	-10,344	-37,843
Purchase of other farm assets	-12,717	-689	-5,280	-40,372
Purchase of nonfarm assets	-30,578	-21,917	-16,114	-76,979
Cash provided by investing	-119,035	-46,863	-68,568	-271,564
Cash Provided By Financing Activities				
Money borrowed	532,883	478,098	312,996	1,048,812
Principal payments	-489,056	-432,800	-315,604	-937,257
Personal income	26,825	22,019	39,023	8,816
Family living/owner withdrawals	-77,561	-71,926	-66,732	-119,402
Income and social security tax	-25,481	-21,717	-18,443	-43,538
Capital contributions	926	-	3,793	837
Capital distributions	-3,047	-	-	-15,012
Dividends paid	-132	-30	-	-463
Cash gifts and inheritances	15,733	5,823	4,842	51,156
Gifts given	-2,162	-2,006	-217	-7,924
Other cash flows	-	-	-	-
Cash provided by financing	-21,073	-22,539	-40,342	-13,974
Net change in cash balance	11,123	11,708	-3,224	44,375
Ending cash (farm & nonfarm)	70,831	44,436	63,045	142,465
Discrepancy	-258	57	-62	427

Financial Standards Measures
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	266	53	53	54
Liquidity				
Current ratio	1.71	1.24	1.83	1.95
Working capital	331,525	119,562	284,951	762,648
Working capital to gross inc	35.9 %	16.6 %	41.9 %	40.8 %
Solvency (market)				
Farm debt to asset ratio	38 %	38 %	35 %	41 %
Farm equity to asset ratio	62 %	62 %	65 %	59 %
Farm debt to equity ratio	0.62	0.62	0.54	0.68
Profitability (cost)				
Rate of return on farm assets	2.2 %	-5.1 %	1.3 %	6.0 %
Rate of return on farm equity	1.3 %	-11.2 %	0.0 %	7.6 %
Operating profit margin	6.5 %	-17.4 %	3.9 %	16.6 %
Net farm income	89,489	-97,775	54,280	355,681
EBITDA	203,349	19,759	140,408	551,688
Repayment Capacity				
Capital debt repayment capacity	109,004	-64,352	81,428	361,804
Capital debt repayment margin	-1,834	-169,578	-1,546	152,691
Replacement margin	-43,097	-219,390	-29,399	89,277
Term debt coverage ratio	0.98	-0.61	0.98	1.73
Replacement coverage ratio	0.72	-0.42	0.73	1.33
Efficiency				
Asset turnover rate (cost)	33.4 %	29.3 %	32.1 %	36.0 %
Operating expense ratio	78.0 %	97.3 %	79.3 %	70.5 %
Depreciation expense ratio	8.3 %	11.2 %	8.9 %	6.8 %
Interest expense ratio	4.2 %	5.1 %	3.8 %	4.0 %
Net farm income ratio	9.7 %	-13.6 %	8.0 %	19.1 %

Crop Production and Marketing Summary
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	266	53	53	54
Acreage Summary				
Total acres owned	417	428	343	652
Total crop acres	1,671	1,603	1,214	2,920
Crop acres owned	401	387	280	708
Crop acres cash rented	1,221	1,131	909	2,152
Crop acres share rented	49	86	26	59
Total pasture acres	1	3	-	-
Percent crop acres owned	24 %	24 %	23 %	24 %
Mach invest/crop acre cost	455	497	488	429
Mach invest/crop acre market	562	653	614	512
Average Price Received (Cash Sales Only)				
Soybeans per bushel	9.29	8.89	9.15	9.47
Wheat, Spring per bushel	5.31	5.34	4.95	5.45
Corn per bushel	3.51	3.35	3.58	3.53
Soybeans, Food per bushel	12.27	-	-	-
Barley per bushel	4.93	-	-	-
Beans, Pinto per cwt	22.88	-	-	-
Sunflowers per cwt	20.53	-	-	-
Hay, Alfalfa per ton	116.97	-	-	-
Beans, Navy per cwt	26.91	-	-	-
Average Yield Per Acre				
Soybeans (bushel)	41.89	39.35	42.38	42.48
Corn (bushel)	167.54	161.93	174.99	165.79
Wheat, Spring (bushel)	71.39	71.98	69.71	72.70
Sugar Beets (ton)	26.60	28.12	26.36	26.27
Soybeans, Food (bushel)	38.92	-	42.24	39.49
Barley (bushel)	88.68	-	89.25	-
Sunflowers (cwt)	20.47	-	-	22.37
Hay, Alfalfa (ton)	3.95	2.98	-	4.22
Beans, Navy (cwt)	23.15	-	-	-
Beans, Pinto (cwt)	19.11	-	-	-

Operator and Labor Information
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	266	53	53	54
Operator Information				
Average number of operators	1.1	1.1	1.0	1.3
Average age of operators	47.5	52.9	44.8	48.3
Average number of years farming	24.1	30.6	20.0	26.4
Results Per Operator				
Working capital	304,162	109,255	273,100	571,986
Total assets (market)	3,650,998	3,300,153	2,842,790	5,500,255
Total liabilities	1,341,579	1,185,914	961,827	2,178,654
Net worth (market)	2,309,419	2,114,239	1,880,962	3,321,601
Net worth excl deferred liabs	2,582,101	2,335,471	2,082,418	3,810,804
Gross farm income	847,942	657,771	651,287	1,400,236
Total farm expense	767,042	747,117	599,264	1,138,139
Net farm income from operations	80,900	-89,346	52,022	262,097
Net nonfarm income	24,611	20,121	37,400	6,612
Family living & tax withdrawals	95,039	81,266	82,019	126,913
Total acres owned	382.6	390.8	328.9	488.7
Total crop acres	1,533.0	1,464.8	1,164.0	2,189.7
Crop acres owned	367.5	353.3	268.1	531.0
Crop acres cash rented	1,120.6	1,033.1	871.3	1,614.3
Crop acres share rented	44.9	78.4	24.6	44.3
Total pasture acres	0.6	3.0	-	-
Labor Analysis				
Number of farms	266	53	53	54
Total unpaid labor hours	1,878	1,855	1,645	2,324
Total hired labor hours	1,517	1,624	896	3,385
Total labor hours per farm	3,395	3,480	2,541	5,709
Unpaid hours per operator	1,723	1,695	1,577	1,743

Nonfarm Summary
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Net Farm Income)

	Avg. Of All Farms	*Low 20%*	*40 - 60%*	*High 20%*
Number of farms	266	53	53	54
Nonfarm Income				
Personal wages & salary	18,172	14,115	28,965	4,790
Net nonfarm business income	1,374	3,699	2,731	397
Personal rental income	305	653	-	202
Personal interest income	153	64	87	247
Personal cash dividends	24	111	-	7
Tax refunds	776	744	1,489	437
Other nonfarm income	6,021	2,633	5,751	2,737
Total nonfarm income	26,825	22,019	39,023	8,816
Gifts and inheritances	15,733	5,823	4,842	51,156

Financial Summary
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Gross Farm Income)

	Avg. Of All Farms	*100,001 - 250,000*	*250,001 - 500,000*	*500,001 - 1,000,000*	*1,000,001- 2,000,000*	*Over 2,000,000*
Number of farms	266	28	62	87	60	19
Income Statement						
Gross cash farm income	885,684	163,881	382,420	747,670	1,421,411	2,961,202
Total cash farm expense	739,220	151,191	331,317	614,445	1,186,857	2,437,895
Net cash farm income	146,465	12,690	51,103	133,225	234,554	523,306
Inventory change	18,432	17,438	22,223	-5,252	28,454	75,388
Depreciation	-76,719	-16,142	-32,985	-68,017	-128,133	-224,777
Net farm income from operations	88,178	13,986	40,341	59,957	134,875	373,917
Gain or loss on capital sales	1,311	-	-	4,009	-	-
Average net farm income	89,489	13,986	40,341	63,965	134,875	373,917
Median net farm income	49,382	10,551	35,142	66,299	139,289	416,671
Profitability (cost)						
Rate of return on assets	2.2 %	0.0 %	1.7 %	1.2 %	2.0 %	4.2 %
Rate of return on equity	1.3 %	-3.1 %	0.2 %	-0.2 %	1.1 %	4.6 %
Operating profit margin	6.5 %	0.0 %	5.2 %	4.0 %	5.7 %	12.2 %
Asset turnover rate	33.4 %	29.9 %	33.5 %	31.4 %	34.5 %	34.1 %
Liquidity & Repayment (end of year)						
Current assets	795,697	149,817	356,930	653,806	1,338,316	2,490,618
Current liabilities	464,171	99,945	250,591	408,859	691,715	1,439,703
Current ratio	1.71	1.50	1.42	1.60	1.93	1.73
Working capital	331,525	49,872	106,339	244,947	646,602	1,050,915
Working capital to gross inc	35.9 %	26.3 %	24.8 %	32.1 %	43.7 %	34.7 %
Term debt coverage ratio	0.98	0.99	0.82	0.91	0.88	1.26
Replacement coverage ratio	0.72	0.71	0.61	0.64	0.61	1.04
Term debt to EBITDA	2.96	4.39	3.06	3.18	2.42	3.34
Solvency (end of year at cost)						
Number of farms	266	28	62	87	60	19
Total assets	3,094,382	765,276	1,555,601	2,701,959	4,739,941	9,592,592
Total liabilities	1,165,058	328,797	611,704	986,491	1,596,396	4,166,279
Net worth	1,929,324	436,479	943,897	1,715,468	3,143,545	5,426,313
Net worth change	21,956	8,819	35,142	8,416	-34,194	247,308
Farm debt to asset ratio	39 %	44 %	42 %	38 %	35 %	45 %
Total debt to asset ratio	38 %	43 %	39 %	37 %	34 %	43 %
Change in earned net worth %	1 %	2 %	4 %	0 %	-1 %	5 %
Solvency (end of year at market)						
Number of farms	266	28	62	87	60	19
Total assets	3,979,450	1,098,040	1,986,718	3,505,811	6,013,568	12,363,593
Total liabilities	1,462,270	410,206	719,304	1,203,329	2,060,538	5,389,770
Net worth	2,517,180	687,835	1,267,414	2,302,482	3,953,030	6,973,823
Total net worth change	34,186	15,153	47,735	54,339	-44,754	194,159
Farm debt to asset ratio	38 %	38 %	38 %	36 %	36 %	45 %
Total debt to asset ratio	37 %	37 %	36 %	34 %	34 %	44 %
Change in total net worth %	1 %	2 %	4 %	2 %	-1 %	3 %
Nonfarm Information						
Net nonfarm income	26,825	38,909	25,440	35,357	16,277	10,983
Crop Acres						
Total crop acres	1,671	388	886	1,523	2,590	4,669
Total crop acres owned	401	113	233	426	474	1,226
Total crop acres cash rented	1,221	256	582	1,056	2,092	3,285
Total crop acres share rented	49	19	71	41	24	158
Machinery value per crop acre	455	337	445	438	492	440

Financial Summary
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Age of Operator)

	Avg. Of All Farms	*Less Than 31*	*31 - 40*	*41 - 50*	*51 - 60*	*Over 60*
Number of farms	266	34	46	46	95	45
Income Statement						
Gross cash farm income	885,684	324,030	842,296	884,090	1,112,795	876,573
Total cash farm expense	739,220	290,140	734,448	746,225	933,793	665,475
Net cash farm income	146,465	33,889	107,848	137,865	179,002	211,098
Inventory change	18,432	39,937	60,097	49,877	2,736	-39,417
Depreciation	-76,719	-15,599	-58,763	-81,515	-101,587	-83,849
Net farm income from operations	88,178	58,228	109,183	106,228	80,151	87,831
Gain or loss on capital sales	1,311	-	-	-	3,671	-
Average net farm income	89,489	58,228	109,183	106,228	83,822	87,831
Median net farm income	49,382	38,773	32,513	83,420	65,307	27,883
Profitability (cost)						
Rate of return on assets	2.2 %	6.4 %	4.1 %	3.1 %	1.3 %	1.6 %
Rate of return on equity	1.3 %	10.8 %	4.0 %	2.5 %	0.0 %	0.9 %
Operating profit margin	6.5 %	11.2 %	10.5 %	8.2 %	4.2 %	5.4 %
Asset turnover rate	33.4 %	57.0 %	38.6 %	38.2 %	30.0 %	29.9 %
Liquidity & Repayment (end of year)						
Current assets	795,697	246,323	666,493	788,588	1,054,559	803,634
Current liabilities	464,171	185,737	472,041	456,799	589,863	408,686
Current ratio	1.71	1.33	1.41	1.73	1.79	1.97
Working capital	331,525	60,586	194,452	331,789	464,695	394,948
Working capital to gross inc	35.9 %	16.0 %	21.4 %	34.5 %	40.7 %	46.2 %
Term debt coverage ratio	0.98	1.59	1.19	1.23	0.75	1.05
Replacement coverage ratio	0.72	1.41	0.99	0.91	0.53	0.67
Term debt to EBITDA	2.96	2.67	3.18	2.56	3.43	2.16
Solvency (end of year at cost)						
Number of farms	266	34	46	46	95	45
Total assets	3,094,382	828,085	2,616,907	2,800,745	4,241,147	3,173,995
Total liabilities	1,165,058	500,715	1,321,124	1,159,413	1,478,791	850,917
Net worth	1,929,324	327,371	1,295,783	1,641,332	2,762,357	2,323,078
Net worth change	21,956	38,001	39,477	39,180	-257	21,212
Farm debt to asset ratio	39 %	60 %	51 %	42 %	37 %	29 %
Total debt to asset ratio	38 %	60 %	50 %	41 %	35 %	27 %
Change in earned net worth %	1 %	13 %	3 %	2 %	0 %	1 %
Solvency (end of year at market)						
Number of farms	266	34	46	46	95	45
Total assets	3,979,450	897,730	3,078,351	3,512,621	5,605,842	4,272,696
Total liabilities	1,462,270	537,118	1,543,209	1,404,509	1,910,157	1,192,043
Net worth	2,517,180	360,611	1,535,141	2,108,112	3,695,685	3,080,653
Total net worth change	34,186	47,878	37,499	30,216	20,419	53,576
Farm debt to asset ratio	38 %	60 %	51 %	41 %	36 %	30 %
Total debt to asset ratio	37 %	60 %	50 %	40 %	34 %	28 %
Change in total net worth %	1 %	15 %	3 %	1 %	1 %	2 %
Nonfarm Information						
Net nonfarm income	26,825	23,110	28,430	14,103	37,587	18,278
Crop Acres						
Total crop acres	1,671	651	1,452	1,797	2,122	1,585
Total crop acres owned	401	60	264	339	579	483
Total crop acres cash rented	1,221	553	1,140	1,428	1,482	1,048
Total crop acres share rented	49	38	48	30	60	55
Machinery value per crop acre	455	270	380	441	481	525

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.

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.

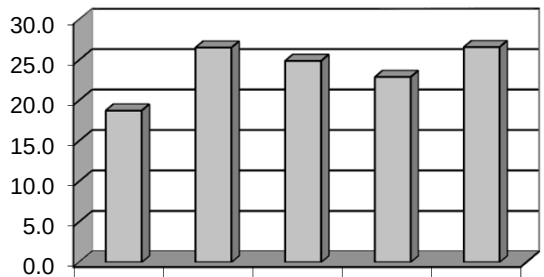
"Total direct expense per unit" and "Total dir & ovhd exp per unit" are calculated by dividing "Total direct expense per acre" and "Total dir & ovhd expenses per acre," respectively, by "Yield per acre." “With labor & management” is the breakeven yield after direct, overhead and a labor and management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

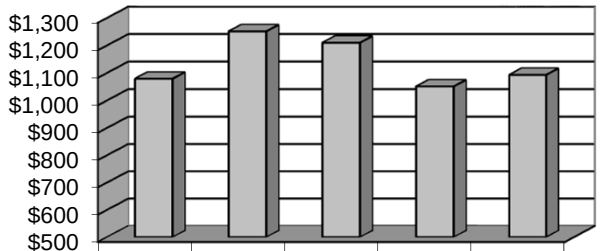
Five Year Crop History of
Yields and Cost of Production
Red River Valley Farm Business Management Education

Sugar Beet Yields



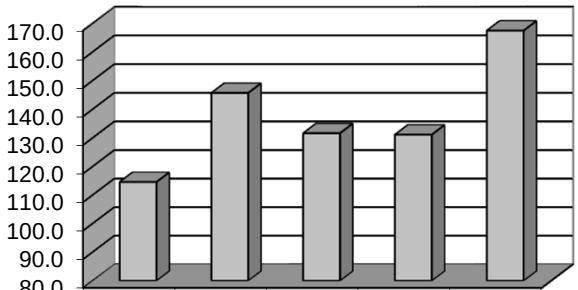
	2011	2012	2013	2014	2015
Tons	18.8	26.5	24.9	22.9	26.6

Sugar Beet Total Listed Cost (cash rented land)



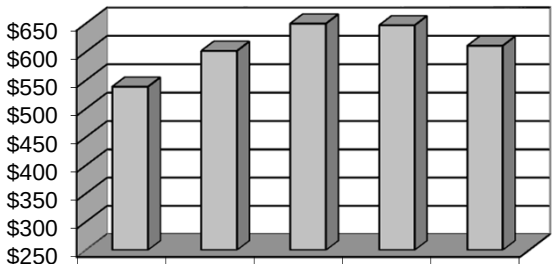
	2011	2012	2013	2014	2015
Dollars	$1,079	$1,251	$1,210	$1,051	$1,093

Corn Yields



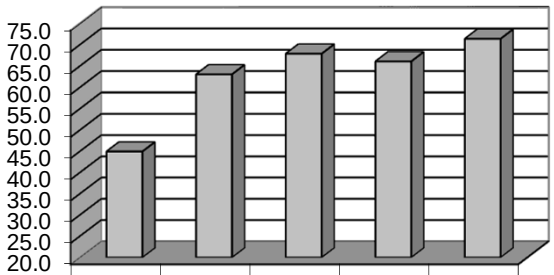
	2011	2012	2013	2014	2015
Bu.	114.6	145.8	131.7	131.2	167.5

Corn Total Listed Cost (cash rented land)



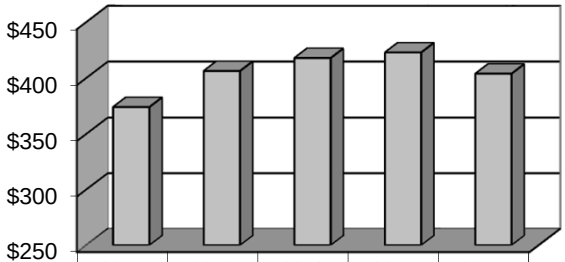
	2011	2012	2013	2014	2015
Dollars	$539	$602	$652	$647	$611

Spring Wheat Yields



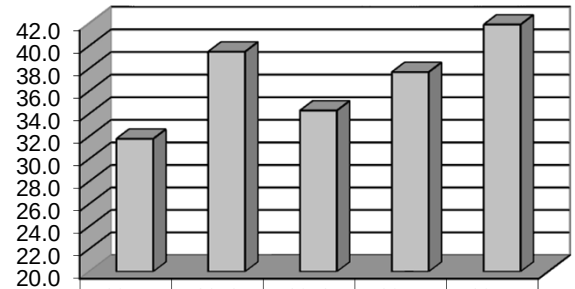
	2011	2012	2013	2014	2015
Bu.	45.0	63.1	67.9	66.1	71.4

Spring Wheat Total Listed Cost (cash rented land)



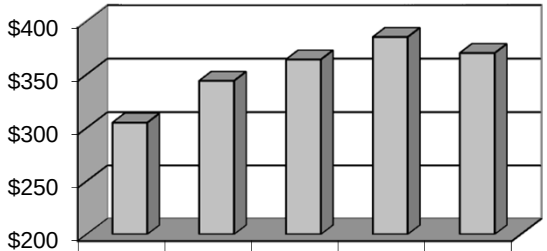
	2011	2012	2013	2014	2015
Dollars	$374	$406	$418	$423	$404

Soybeans Yields



	2011	2012	2013	2014	2015
Bu.	31.8	39.5	34.3	37.7	41.9

Soybeans Total Listed Cost (cash rented land)



	2011	2012	2013	2014	2015
Dollars	$305	$344	$364	$385	$370

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Barley on Cash Rent

	Avg. Of All Farms
Number of farms	18
Acres	216.37
Yield per acre (bu.)	88.38
Operators share of yield %	100.00
Value per bu.	4.91
Total product return per acre	434.08
Crop insurance per acre	8.95
Other crop income per acre	8.85
Gross return per acre	451.88
Direct Expenses	
Seed	22.95
Fertilizer	73.56
Crop chemicals	25.82
Crop insurance	16.55
Fuel & oil	14.95
Repairs	27.94
Custom hire	7.71
Hired labor	0.79
Land rent	141.12
Operating interest	3.29
Miscellaneous	2.31
Total direct expenses per acre	336.99
Return over direct exp per acre	114.89
Overhead Expenses	
Hired labor	12.64
Machinery leases	3.98
Building leases	0.59
Farm insurance	6.48
Utilities	4.93
Dues & professional fees	2.28
Interest	3.09
Mach & bldg depreciation	25.72
Miscellaneous	3.83
Total overhead expenses per acre	63.54
Total dir & ovhd expenses per acre	400.53
Net return per acre	51.35
Government payments	22.31
Net return with govt pmts	73.66
Labor & management charge	27.41
Net return over lbr & mgt	46.25
Cost of Production	
Total direct expense per bu.	3.81
Total dir & ovhd exp per bu.	4.53
Less govt & other income	4.08
With labor & management	4.39
Net value per unit	4.91
Machinery cost per acre	82.87
Est. labor hours per acre	1.31

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Beans, Navy on Cash Rent

	Avg. Of All Farms
Number of farms	6
Acres	144.83
Yield per acre (cwt.)	22.73
Operators share of yield %	100.00
Value per cwt.	27.35
Total product return per acre	621.65
Crop insurance per acre	19.15
Other crop income per acre	0.74
Gross return per acre	641.53
Direct Expenses	
Seed	75.27
Fertilizer	62.65
Crop chemicals	75.50
Crop insurance	25.72
Fuel & oil	22.99
Repairs	41.77
Custom hire	6.87
Hired labor	7.99
Land rent	138.12
Operating interest	6.60
Miscellaneous	2.80
Total direct expenses per acre	466.26
Return over direct exp per acre	175.27
Overhead Expenses	
Hired labor	16.55
Machinery leases	5.66
Building leases	4.53
Farm insurance	8.59
Utilities	4.72
Dues & professional fees	3.63
Interest	2.61
Mach & bldg depreciation	42.99
Miscellaneous	4.42
Total overhead expenses per acre	93.70
Total dir & ovhd expenses per acre	559.96
Net return per acre	81.57
Government payments	-
Net return with govt pmts	81.57
Labor & management charge	53.51
Net return over lbr & mgt	28.06
Cost of Production	
Total direct expense per cwt.	20.52
Total dir & ovhd exp per cwt.	24.64
Less govt & other income	23.76
With labor & management	26.12
Net value per unit	27.35
Machinery cost per acre	122.11
Est. labor hours per acre	1.94

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Corn on Owned Land

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	84	16	17	17
Acres	273.77	230.89	315.65	232.52
Yield per acre (bu.)	168.95	150.88	174.83	191.34
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	3.36	3.25	3.36	3.53
Total product return per acre	567.76	491.07	587.23	674.68
Hedging gains/losses per acre	3.34	-	-	11.20
Crop insurance per acre	7.80	1.88	1.56	9.29
Other crop income per acre	3.52	3.10	1.57	5.75
Gross return per acre	582.42	496.06	590.36	700.92
Direct Expenses				
Seed	96.08	97.72	92.36	91.73
Fertilizer	131.80	142.62	140.59	116.29
Crop chemicals	28.85	31.91	33.51	25.93
Crop insurance	24.22	25.40	25.06	20.02
Drying expense	7.08	10.67	4.82	5.99
Fuel & oil	23.13	24.58	23.83	26.93
Repairs	39.33	48.92	40.95	43.42
Custom hire	6.02	9.03	6.32	4.31
Hired labor	1.17	3.12	0.33	2.05
Operating interest	11.18	11.74	13.12	11.56
Miscellaneous	2.84	4.32	2.84	1.94
Total direct expenses per acre	371.72	410.03	383.73	350.19
Return over direct exp per acre	210.70	86.02	206.63	350.72
Overhead Expenses				
Custom hire	0.70	0.15	1.39	0.68
Hired labor	21.31	12.29	33.05	18.08
Machinery leases	6.36	1.77	12.62	8.53
Building leases	1.68	1.45	1.26	4.89
RE & pers. property taxes	23.25	22.05	25.25	25.22
Farm insurance	8.31	9.35	9.76	8.57
Utilities	6.66	8.54	6.71	5.80
Dues & professional fees	4.11	5.10	3.85	4.17
Interest	48.68	38.97	36.30	52.55
Mach & bldg depreciation	61.27	43.90	67.98	58.04
Miscellaneous	5.09	4.31	3.32	9.75
Total overhead expenses per acre	187.40	147.88	201.50	196.26
Total dir & ovhd expenses per acre	559.12	557.91	585.23	546.45
Net return per acre	23.30	-61.86	5.13	154.46
Government payments	23.31	25.77	25.90	21.29
Net return with govt pmts	46.61	-36.09	31.03	175.75
Labor & management charge	45.91	50.24	47.35	50.98
Net return over lbr & mgt	0.70	-86.33	-16.32	124.77
Cost of Production				
Total direct expense per bu.	2.20	2.72	2.19	1.83
Total dir & ovhd exp per bu.	3.31	3.70	3.35	2.86
Less govt & other income	3.08	3.49	3.18	2.61
With labor & management	3.36	3.83	3.45	2.87
Net value per unit	3.38	3.25	3.36	3.58
Machinery cost per acre	139.39	134.54	153.55	141.54
Est. labor hours per acre	2.31	2.47	2.48	2.16

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Corn on Cash Rent

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	129	25	26	26
Acres	442.89	394.52	463.48	432.92
Yield per acre (bu.)	166.72	152.50	170.54	179.94
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	3.44	3.29	3.47	3.57
Total product return per acre	572.92	501.40	591.52	641.91
Hedging gains/losses per acre	3.95	-	0.28	7.98
Crop insurance per acre	8.28	13.00	4.59	11.65
Other crop income per acre	2.90	1.81	4.56	2.13
Gross return per acre	588.04	516.20	600.95	663.67
Direct Expenses				
Seed	98.07	104.59	99.10	97.48
Fertilizer	131.29	138.24	135.65	117.91
Crop chemicals	26.68	25.95	29.20	25.99
Crop insurance	22.04	22.89	16.66	25.12
Drying expense	7.60	6.95	4.45	6.95
Fuel & oil	23.93	22.82	24.30	26.75
Repairs	34.36	34.22	31.60	37.46
Custom hire	5.70	9.69	5.11	2.98
Hired labor	1.57	1.19	3.18	0.72
Land rent	141.21	149.65	157.12	132.36
Operating interest	9.44	10.49	13.00	5.19
Miscellaneous	3.58	5.74	1.00	1.09
Total direct expenses per acre	505.45	532.41	520.37	479.99
Return over direct exp per acre	82.59	-16.20	80.58	183.68
Overhead Expenses				
Custom hire	0.95	0.76	1.52	0.49
Hired labor	16.95	17.31	10.65	33.64
Machinery leases	7.91	4.07	16.08	2.25
Building leases	2.16	1.82	4.72	2.43
Farm insurance	7.70	6.62	7.92	9.15
Utilities	5.18	4.64	5.01	5.57
Dues & professional fees	3.48	4.82	2.79	3.50
Interest	5.44	8.01	4.17	3.69
Mach & bldg depreciation	51.36	47.86	38.94	59.34
Miscellaneous	4.55	2.98	4.52	6.41
Total overhead expenses per acre	105.69	98.87	96.34	126.48
Total dir & ovhd expenses per acre	611.14	631.28	616.70	606.47
Net return per acre	-23.10	-115.08	-15.75	57.20
Government payments	24.48	25.75	23.60	25.24
Net return with govt pmts	1.38	-89.33	7.85	82.44
Labor & management charge	43.48	45.18	35.85	43.79
Net return over lbr & mgt	-42.10	-134.51	-28.00	38.65
Cost of Production				
Total direct expense per bu.	3.03	3.49	3.05	2.67
Total dir & ovhd exp per bu.	3.67	4.14	3.62	3.37
Less govt & other income	3.43	3.87	3.42	3.11
With labor & management	3.69	4.17	3.63	3.35
Net value per unit	3.46	3.29	3.47	3.61
Machinery cost per acre	127.91	128.14	120.35	130.47
Est. labor hours per acre	2.16	2.23	1.95	2.43

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Soybeans on Owned Land

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	124	24	25	25
Acres	263.78	242.04	230.24	284.81
Yield per acre (bu.)	42.13	35.59	42.90	49.11
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	8.43	8.13	8.36	8.45
Total product return per acre	355.06	289.45	358.49	414.90
Hedging gains/losses per acre	0.91	-	1.36	3.09
Crop insurance per acre	6.22	10.22	4.59	6.16
Other crop income per acre	2.97	0.67	1.33	6.76
Gross return per acre	365.17	300.33	365.77	430.91
Direct Expenses				
Seed	64.88	71.99	64.70	63.84
Fertilizer	15.38	23.81	12.81	11.78
Crop chemicals	30.98	34.14	33.65	28.13
Crop insurance	20.57	21.93	23.99	17.93
Fuel & oil	14.00	16.25	12.89	12.59
Repairs	22.59	26.09	21.40	24.15
Custom hire	4.64	6.20	4.65	1.20
Hired labor	0.80	-	0.20	1.12
Operating interest	5.08	4.06	4.90	5.02
Miscellaneous	2.39	2.82	3.45	2.32
Total direct expenses per acre	181.32	207.28	182.65	168.07
Return over direct exp per acre	183.85	93.06	183.12	262.84
Overhead Expenses				
Hired labor	12.90	15.06	12.93	10.94
Machinery leases	3.29	2.06	0.91	1.43
Building leases	0.95	0.45	1.65	1.71
RE & pers. property taxes	22.95	23.44	23.14	26.24
Farm insurance	7.62	7.48	6.41	7.62
Utilities	4.84	7.02	4.77	4.75
Dues & professional fees	3.56	3.61	3.70	3.77
Interest	38.38	35.20	54.70	38.03
Mach & bldg depreciation	35.02	28.19	27.54	43.90
Miscellaneous	4.14	3.68	3.59	3.69
Total overhead expenses per acre	133.67	126.19	139.33	142.09
Total dir & ovhd expenses per acre	314.99	333.47	321.98	310.16
Net return per acre	50.18	-33.14	43.79	120.75
Government payments	17.30	7.52	21.39	28.73
Net return with govt pmts	67.47	-25.62	65.18	149.47
Labor & management charge	28.39	35.10	24.46	29.69
Net return over lbr & mgt	39.08	-60.72	40.72	119.78
Cost of Production				
Total direct expense per bu.	4.30	5.82	4.26	3.42
Total dir & ovhd exp per bu.	7.48	9.37	7.50	6.32
Less govt & other income	6.83	8.85	6.84	5.41
With labor & management	7.50	9.84	7.41	6.01
Net value per unit	8.45	8.13	8.39	8.51
Machinery cost per acre	81.40	79.75	69.82	85.30
Est. labor hours per acre	1.48	1.83	1.34	1.33

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Soybeans on Cash Rent

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	184	36	37	37
Acres	586.54	513.11	646.16	462.84
Yield per acre (bu.)	42.01	36.88	42.96	46.40
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	8.47	8.34	8.30	8.69
Total product return per acre	355.85	307.65	356.38	403.14
Hedging gains/losses per acre	1.63	0.39	3.09	3.81
Crop insurance per acre	7.59	5.42	4.15	14.77
Other crop income per acre	2.36	2.23	2.43	3.75
Gross return per acre	367.44	315.69	366.07	425.47
Direct Expenses				
Seed	64.00	66.86	62.49	61.60
Fertilizer	14.00	18.43	15.58	12.30
Crop chemicals	29.71	34.58	29.64	27.12
Crop insurance	19.90	20.52	19.89	18.66
Fuel & oil	13.76	14.22	13.46	14.13
Repairs	20.54	23.06	17.53	20.28
Custom hire	4.13	5.57	3.30	3.67
Hired labor	0.81	0.29	0.41	1.75
Land rent	129.12	136.90	129.00	113.83
Operating interest	5.09	8.01	3.34	4.94
Miscellaneous	2.74	3.99	3.96	1.90
Total direct expenses per acre	303.80	332.42	298.59	280.19
Return over direct exp per acre	63.64	-16.73	67.48	145.28
Overhead Expenses				
Hired labor	10.76	11.32	9.70	12.54
Machinery leases	3.58	6.42	2.36	1.24
Building leases	1.02	1.71	0.62	0.57
Farm insurance	6.55	7.03	6.45	7.41
Utilities	4.05	3.84	4.22	4.78
Dues & professional fees	3.49	4.22	3.38	3.79
Interest	3.57	5.37	2.42	3.95
Mach & bldg depreciation	29.77	25.90	29.98	36.08
Miscellaneous	3.54	4.47	3.94	4.05
Total overhead expenses per acre	66.33	70.29	63.06	74.41
Total dir & ovhd expenses per acre	370.13	402.70	361.65	354.60
Net return per acre	-2.69	-87.01	4.42	70.87
Government payments	17.72	16.05	18.87	20.27
Net return with govt pmts	15.03	-70.97	23.29	91.13
Labor & management charge	27.81	27.62	27.82	32.18
Net return over lbr & mgt	-12.78	-98.58	-4.54	58.96
Cost of Production				
Total direct expense per bu.	7.23	9.01	6.95	6.04
Total dir & ovhd exp per bu.	8.81	10.92	8.42	7.64
Less govt & other income	8.11	10.27	7.75	6.72
With labor & management	8.78	11.02	8.40	7.42
Net value per unit	8.51	8.35	8.37	8.77
Machinery cost per acre	74.78	80.91	68.82	77.31
Est. labor hours per acre	1.40	1.51	1.33	1.52

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Soybeans, Food on Owned Land

	Avg. Of All Farms
Number of farms	7
Acres	274.90
Yield per acre (bu.)	37.25
Operators share of yield %	100.00
Value per bu.	11.31
Total product return per acre	421.27
Hedging gains/losses per acre	11.09
Crop insurance per acre	8.37
Other crop income per acre	1.79
Gross return per acre	442.53
Direct Expenses	
Seed	40.45
Fertilizer	7.72
Crop chemicals	45.83
Crop insurance	18.50
Fuel & oil	13.27
Repairs	19.82
Custom hire	6.14
Hired labor	5.89
Machinery leases	0.64
Operating interest	5.94
Miscellaneous	3.18
Total direct expenses per acre	167.36
Return over direct exp per acre	275.16
Overhead Expenses	
Custom hire	0.23
Hired labor	7.17
Machinery leases	8.53
Building leases	5.64
RE & pers. property taxes	21.02
Farm insurance	5.56
Utilities	2.43
Dues & professional fees	2.47
Interest	76.60
Mach & bldg depreciation	22.06
Miscellaneous	2.81
Total overhead expenses per acre	154.53
Total dir & ovhd expenses per acre	321.89
Net return per acre	120.64
Government payments	21.69
Net return with govt pmts	142.33
Labor & management charge	16.90
Net return over lbr & mgt	125.43
Cost of Production	
Total direct expense per bu.	4.49
Total dir & ovhd exp per bu.	8.64
Less govt & other income	7.49
With labor & management	7.94
Net value per unit	11.61
Machinery cost per acre	71.58
Est. labor hours per acre	0.89

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Soybeans, Food on Cash Rent

	Avg. Of All Farms
Number of farms	19
Acres	448.28
Yield per acre (bu.)	38.41
Operators share of yield %	100.00
Value per bu.	11.12
Total product return per acre	427.27
Hedging gains/losses per acre	8.16
Crop insurance per acre	5.23
Other crop income per acre	1.44
Gross return per acre	442.10
Direct Expenses	
Seed	37.52
Fertilizer	11.80
Crop chemicals	39.31
Crop insurance	14.94
Fuel & oil	12.88
Repairs	21.64
Custom hire	6.49
Hired labor	4.31
Land rent	166.34
Machinery leases	0.90
Operating interest	6.16
Miscellaneous	1.71
Total direct expenses per acre	323.99
Return over direct exp per acre	118.11
Overhead Expenses	
Custom hire	0.30
Hired labor	9.37
Machinery leases	5.57
Building leases	2.35
Farm insurance	5.68
Utilities	3.12
Dues & professional fees	3.36
Interest	3.18
Mach & bldg depreciation	24.19
Miscellaneous	2.66
Total overhead expenses per acre	59.77
Total dir & ovhd expenses per acre	383.77
Net return per acre	58.33
Government payments	20.88
Net return with govt pmts	79.22
Labor & management charge	24.43
Net return over lbr & mgt	54.79
Cost of Production	
Total direct expense per bu.	8.44
Total dir & ovhd exp per bu.	9.99
Less govt & other income	9.06
With labor & management	9.70
Net value per unit	11.34
Machinery cost per acre	73.31
Est. labor hours per acre	1.18

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Sugar Beets on Owned Land Excluding Joint Venture

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	29	5	6	6
Acres	167.10	189.56	132.98	140.33
Yield per acre (ton)	25.57	24.60	17.45	29.66
Operators share of yield %	100.00	100.00	100.00	100.00
Value per ton	47.79	42.91	67.43	47.35
Total product return per acre	1,221.85	1,055.67	1,176.57	1,404.44
Crop insurance per acre	4.22	-	17.23	-
Other crop income per acre	5.36	15.67	5.03	-
Gross return per acre	1,231.43	1,071.34	1,198.83	1,404.44
Direct Expenses				
Seed	200.23	203.04	198.82	214.59
Fertilizer	107.47	112.55	120.01	92.82
Crop chemicals	83.66	80.18	81.19	78.75
Crop insurance	26.60	25.78	31.99	18.46
Fuel & oil	53.99	64.40	49.64	53.03
Repairs	84.42	94.46	87.82	81.57
Custom hire	15.23	23.55	3.32	7.10
Hired labor	26.38	43.91	24.05	25.75
Machinery leases	0.83	-	-	4.77
Hauling and trucking	4.94	15.48	-	-
Operating interest	21.05	10.21	15.69	13.03
Miscellaneous	3.12	9.18	1.22	0.64
Total direct expenses per acre	627.92	682.74	613.76	590.50
Return over direct exp per acre	603.50	388.60	585.08	813.94
Overhead Expenses				
Custom hire	1.66	4.29	-	-
Hired labor	65.03	43.14	75.31	67.60
Machinery leases	18.19	0.57	12.96	4.00
Building leases	2.61	4.09	5.68	2.17
RE & pers. property taxes	26.87	24.37	21.56	31.85
Farm insurance	14.37	16.00	8.74	16.75
Utilities	9.44	10.15	8.69	9.75
Dues & professional fees	5.91	8.23	2.17	10.89
Interest	47.85	23.20	40.84	100.00
Mach & bldg depreciation	111.68	137.37	89.28	101.56
Miscellaneous	9.29	6.69	8.89	7.53
Total overhead expenses per acre	312.90	278.09	274.14	352.10
Total dir & ovhd expenses per acre	940.83	960.83	887.90	942.60
Net return per acre	290.60	110.51	310.93	461.84
Government payments	9.96	15.34	8.64	9.73
Net return with govt pmts	300.57	125.84	319.57	471.57
Labor & management charge	90.52	85.89	74.44	102.58
Net return over lbr & mgt	210.04	39.96	245.13	368.99
Cost of Production				
Total direct expense per ton	24.56	27.75	35.18	19.91
Total dir & ovhd exp per ton	36.80	39.05	50.89	31.78
Less govt & other income	36.03	37.79	49.12	31.45
With labor & management	39.57	41.28	53.38	34.91
Net value per unit	47.79	42.91	67.43	47.35
Machinery cost per acre	290.09	326.82	253.56	255.55
Est. labor hours per acre	5.56	4.74	5.45	5.52

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Sugar Beets on Owned Land Including Joint Venture

	Avg. Of All Farms
Number of farms	15
Acres	163.31
Yield per acre (ton)	28.10
Operators share of yield %	100.00
Value per ton	44.63
Total product return per acre	1,254.16
Crop insurance per acre	1.80
Other crop income per acre	6.41
Gross return per acre	1,262.37
Direct Expenses	
Seed	215.63
Fertilizer	99.08
Crop chemicals	68.37
Crop insurance	27.35
Fuel & oil	48.97
Repairs	78.57
Custom hire	24.93
Hired labor	22.81
Stock/quota lease	157.92
Machinery leases	0.87
Hauling and trucking	17.86
Operating interest	26.66
Miscellaneous	1.30
Total direct expenses per acre	790.32
Return over direct exp per acre	472.06
Overhead Expenses	
Custom hire	2.25
Hired labor	45.37
Machinery leases	7.19
Building leases	12.53
RE & pers. property taxes	25.96
Farm insurance	11.91
Utilities	9.71
Dues & professional fees	6.48
Interest	88.15
Mach & bldg depreciation	99.71
Miscellaneous	11.99
Total overhead expenses per acre	321.26
Total dir & ovhd expenses per acre	1,111.58
Net return per acre	150.80
Government payments	19.25
Net return with govt pmts	170.05
Labor & management charge	93.18
Net return over lbr & mgt	76.87
Cost of Production	
Total direct expense per ton	28.12
Total dir & ovhd exp per ton	39.56
Less govt & other income	38.58
With labor & management	41.90
Net value per unit	44.63
Machinery cost per acre	268.74
Est. labor hours per acre	4.92

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Sugar Beets on Cash Rent Excluding Joint Venture

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	50	10	10	10
Acres	188.99	173.31	168.54	156.60
Yield per acre (ton)	26.61	24.62	26.43	29.55
Operators share of yield %	100.00	100.00	100.00	100.00
Value per ton	45.03	42.06	44.88	48.73
Total product return per acre	1,198.04	1,035.67	1,186.28	1,439.70
Crop insurance per acre	7.12	27.08	6.59	-
Other crop income per acre	5.52	16.55	-	-
Gross return per acre	1,210.69	1,079.30	1,192.86	1,439.70
Direct Expenses				
Seed	215.30	205.94	229.37	222.82
Fertilizer	103.48	105.57	100.74	98.37
Crop chemicals	83.44	102.70	72.87	91.68
Crop insurance	27.27	32.89	22.81	19.47
Fuel & oil	57.97	55.92	68.17	53.94
Repairs	89.94	96.33	93.85	64.89
Custom hire	14.15	12.06	3.65	15.64
Hired labor	34.01	31.20	34.63	37.46
Land rent	140.94	170.57	124.64	144.14
Machinery leases	0.77	-	0.39	2.91
Hauling and trucking	7.56	-	8.30	7.22
Operating interest	13.19	21.41	12.97	7.82
Miscellaneous	4.59	7.68	8.56	3.53
Total direct expenses per acre	792.61	842.27	780.95	769.88
Return over direct exp per acre	418.07	237.03	411.92	669.81
Overhead Expenses				
Custom hire	2.75	0.82	1.58	1.20
Hired labor	57.04	23.33	50.55	55.46
Machinery leases	8.81	9.65	7.14	14.80
Building leases	2.39	8.76	1.70	2.16
Farm insurance	19.44	20.10	11.31	21.73
Utilities	11.00	7.69	11.54	12.33
Dues & professional fees	6.36	4.56	5.16	10.00
Interest	11.77	12.70	19.01	9.63
Mach & bldg depreciation	107.17	122.22	113.10	73.41
Miscellaneous	7.63	6.66	9.92	12.07
Total overhead expenses per acre	234.38	216.50	231.00	212.80
Total dir & ovhd expenses per acre	1,026.99	1,058.77	1,011.95	982.69
Net return per acre	183.69	20.54	180.92	457.01
Government payments	8.88	14.13	3.56	7.43
Net return with govt pmts	192.58	34.67	184.48	464.44
Labor & management charge	109.71	105.12	83.61	135.18
Net return over lbr & mgt	82.87	-70.45	100.87	329.27
Cost of Production				
Total direct expense per ton	29.79	34.20	29.54	26.06
Total dir & ovhd exp per ton	38.60	43.00	38.28	33.26
Less govt & other income	37.79	40.65	37.90	33.01
With labor & management	41.91	44.92	41.06	37.58
Net value per unit	45.03	42.06	44.88	48.73
Machinery cost per acre	286.18	305.58	290.16	227.14
Est. labor hours per acre	5.44	5.70	4.62	5.59

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Sugar Beets on Cash Rent Including Joint Venture

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	44	8	9	9
Acres	276.22	234.38	334.93	229.32
Yield per acre (ton)	26.69	18.65	27.39	29.15
Operators share of yield %	100.00	100.00	100.00	100.00
Value per ton	46.41	59.16	44.53	46.56
Total product return per acre	1,238.73	1,103.62	1,219.57	1,357.33
Crop insurance per acre	2.52	1.03	4.74	-
Other crop income per acre	4.44	15.42	2.28	-
Gross return per acre	1,245.69	1,120.07	1,226.59	1,357.33
Direct Expenses				
Seed	218.05	224.58	220.42	216.87
Fertilizer	100.61	106.87	88.84	103.34
Crop chemicals	75.92	69.86	77.00	77.48
Crop insurance	24.53	26.60	23.08	22.55
Fuel & oil	53.87	59.89	52.63	56.77
Repairs	77.98	89.15	79.36	58.41
Custom hire	18.41	23.04	23.11	9.59
Hired labor	26.64	14.07	32.07	20.46
Land rent	132.50	115.29	135.10	120.27
Stock/quota lease	154.43	239.96	123.69	126.61
Machinery leases	2.40	-	1.27	1.32
Hauling and trucking	16.56	27.77	25.97	3.37
Operating interest	18.68	12.09	18.09	11.50
Miscellaneous	3.25	2.82	6.43	0.80
Total direct expenses per acre	923.81	1,011.99	907.06	829.35
Return over direct exp per acre	321.88	108.08	319.53	527.98
Overhead Expenses				
Custom hire	2.79	1.64	-	0.00
Hired labor	50.42	66.71	59.21	63.71
Machinery leases	9.73	7.21	6.78	19.01
Building leases	5.56	7.61	0.79	0.66
Farm insurance	12.92	16.64	16.26	12.36
Utilities	9.05	10.83	8.49	10.79
Dues & professional fees	6.24	5.81	7.99	5.22
Interest	13.60	15.76	13.11	9.87
Mach & bldg depreciation	100.44	98.02	112.75	105.00
Miscellaneous	9.97	6.60	9.49	11.34
Total overhead expenses per acre	220.74	236.84	234.85	237.96
Total dir & ovhd expenses per acre	1,144.56	1,248.83	1,141.91	1,067.30
Net return per acre	101.13	-128.76	84.67	290.03
Government payments	12.26	8.91	11.98	6.77
Net return with govt pmts	113.39	-119.85	96.65	296.80
Labor & management charge	97.43	71.87	102.72	111.47
Net return over lbr & mgt	15.96	-191.72	-6.07	185.33
Cost of Production				
Total direct expense per ton	34.61	54.25	33.12	28.45
Total dir & ovhd exp per ton	42.88	66.94	41.69	36.61
Less govt & other income	42.16	65.58	41.00	36.38
With labor & management	45.81	69.44	44.75	40.20
Net value per unit	46.41	59.16	44.53	46.56
Machinery cost per acre	271.77	287.64	278.14	252.49
Est. labor hours per acre	4.59	4.14	5.47	4.60

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Sunflowers on Cash Rent

	Avg. Of All Farms
Number of farms	10
Acres	285.05
Yield per acre (cwt.)	19.46
Operators share of yield %	100.00
Value per cwt.	22.08
Total product return per acre	429.76
Other crop income per acre	3.02
Gross return per acre	432.77
Direct Expenses	
Seed	38.22
Fertilizer	68.19
Crop chemicals	42.20
Crop insurance	15.51
Fuel & oil	17.19
Repairs	23.21
Custom hire	6.06
Hired labor	7.37
Land rent	126.77
Machinery leases	2.79
Operating interest	6.76
Miscellaneous	2.44
Total direct expenses per acre	356.72
Return over direct exp per acre	76.06
Overhead Expenses	
Hired labor	10.60
Machinery leases	6.83
Building leases	0.97
Farm insurance	8.39
Utilities	5.35
Dues & professional fees	3.20
Interest	4.60
Mach & bldg depreciation	37.65
Miscellaneous	4.18
Total overhead expenses per acre	81.77
Total dir & ovhd expenses per acre	438.48
Net return per acre	-5.71
Government payments	21.36
Net return with govt pmts	15.65
Labor & management charge	41.01
Net return over lbr & mgt	-25.36
Cost of Production	
Total direct expense per cwt.	18.33
Total dir & ovhd exp per cwt.	22.53
Less govt & other income	21.28
With labor & management	23.38
Net value per unit	22.08
Machinery cost per acre	94.16
Est. labor hours per acre	1.80

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Wheat, Spring on Owned Land

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	80	16	16	16
Acres	213.75	241.80	205.70	219.85
Yield per acre (bu.)	70.45	59.72	72.93	79.65
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	5.02	5.00	4.95	5.28
Total product return per acre	353.63	298.34	360.76	420.52
Hedging gains/losses per acre	2.39	-	-	1.82
Crop insurance per acre	4.07	2.48	0.55	1.59
Other crop income per acre	2.63	1.65	2.81	3.67
Gross return per acre	362.73	302.47	364.12	427.59
Direct Expenses				
Seed	21.70	23.36	22.96	20.83
Fertilizer	94.18	95.45	101.17	97.00
Crop chemicals	29.81	27.73	31.02	29.61
Crop insurance	14.60	15.49	12.03	12.19
Drying expense	0.31	0.30	0.06	0.91
Fuel & oil	15.53	16.27	15.34	13.98
Repairs	21.90	22.24	19.41	19.54
Custom hire	7.09	9.70	4.81	3.58
Hired labor	0.43	0.12	1.32	-
Machinery leases	1.33	0.65	0.90	2.66
Operating interest	4.51	4.30	4.56	4.28
Miscellaneous	3.56	2.75	3.84	2.68
Total direct expenses per acre	214.96	218.35	218.33	207.26
Return over direct exp per acre	147.77	84.12	145.79	220.34
Overhead Expenses				
Hired labor	12.07	12.38	10.94	11.38
Machinery leases	2.14	3.20	1.41	2.39
Building leases	1.13	0.28	2.42	1.33
RE & pers. property taxes	21.77	15.10	23.31	21.39
Farm insurance	6.52	7.28	5.28	8.11
Utilities	4.48	4.09	4.51	4.14
Dues & professional fees	3.05	3.15	3.06	3.89
Interest	34.05	15.19	39.88	36.14
Mach & bldg depreciation	30.75	30.65	32.54	27.42
Miscellaneous	3.37	3.44	4.29	3.04
Total overhead expenses per acre	119.35	94.76	127.65	119.22
Total dir & ovhd expenses per acre	334.31	313.10	345.97	326.48
Net return per acre	28.42	-10.64	18.15	101.11
Government payments	11.89	7.08	12.25	15.33
Net return with govt pmts	40.31	-3.56	30.39	116.44
Labor & management charge	27.07	24.13	28.24	26.91
Net return over lbr & mgt	13.24	-27.69	2.15	89.53
Cost of Production				
Total direct expense per bu.	3.05	3.66	2.99	2.60
Total dir & ovhd exp per bu.	4.75	5.24	4.74	4.10
Less govt & other income	4.45	5.06	4.53	3.82
With labor & management	4.83	5.46	4.92	4.16
Net value per unit	5.05	5.00	4.95	5.30
Machinery cost per acre	79.59	83.11	74.11	70.59
Est. labor hours per acre	1.49	1.46	1.49	1.35

Crop Enterprise Analysis
Minnesota and North Dakota Farm Business Management Education
Red River Valley, 2015
(Farms Sorted By Return to Overhead)

Wheat, Spring on Cash Rent

	Avg. Of All Farms	Low 20%	40 - 60%	High 20%
Number of farms	127	25	26	26
Acres	394.09	284.33	389.15	451.38
Yield per acre (bu.)	72.01	63.80	72.52	76.11
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	4.98	4.67	4.98	5.20
Total product return per acre	358.29	298.21	360.94	395.71
Hedging gains/losses per acre	3.79	-	-	1.59
Crop insurance per acre	4.10	2.17	6.62	6.35
Other crop income per acre	2.01	1.65	3.03	3.86
Gross return per acre	368.19	302.03	370.60	407.51
Direct Expenses				
Seed	22.00	23.82	20.35	22.43
Fertilizer	98.06	106.19	100.57	92.26
Crop chemicals	27.96	26.86	32.05	27.17
Crop insurance	14.24	14.70	14.18	14.19
Drying expense	0.73	0.16	0.32	0.70
Fuel & oil	14.02	13.58	15.07	14.24
Repairs	20.91	23.17	23.72	19.12
Custom hire	6.81	9.34	8.45	4.64
Hired labor	0.72	0.23	-	0.42
Land rent	122.99	139.47	123.36	102.60
Machinery leases	0.76	0.59	1.54	0.11
Operating interest	4.75	3.72	5.35	5.29
Miscellaneous	4.42	5.09	4.42	1.78
Total direct expenses per acre	338.37	366.92	349.36	304.94
Return over direct exp per acre	29.82	-64.89	21.23	102.56
Overhead Expenses				
Hired labor	12.38	10.13	12.27	15.01
Machinery leases	3.09	2.40	3.64	3.91
Building leases	1.20	2.60	1.48	0.10
Farm insurance	6.36	6.99	6.78	6.24
Utilities	3.69	4.49	4.35	3.72
Dues & professional fees	3.26	2.57	3.37	3.90
Interest	3.50	4.24	3.76	2.64
Mach & bldg depreciation	28.90	27.76	32.07	29.25
Miscellaneous	3.37	4.47	3.39	3.01
Total overhead expenses per acre	65.75	65.65	71.11	67.78
Total dir & ovhd expenses per acre	404.12	432.57	420.47	372.72
Net return per acre	-35.93	-130.54	-49.88	34.79
Government payments	11.82	11.36	10.32	9.60
Net return with govt pmts	-24.11	-119.18	-39.56	44.38
Labor & management charge	28.37	30.91	28.38	29.81
Net return over lbr & mgt	-52.48	-150.10	-67.94	14.58
Cost of Production				
Total direct expense per bu.	4.70	5.75	4.82	4.01
Total dir & ovhd exp per bu.	5.61	6.78	5.80	4.90
Less govt & other income	5.31	6.54	5.52	4.62
With labor & management	5.70	7.03	5.91	5.01
Net value per unit	5.03	4.67	4.98	5.22
Machinery cost per acre	76.39	80.28	86.43	72.16
Est. labor hours per acre	1.42	1.52	1.51	1.32

MyFarm Financial Scorecard

Year: _____ Name: _____

	This Year	5-Year Ave	Strong	Vulnerable
Liquidity				
Current ratio			1.7	1.1
Working capital				
Working cap to gross revenue			25%	10%
Solvency (market)	Note: These solvency ratios include deferred liabilities			
Farm debt/asset ratio			30%	60%
Farm equity/asset ratio			70%	40%
Farm debt/equity ratio			0.43	1.50
Profitability (Cost)				
Rate of return on farm assets			8%	4%
Rate of return on farm equity			10%	3%
Operating profit margin			25%	15%
Net farm income				
EBITDA				
Repayment Capacity (Accrual)				
Capital debt repay capacity				
Capital debt repay margin				
Replacement margin				
Term-debt coverage ratio			1.50	1.20
Replacement margin ratio			1.40	1.10
Financial Efficiency				
Asset-turnover rate (market)			45%	30%
Operating-expense ratio			60%	80%
Depreciation-expense ratio			5%	15%
Interest-expense ratio			5%	10%
Net farm income ratio			20%	10%

Developed by: University of Vermont Extension and Center for Farm Financial Mgt, University of Minnesota
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