

# **Annual Averages Report for 2016**

***North Dakota Farm and Ranch Business Management Education Programs***  
***Bottineau, Minot and Rugby Farm and Ranch Business Management Education Programs***

## **ACKNOWLEDGEMENTS**

The farm and ranch business analyses for this report were submitted by the following instructors representing their cooperating schools:

<b><u>SCHOOLS:</u></b>	<b><u>INSTRUCTORS:</u></b>	<b><u>OFFICE PHONE:</u></b>
Dakota College at Bottineau (Bottineau Office)	Rodney Armstrong	(701) 228-5481
Dakota College at Bottineau (Minot Office)	BillieJo Shae	(701) 857-7682
Dakota College at Bottineau (Rugby Office)	Allen Graner	(701) 776-5095

We acknowledge the contributions made by the farm families who cooperated with their Farm and Ranch Business Management Education Program instructors in getting the records for 2016 closed out on a timely schedule. Acknowledgment is due the above sited instructors for submitting their respective Finan farm business analyses to the North Dakota State University Extension Economist at North Dakota State University who then used the data to run these average reports. The North Dakota State University Finpack Center ran the averages based upon the data from 86 Finan business analyses submitted by the instructors prior to the March cut off date.

A special acknowledgement is due Andy Swenson who serves as the liaison coordinator between the instructors and the NDSU Extension Service. Andy manages the data base software program which is used to summarize the individual analysis' into specific comparative tables. Swenson is the Farm and Family Resource Management Specialist with the NDSU Extension Service at North Dakota State University in Fargo, North Dakota.

***In cooperation with the***  
***North Dakota State Board for***  
***Career and Technical Education***



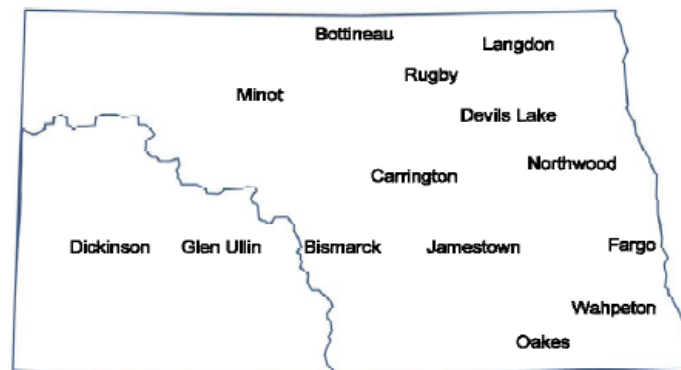
# Annual Averages Report for 2016

*Bottineau, Minot and Rugby Farm and Ranch Business Management Education Programs*

## Table of Contents

Financial Sponsors .....	i
Acknowledgments .....	iii
Table of Contents.....	iv
Whole Farm/Ranch Financial and Operator Information .....	1
Crop Enterprises .....	17
Livestock Enterprises .....	52
Graphs.....	57

### *Locations of North Dakota Farm and Ranch Business Management Education Programs*



# Whole Farm Financial Information

**Farm Income Statement**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	17	18
<b>Cash Farm Income</b>				
Barley	58,136	23,287	53,841	121,316
Beans, Black Turtle	582	2,944	-	-
Beans, Pinto	3,618	3,487	-	5,797
Canola	52,988	21,127	58,585	73,969
Corn	24,593	15,032	17,451	36,769
Corn Silage	145	-	-	695
Flax	11,570	5,651	15,724	21,236
Hay, Grass	391	106	-	1,654
Hay, Mixed	69	-	-	328
Hay, Mixed Alfalfa/Grass	54	-	-	258
Lentils	524	-	-	-
Oats	782	132	-	2,934
Peas, Field	18,978	799	15,990	30,458
Safflower	193	978	-	-
Soybeans	128,844	53,974	108,393	275,721
Sunflowers	14,797	3,469	17,261	17,261
Sunflowers, Confectionary	2,231	6,788	-	4,248
Wheat, Durum	5,063	9,683	921	5,305
Wheat, Spring	107,115	73,180	105,669	187,238
Wheat, Winter	3,301	-	-	10,843
Soybeans, Food	888	-	-	-
Miscellaneous crop income	54	-	-	-
Beef Cow-Calf, Beef Calves	27,778	63,378	20,520	14,453
Beef Replacement Heifers	4,344	4,135	138	8,787
Beef Backgrounding	12,320	18,281	517	-
Beef Finishing	394	109	-	-
Beef Stockers	698	3,533	-	-
Dogs, Dogs	53	-	271	-
Cull breeding livestock	6,545	11,776	4,320	1,619
Misc. livestock income	1,264	71	199	5,249
LDP payments	701	-	-	317
Crop government payments	37,035	22,302	34,875	61,823
CRP payments	2,352	1,823	4,253	2,154
Other government payments	11,371	8,812	8,984	24,002
Custom work income	9,283	2,208	10,186	25,356
Patronage dividends, cash	8,926	5,915	10,225	12,674
Crop insurance income	26,321	21,948	28,609	31,831
Property insurance income	1,081	257	1,689	3,327
Sale of resale items	572	872	-	1,776
Other farm income	10,015	4,325	5,219	9,306
Gross Cash Farm Income	595,973	390,382	523,839	998,703

**Farm Income Statement (continued)**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Farm Income)**

	<u>Avg. Of</u> <u>All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	86	17	17	18
<b>Cash Farm Expense</b>				
Seed	79,961	51,945	74,264	133,910
Fertilizer	75,755	62,475	74,871	108,376
Crop chemicals	60,151	47,985	51,236	99,309
Crop insurance	25,557	15,408	26,010	38,032
Drying expense	1,096	1,287	831	1,434
Storage	317	26	1,195	294
Irrigation energy	74	-	286	84
Crop marketing	572	77	272	1,812
Crop miscellaneous	1,960	2,736	2,072	3,164
Consultants	1,845	1,311	787	5,317
Feeder livestock purchase	2,066	5,860	44	-
Purchased feed	6,203	13,760	3,172	1,307
Breeding fees	198	134	-	-
Veterinary	2,406	3,846	2,036	421
Supplies	2,091	2,373	1,740	1,568
Grazing fees	224	1,135	-	-
Livestock marketing	295	638	134	-
Interest	29,125	25,234	23,660	44,284
Fuel & oil	20,528	17,210	18,892	30,359
Repairs	44,625	46,919	36,196	64,483
Custom hire	15,673	14,258	16,635	14,364
Hired labor	14,196	7,890	13,853	21,343
Land rent	71,420	45,687	57,195	119,808
Machinery leases	10,602	7,307	4,297	31,607
Building leases	1,216	-	1,897	2,712
Real estate taxes	4,165	5,174	3,037	5,692
Farm insurance	9,024	7,068	7,638	13,970
Utilities	6,038	5,702	4,461	9,994
Dues & professional fees	2,542	3,562	1,776	2,688
Purchase of resale items	2,167	-	2,017	2,407
Miscellaneous	5,675	4,634	4,092	10,933
Total cash expense	497,769	401,641	434,597	769,671
Net cash farm income	98,204	-11,259	89,241	229,032
<b>Inventory Changes</b>				
Prepays and supplies	5,283	12,972	3,537	2,297
Accounts receivable	4,139	6,622	16,253	-26,515
Hedging accounts	1,933	-	235	10,276
Other current assets	-973	-	-	-1,829
Crops and feed	79,461	3,879	50,149	225,506
Market livestock	-3,559	-10,009	652	-7,271
Breeding livestock	937	-71	1,184	3,717
Other assets	3,035	569	4,032	3,941
Accounts payable	3,338	8,822	2,544	-59
Accrued interest	656	480	-2,277	5,023
Total inventory change	94,249	23,264	76,309	215,086
Net operating profit	192,453	12,005	165,551	444,117
<b>Depreciation</b>				
Machinery and equipment	-45,551	-37,039	-40,707	-66,714
Titled vehicles	-7,994	-6,712	-10,026	-11,471
Buildings and improvements	-4,845	-3,726	-3,018	-7,587
Total depreciation	-58,390	-47,478	-53,751	-85,772
Net farm income from operations	134,063	-35,473	111,800	358,345
Gain or loss on capital sales	999	6,601	-532	-664
Net farm income	135,062	-28,872	111,268	357,681

**Inventory Changes**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	17	18
Net cash farm income	98,204	-11,259	89,241	229,032
<b>Crops and Feed</b>				
Ending inventory	407,528	178,270	376,576	806,090
Beginning inventory	328,067	174,391	326,427	580,584
Inventory change	79,461	3,879	50,149	225,506
<b>Market Livestock</b>				
Ending inventory	33,352	57,810	17,584	7,785
Beginning inventory	36,912	67,818	16,932	15,056
Inventory change	-3,559	-10,009	652	-7,271
<b>Accts Receivable</b>				
Ending inventory	29,465	21,656	44,230	33,395
Beginning inventory	25,326	15,033	27,977	59,909
Inventory change	4,139	6,622	16,253	-26,515
<b>Prepaid Expenses and Supplies</b>				
Ending inventory	41,321	32,333	24,665	81,399
Beginning inventory	36,039	19,361	21,128	79,103
Inventory change	5,283	12,972	3,537	2,297
<b>Hedging Activities</b>				
Ending inventory	3,824	15	529	11,552
Withdrawals	7,339	-	-	35,065
Beginning inventory	5,431	15	176	20,342
Deposits	3,799	-	118	16,000
Gain or loss	1,933	-	235	10,276
<b>Other Current Assets</b>				
Ending inventory	823	-	-	-
Beginning inventory	1,796	-	-	1,829
Inventory change	-973	-	-	-1,829
<b>Breeding Livestock</b>				
Ending inventory	101,847	210,260	45,580	42,006
Capital sales	2,023	-	7,059	2,998
Beginning inventory	92,890	197,626	34,358	39,870
Capital purchases	10,043	12,705	17,097	1,417
Depreciation, capital adjust	937	-71	1,184	3,717
<b>Other Capital Assets</b>				
Ending inventory	30,920	26,858	46,529	35,529
Capital sales	698	353	695	606
Beginning inventory	28,496	26,515	43,074	32,042
Capital purchases	86	128	118	152
Depreciation, capital adjust	3,035	569	4,032	3,941
<b>Accounts Payable</b>				
Beginning inventory	19,243	18,854	13,650	30,445
Ending inventory	15,905	10,032	11,106	30,504
Inventory change	3,338	8,822	2,544	-59
<b>Accrued Interest</b>				
Beginning inventory	15,190	14,721	11,802	22,968
Ending inventory	14,533	14,241	14,078	17,944
Inventory change	656	480	-2,277	5,023
Total inventory change	94,249	23,264	76,309	215,086
Net operating profit	192,453	12,005	165,551	444,117

**Depreciation**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	17	18
Net operating profit	192,453	12,005	165,551	444,117
<b>Machinery and Equipment</b>				
Ending inventory	505,394	391,585	442,830	786,623
Capital sales	4,341	2,370	6,009	3,263
Beginning inventory	509,307	414,412	449,327	756,132
Capital purchases	45,979	16,583	40,218	100,468
Depreciation, capital adjust.	-45,551	-37,039	-40,707	-66,714
<b>Titled Vehicles</b>				
Ending inventory	60,957	53,679	61,843	89,613
Capital sales	1,847	2,353	2,705	946
Beginning inventory	61,012	53,348	68,640	82,384
Capital purchases	9,786	9,396	5,935	19,645
Depreciation, capital adjust.	-7,994	-6,712	-10,026	-11,471
<b>Buildings and Improvements</b>				
Ending inventory	135,365	83,300	91,945	268,924
Capital sales	233	-	1,176	-
Beginning inventory	128,280	78,339	86,019	248,602
Capital purchases	12,163	8,688	10,121	27,909
Depreciation, capital adjust.	-4,845	-3,726	-3,018	-7,587
Total depreciation, capital adj.	-58,390	-47,478	-53,751	-85,772
Net farm income from operations	134,063	-35,473	111,800	358,345
Gain or loss on capital sales	999	6,601	-532	-664
Net farm income	135,062	-28,872	111,268	357,681

---

**Profitability Measures**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	17	18
<b>Profitability (assets valued at cost)</b>				
Net farm income from operations	134,063	-35,473	111,800	358,345
Rate of return on assets	6.1 %	-3.1 %	6.1 %	10.7 %
Rate of return on equity	7.7 %	-8.9 %	8.7 %	14.1 %
Operating profit margin	16.5 %	-12.4 %	15.1 %	26.5 %
Asset turnover rate	36.8 %	25.0 %	40.8 %	40.3 %
Farm interest expense	28,469	24,754	25,937	39,261
Value of operator lbr and mgmt.	51,639	35,400	48,668	78,208
Return on farm assets	110,893	-46,119	89,068	319,398
Average farm assets	1,826,101	1,485,910	1,449,968	2,990,117
Return on farm equity	82,424	-70,873	63,132	280,138
Average farm equity	1,076,313	796,522	723,764	1,990,198
Value of farm production	671,393	371,752	591,112	1,204,219



**Liquidity & Repayment Capacity Measures**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	17	18
<b>Liquidity</b>				
Current ratio	1.88	1.17	1.49	2.77
Working capital	275,696	44,668	163,038	748,925
Working capital to gross inc	40.4 %	11.4 %	27.3 %	62.0 %
Current assets	589,253	314,650	497,546	1,170,963
Current liabilities	313,557	269,982	334,507	422,038
Gross revenues (accrual)	681,830	391,373	596,344	1,207,933
<b>Repayment capacity</b>				
Net farm income from operations	134,063	-35,473	111,800	358,345
Depreciation	58,390	47,478	53,751	85,772
Personal income	41,919	45,454	31,345	76,455
Family living/owner withdrawals	-59,226	-48,523	-54,423	-86,917
Cash discrepancy	31	-45	-138	191
Payments on personal debt	-4,087	-3,714	-2,501	-6,694
Income taxes paid	-13,203	-3,677	-9,350	-29,694
Interest on term debt	18,718	18,694	12,980	26,598
Capital debt repayment capacity	176,574	20,240	143,602	423,865
Scheduled term debt payments	-84,116	-79,214	-77,428	-110,023
Capital debt repayment margin	92,458	-58,974	66,174	313,842
Cash replacement allowance	-25,000	-15,631	-23,086	-49,470
Replacement margin	67,458	-74,605	43,089	264,372
Term debt coverage ratio	2.10	0.26	1.85	3.85
Replacement coverage ratio	1.62	0.21	1.43	2.66

**Balance Sheet at Cost Values**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	17	18
<b>Assets</b>				
<b>Current Farm Assets</b>				
Cash and checking balance	72,940	24,568	33,962	230,742
Prepaid expenses & supplies	41,321	32,333	24,665	81,399
Growing crops	811	-	-	-
Accounts receivable	29,465	21,656	44,230	33,395
Hedging accounts	3,824	15	529	11,552
Crops held for sale or feed	407,528	178,270	376,576	806,090
Crops under government loan	-	-	-	-
Market livestock held for sale	33,352	57,810	17,584	7,785
Other current assets	12	-	-	-
Total current farm assets	589,253	314,650	497,546	1,170,963
<b>Intermediate Farm Assets</b>				
Breeding livestock	101,847	210,260	45,580	42,006
Machinery and equipment	505,394	391,585	442,830	786,623
Titled vehicles	60,957	53,679	61,843	89,613
Other intermediate assets	2,724	5,262	4,869	705
Total intermediate farm assets	670,921	660,786	555,122	918,947
<b>Long Term Farm Assets</b>				
Farm land	464,627	407,123	321,798	741,896
Buildings and improvements	135,365	83,300	91,945	268,924
Other long-term assets	28,195	21,596	41,659	34,824
Total long-term farm assets	628,188	512,020	455,402	1,045,644
Total Farm Assets	1,888,362	1,487,456	1,508,070	3,135,554
Total Nonfarm Assets	316,751	190,334	255,709	489,481
Total Assets	2,205,114	1,677,791	1,763,779	3,625,035
<b>Liabilities</b>				
<b>Current Farm Liabilities</b>				
Accrued interest	14,533	14,241	14,078	17,944
Accounts payable	15,905	10,032	11,106	30,504
Current notes	219,042	195,752	252,322	293,395
Government crop loans	-	-	-	-
Principal due on term debt	64,077	49,956	57,001	80,194
Total current farm liabilities	313,557	269,982	334,507	422,038
Total intermediate farm liabs	175,744	206,812	171,164	198,208
Total long term farm liabilities	271,189	232,631	226,019	380,334
Total farm liabilities	760,490	709,425	731,690	1,000,579
Total nonfarm liabilities	57,359	26,493	37,532	88,581
Total liabilities	817,849	735,918	769,222	1,089,161
Net worth (farm and nonfarm)	1,387,264	941,872	994,557	2,535,875
Net worth change	117,820	-41,384	131,969	314,941
Percent net worth change	9 %	-4 %	15 %	14 %
<b>Ratio Analysis</b>				
Current farm liabilities / assets	53 %	86 %	67 %	36 %
Intermediate farm liab. / assets	26 %	31 %	31 %	22 %
Long term farm liab. / assets	43 %	45 %	50 %	36 %
Total debt to asset ratio	37 %	44 %	44 %	30 %

**Statement Of Cash Flows**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	17	18
Beginning cash (farm & nonfarm)	91,543	53,415	59,754	242,546
<b>Cash Provided By Operating Activities</b>				
Gross cash farm income	595,973	390,382	523,839	998,703
Total cash farm expense	-497,769	-401,641	-434,597	-769,671
Net cash from hedging transactions	3,540	-	-118	19,065
Cash provided by operating	101,744	-11,259	89,124	248,097
<b>Cash Provided By Investing Activities</b>				
Sale of breeding livestock	2,023	-	7,059	2,998
Sale of machinery & equipment	4,331	2,424	5,218	2,972
Sale of titled vehicles	1,561	2,353	2,965	573
Sale of farm land	3,703	18,235	-	472
Sale of farm buildings	233	-	1,176	-
Sale of other farm assets	698	353	695	606
Sale of nonfarm assets	2,928	3,576	3,500	3,840
Purchase of breeding livestock	-10,043	-12,705	-17,097	-1,417
Purchase of machinery & equip.	-45,979	-16,583	-40,218	-100,468
Purchase of titled vehicles	-9,786	-9,396	-5,935	-19,645
Purchase of farm land	-30,371	-18,509	-59,900	-17,600
Purchase of farm buildings	-12,163	-8,688	-10,121	-27,909
Purchase of other farm assets	-86	-128	-118	-152
Purchase of nonfarm assets	-25,382	-14,079	-36,637	-29,620
Cash provided by investing	-118,333	-53,146	-149,413	-185,350
<b>Cash Provided By Financing Activities</b>				
Money borrowed	629,041	677,609	528,658	917,388
Principal payments	-597,855	-623,013	-504,305	-913,771
Personal income	41,919	45,454	31,345	76,455
Family living/owner withdrawals	-59,226	-48,523	-54,423	-86,917
Income and social security tax	-13,344	-3,735	-9,144	-30,387
Capital contributions	440	1,757	-	-
Capital distributions	-150	-759	-	-
Dividends paid	-	-	-	-
Cash gifts and inheritances	12,357	2,245	51,081	536
Gifts given	-339	-	-506	-1,089
Other cash flows	-	-	-	-
Cash provided by financing	12,842	51,035	42,706	-37,784
Net change in cash balance	-3,747	-13,370	-17,583	24,963
Ending cash (farm & nonfarm)	87,826	40,000	42,033	267,699
Discrepancy	-31	45	138	-191

**Financial Standards Measures**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	17	18
<b>Liquidity</b>				
Current ratio	1.88	1.17	1.49	2.77
Working capital	275,696	44,668	163,038	748,925
Working capital to gross inc	40.4 %	11.4 %	27.3 %	62.0 %
<b>Solvency (cost)</b>				
Farm debt to asset ratio	40 %	48 %	49 %	32 %
Farm equity to asset ratio	60 %	52 %	51 %	68 %
Farm debt to equity ratio	0.67	0.91	0.94	0.47
<b>Profitability (cost)</b>				
Rate of return on farm assets	6.1 %	-3.1 %	6.1 %	10.7 %
Rate of return on farm equity	7.7 %	-8.9 %	8.7 %	14.1 %
Operating profit margin	16.5 %	-12.4 %	15.1 %	26.5 %
Net farm income	135,062	-28,872	111,268	357,681
EBITDA	220,922	36,759	191,487	483,378
<b>Repayment Capacity</b>				
Capital debt repayment capacity	176,574	20,240	143,602	423,865
Capital debt repayment margin	92,458	-58,974	66,174	313,842
Replacement margin	67,458	-74,605	43,089	264,372
Term debt coverage ratio	2.10	0.26	1.85	3.85
Replacement coverage ratio	1.62	0.21	1.43	2.66
<b>Efficiency</b>				
Asset turnover rate (cost)	36.8 %	25.0 %	40.8 %	40.3 %
Operating expense ratio	67.6 %	90.6 %	67.9 %	60.0 %
Depreciation expense ratio	8.6 %	12.1 %	9.0 %	7.1 %
Interest expense ratio	4.2 %	6.3 %	4.3 %	3.3 %
Net farm income ratio	19.8 %	-7.4 %	18.7 %	29.6 %

**Crop Production and Marketing Summary**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	17	18
<b>Acreage Summary</b>				
Total acres owned	897	975	637	1,087
Total crop acres	2,142	1,603	1,850	3,467
Crop acres owned	575	408	540	848
Crop acres cash rented	1,332	978	1,110	2,077
Crop acres share rented	235	217	200	542
Total pasture acres	525	1,171	136	287
Percent crop acres owned	27 %	25 %	29 %	24 %
Mach invest/crop acre cost	265	285	276	247
<b>Average Price Received (Cash Sales Only)</b>				
Wheat, Spring per bushel	4.47	4.21	4.60	4.60
Soybeans per bushel	8.60	8.67	8.64	8.56
Canola per cwt	15.39	14.31	15.05	15.64
Barley per bushel	5.05	-	4.75	5.46
Corn per bushel	2.95	-	-	3.13
Flax per bushel	8.12	-	7.07	-
Sunflowers per cwt	18.50	-	-	-
Peas, Field per bushel	7.05	-	-	-
Wheat, Durum per bushel	6.43	-	-	-
Wheat, Winter per bushel	3.13	-	-	-
<b>Average Yield Per Acre</b>				
Wheat, Spring (bushel)	54.37	53.90	56.03	57.81
Soybeans (bushel)	39.23	37.75	37.12	40.68
Pasture (aum)	0.935	0.938	1.23	-
Canola (cwt)	19.23	17.79	19.61	20.25
Barley (bushel)	71.46	76.55	58.26	73.84
Hay, Grass (ton)	1.14	1.07	1.04	-
Corn (bushel)	128.46	117.45	119.38	152.19
Peas, Field (bushel)	36.40	-	33.31	50.27
Wheat, Durum (bushel)	54.26	-	54.15	56.50
Sunflowers (cwt)	19.27	-	16.15	20.67
Flax (bushel)	24.63	-	20.59	-
CRP (\$)	38.98	-	67.81	30.11
Hay, Mixed Alfalfa/Grass (ton)	1.38	1.22	-	-
Hay, Alfalfa (ton)	2.34	2.62	-	-
Corn Silage (ton)	17.39	15.76	-	-
Beans, Pinto (cwt)	17.34	-	-	17.84
Hay, Small Grain (ton)	2.42	2.33	-	-
Rented Out (\$)	46.08	-	-	-
Oats (bushel)	105.49	-	-	-
Wheat, Winter (bushel)	64.35	-	-	-
Hay, Summer Annual Grass (ton)	2.54	-	-	-

**Household and Personal Expenses**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	38	7	10	8
Average family size	3.0	2.3	3.5	3.4
<b>Family Living Expenses</b>				
Food and meals expense	10,101	7,551	10,270	9,265
Medical care	6,313	4,791	5,266	11,824
Health insurance	5,958	2,249	9,428	6,101
Cash donations	2,592	1,456	2,687	1,619
Household supplies	6,500	6,818	4,764	10,078
Clothing	3,037	1,698	2,743	5,116
Personal care	4,308	3,253	6,300	4,791
Child / Dependent care	895	46	1,540	2,064
Alimony and child support	-	-	-	-
Gifts	2,497	1,151	3,898	2,180
Education	1,082	128	1,192	475
Recreation	4,722	3,597	5,340	3,581
Utilities (household share)	3,612	3,290	3,329	4,680
Personal vehicle operating exp	2,845	5,077	2,869	2,059
Household real estate taxes	666	-	349	1,254
Dwelling rent	34	86	-	89
Household repairs	2,618	4,543	1,731	1,604
Personal interest	2,149	249	612	5,531
Disability / Long term care ins	553	-	422	-
Life insurance payments	4,167	2,434	1,790	11,174
Personal property insurance	231	161	124	96
Miscellaneous	3,804	2,215	5,251	2,898
Total cash family living expense	68,684	50,792	69,905	86,478
Family living from the farm	151	196	175	-
Total family living	68,834	50,988	70,080	86,478
<b>Other Nonfarm Expenditures</b>				
Income taxes	12,401	3,952	9,812	25,583
Furnishing & appliance purchases	217	132	-	-
Nonfarm vehicle purchases	5,480	4,444	6,581	7,816
Nonfarm real estate purchases	9,517	-	34,778	-
Other nonfarm capital purchases	2,656	-	9,600	-
Nonfarm savings & investments	1,042	-457	5,265	-570
Total other nonfarm expenditures	31,313	8,071	66,036	32,828
Total cash family living investment & nonfarm capital purch	99,997	58,863	135,941	119,307

**Operator and Labor Information**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	17	18
<b>Operator Information</b>				
Average number of operators	1.0	1.0	1.0	1.1
Average age of operators	44.0	44.4	42.6	42.1
Average number of years farming	19.7	20.6	17.9	18.9
<b>Results Per Operator</b>				
Working capital	266,403	44,668	163,038	674,033
Total assets (cost)	2,130,784	1,677,791	1,763,779	3,262,532
Total liabilities	790,281	735,918	769,222	980,245
Net worth (cost)	1,340,503	941,872	994,557	2,282,287
Gross farm income	658,847	391,373	596,344	1,087,140
Total farm expense	529,303	426,845	484,545	764,629
Net farm income from operations	129,544	-35,473	111,800	322,511
Net nonfarm income	40,506	45,454	31,345	68,809
Family living & tax withdrawals	69,958	52,245	63,911	104,778
Total acres owned	867.1	975.1	637.1	978.3
Total crop acres	2,069.7	1,603.0	1,849.7	3,120.2
Crop acres owned	555.3	407.6	539.5	762.9
Crop acres cash rented	1,287.2	978.5	1,109.8	1,869.1
Crop acres share rented	227.2	216.9	200.3	488.2
Total pasture acres	506.9	1,171.2	136.5	257.9
<b>Labor Analysis</b>				
Number of farms	86	17	17	18
Total unpaid labor hours	2,217	2,272	2,076	2,439
Total hired labor hours	702	375	741	1,069
Total labor hours per farm	2,919	2,647	2,818	3,508
Unpaid hours per operator	2,142	2,272	2,076	2,195
Value of farm production / hour	230.01	140.45	209.79	343.29
Net farm income / unpaid hour	60.48	-15.61	53.84	146.93
Average hourly hired labor wage	20.90	15.75	18.30	19.15

**Nonfarm Summary**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	17	18
<b>Nonfarm Income</b>				
Personal wages & salary	17,904	16,203	23,213	21,191
Net nonfarm business income	10,566	18,048	99	30,308
Personal rental income	3,993	1,711	1,838	8,548
Personal interest income	478	9	275	633
Personal cash dividends	1,881	414	-	5,753
Tax refunds	911	759	854	88
Other nonfarm income	6,186	8,312	5,067	9,934
Total nonfarm income	41,919	45,454	31,345	76,455
Gifts and inheritances	12,357	2,245	51,081	536
<b>Nonfarm Assets (cost)</b>				
Checking & savings	14,887	15,432	8,071	36,958
Stocks & bonds	17,365	5,362	25,115	15,011
Other current assets	11,135	1,169	176	25,301
Furniture & appliances	16,248	18,268	11,471	27,178
Nonfarm vehicles	26,223	27,364	24,726	42,104
Cash value of life ins.	11,781	20,381	11,019	15,542
Retirement accounts	57,908	50,155	63,264	69,181
Other intermediate assets	7,827	1,960	9,988	12,155
Nonfarm real estate	138,755	44,297	93,054	242,717
Personal bus. investment	3,140	-	-	2,778
Other long term assets	11,483	5,946	8,824	556
Total nonfarm assets	316,751	190,334	255,709	489,481
<b>Nonfarm Liabilities</b>				
Accrued interest	523	51	165	515
Accounts payable	1,645	1,727	1,056	72
Current notes	2,720	175	915	-
Princ due on term debt	4,532	3,222	3,249	7,329
Total current liabilities	10,373	6,675	5,592	10,744
Intermediate liabilities	6,245	13,269	3,518	6,718
Long term liabilities	40,741	6,549	28,422	71,119
Total nonfarm liabilities	57,359	26,493	37,532	88,581
Nonfarm net worth	259,392	163,841	218,177	400,900
Nonfarm debt to asset ratio	18 %	14 %	15 %	18 %



**Financial Summary**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Gross Farm Income)**

	<u>Avg. Of All Farms</u>	<u>Less than 100,000</u>	<u>100,001 - 250,000</u>	<u>250,001 - 500,000</u>	<u>500,001 - 1,000,000</u>	<u>1,000,001- 2,000,000</u>
Number of farms	86	11	10	21	31	13
<b>Income Statement</b>						
Gross cash farm income	595,973	49,667	189,334	393,505	713,124	1,418,736
Total cash farm expense	497,769	49,187	147,247	345,091	580,468	1,196,400
Net cash farm income	98,204	480	42,087	48,414	132,656	222,336
Inventory change	94,249	24,350	35,125	64,232	112,456	203,948
Depreciation	-58,390	-3,155	-16,097	-43,608	-70,839	-131,856
Net farm income from operations	134,063	21,675	61,114	69,038	174,274	294,428
Gain or loss on capital sales	999	-	561	-8	2,591	8
Average net farm income	135,062	21,675	61,675	69,030	176,865	294,435
Median net farm income	111,909	13,826	62,083	91,389	173,383	196,325
<b>Profitability (cost)</b>						
Rate of return on assets	6.1 %	4.9 %	6.4 %	3.6 %	6.4 %	7.1 %
Rate of return on equity	7.7 %	7.6 %	8.1 %	3.7 %	8.0 %	9.3 %
Operating profit margin	16.5 %	20.0 %	20.3 %	11.0 %	18.5 %	16.1 %
Asset turnover rate	36.8 %	24.5 %	31.5 %	33.3 %	34.3 %	44.3 %
<b>Liquidity &amp; Repayment (end of year)</b>						
Current assets	589,253	97,737	182,542	379,435	757,748	1,255,145
Current liabilities	313,557	48,384	50,522	221,464	384,272	720,408
Current ratio	1.88	2.02	3.61	1.71	1.97	1.74
Working capital	275,696	49,353	132,021	157,971	373,476	534,737
Working capital to gross inc	40.4 %	60.9 %	60.8 %	34.7 %	45.9 %	33.4 %
Term debt coverage ratio	2.10	1.45	1.85	1.66	2.10	2.53
Replacement coverage ratio	1.62	1.44	1.50	1.32	1.69	1.73
Term debt to EBITDA	1.88	4.52	2.01	2.70	1.88	1.37
<b>Solvency (end of year at cost)</b>						
Number of farms	86	11	10	21	31	13
Total assets	2,205,114	369,286	769,450	1,617,872	2,816,796	4,352,858
Total liabilities	817,849	221,164	256,431	627,251	1,023,690	1,571,636
Net worth	1,387,264	148,122	513,019	990,621	1,793,106	2,781,222
Net worth change	117,820	26,389	36,742	71,026	136,633	288,281
Farm debt to asset ratio	40 %	61 %	35 %	44 %	39 %	40 %
Total debt to asset ratio	37 %	60 %	33 %	39 %	36 %	36 %
Change in earned net worth %	9 %	22 %	8 %	8 %	8 %	12 %
<b>Nonfarm Information</b>						
Net nonfarm income	41,919	26,567	10,749	39,925	60,704	37,309
Farms reporting living expenses	38	3	5	7	16	7
Total family living expense	68,834	-	46,687	48,445	78,636	101,179
Total living, invest, cap. purch	99,997	-	55,994	58,114	123,823	145,770
<b>Crop Acres</b>						
Total crop acres	2,142	313	851	1,617	2,575	4,496
Total crop acres owned	575	50	317	420	900	692
Total crop acres cash rented	1,332	245	338	1,013	1,440	3,277
Total crop acres share rented	235	19	196	185	236	527
Machinery value per crop acre	265	95	167	273	259	293

**Financial Summary**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(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	86	17	18	19	22	10
<b>Income Statement</b>						
Gross cash farm income	595,973	197,021	774,125	779,133	600,369	595,845
Total cash farm expense	497,769	155,367	645,777	686,420	503,021	443,447
Net cash farm income	98,204	41,655	128,348	92,712	97,348	152,398
Inventory change	94,249	48,815	155,743	114,064	70,479	75,445
Depreciation	-58,390	-9,177	-62,609	-86,586	-58,558	-80,521
Net farm income from operations	134,063	81,293	221,482	120,191	109,269	147,322
Gain or loss on capital sales	999	260	5,764	-767	-624	600
Average net farm income	135,062	81,552	227,246	119,424	108,646	147,922
Median net farm income	111,909	48,629	222,293	104,497	110,371	154,143
<b>Profitability (cost)</b>						
Rate of return on assets	6.1 %	14.2 %	10.5 %	3.9 %	4.6 %	4.4 %
Rate of return on equity	7.7 %	30.0 %	16.4 %	3.9 %	5.1 %	4.7 %
Operating profit margin	16.5 %	27.0 %	21.9 %	11.5 %	13.3 %	16.5 %
Asset turnover rate	36.8 %	52.7 %	47.8 %	33.8 %	34.7 %	26.4 %
<b>Liquidity &amp; Repayment (end of year)</b>						
Current assets	589,253	181,320	595,911	726,633	707,550	749,479
Current liabilities	313,557	77,402	337,816	460,691	366,846	274,567
Current ratio	1.88	2.34	1.76	1.58	1.93	2.73
Working capital	275,696	103,919	258,095	265,942	340,704	474,913
Working capital to gross inc	40.4 %	42.7 %	28.8 %	30.0 %	51.2 %	69.2 %
Term debt coverage ratio	2.10	2.98	2.72	1.59	1.93	2.20
Replacement coverage ratio	1.62	2.90	2.01	1.31	1.37	1.59
Term debt to EBITDA	1.88	1.96	1.56	2.73	1.72	1.24
<b>Solvency (end of year at cost)</b>						
Number of farms	86	17	18	19	22	10
Total assets	2,205,114	568,960	2,250,102	3,147,552	2,206,395	3,112,141
Total liabilities	817,849	302,101	1,020,883	1,199,878	773,714	700,401
Net worth	1,387,264	266,860	1,229,219	1,947,674	1,432,681	2,411,740
Net worth change	117,820	73,327	178,398	92,608	137,840	88,277
Farm debt to asset ratio	40 %	55 %	46 %	44 %	39 %	23 %
Total debt to asset ratio	37 %	53 %	45 %	38 %	35 %	23 %
Change in earned net worth %	9 %	38 %	17 %	5 %	11 %	4 %
<b>Nonfarm Information</b>						
Net nonfarm income	41,919	19,582	34,158	70,092	32,428	61,209
Farms reporting living expenses	38	5	8	10	7	8
Total family living expense	68,834	37,641	83,802	77,933	62,575	67,466
Total living, invest, cap. purch	99,997	51,435	125,856	88,008	94,085	124,646
<b>Crop Acres</b>						
Total crop acres	2,142	836	2,559	2,949	2,158	2,042
Total crop acres owned	575	149	402	752	714	967
Total crop acres cash rented	1,332	448	1,861	1,909	1,249	971
Total crop acres share rented	235	240	297	287	195	104
Machinery value per crop acre	265	114	244	278	267	378

**Financial Summary**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Farm Type)**

	<u>Avg. Of All Farms</u>	<u>Crop</u>	<u>Beef</u>	<u>Crop and Beef</u>	<u>Other</u>
Number of farms	86	55	9	16	6
<b>Income Statement</b>					
Gross cash farm income	595,973	710,361	135,179	445,608	639,589
Total cash farm expense	497,769	588,897	122,129	368,432	570,790
Net cash farm income	98,204	121,464	13,051	77,176	68,799
Inventory change	94,249	119,574	-92	49,013	124,247
Depreciation	-58,390	-66,778	-20,900	-48,016	-65,411
Net farm income from operations	134,063	174,260	-7,942	78,173	127,635
Gain or loss on capital sales	999	1,581	132	-141	-
Average net farm income	135,062	175,841	-7,809	78,031	127,635
Median net farm income	111,909	145,203	-8,493	62,277	153,045
<b>Profitability (cost)</b>					
Rate of return on assets	6.1 %	7.3 %	-1.7 %	3.2 %	7.3 %
Rate of return on equity	7.7 %	9.6 %	-4.4 %	3.0 %	11.2 %
Operating profit margin	16.5 %	17.9 %	-13.6 %	12.0 %	16.7 %
Asset turnover rate	36.8 %	40.7 %	12.7 %	26.3 %	43.4 %
<b>Liquidity &amp; Repayment (end of year)</b>					
Current assets	589,253	723,473	140,613	435,695	441,346
Current liabilities	313,557	372,876	84,437	282,921	195,179
Current ratio	1.88	1.94	1.67	1.54	2.26
Working capital	275,696	350,597	56,176	152,774	246,167
Working capital to gross inc	40.4 %	42.8 %	42.4 %	30.5 %	33.8 %
Term debt coverage ratio	2.10	2.56	0.11	1.12	2.41
Replacement coverage ratio	1.62	1.89	0.10	0.98	1.71
Term debt to EBITDA	1.88	1.53	7.76	3.05	2.67
<b>Solvency (end of year at cost)</b>					
Number of farms	86	55	9	16	6
Total assets	2,205,114	2,492,168	988,138	1,988,332	1,977,330
Total liabilities	817,849	886,186	322,979	778,040	1,039,894
Net worth	1,387,264	1,605,982	665,159	1,210,292	937,436
Net worth change	117,820	165,909	-22,257	36,575	103,776
Farm debt to asset ratio	40 %	39 %	36 %	41 %	57 %
Total debt to asset ratio	37 %	36 %	33 %	39 %	53 %
Change in earned net worth %	9 %	12 %	-3 %	3 %	12 %
<b>Nonfarm Information</b>					
Net nonfarm income	41,919	47,223	24,712	21,471	73,632
Farms reporting living expenses	38	24	3	8	3
Total family living expense	68,834	76,133	-	50,808	-
Total living, invest, cap. purch	99,997	117,225	-	80,803	-
<b>Crop Acres</b>					
Total crop acres	2,142	2,480	667	1,908	1,878
Total crop acres owned	575	597	181	751	491
Total crop acres cash rented	1,332	1,563	470	1,003	1,387
Total crop acres share rented	235	320	17	154	-
Machinery value per crop acre	265	261	302	250	337

# Crop Enterprise Analysis

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Barley on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	9
Acres	194.09
Yield per acre (bu.)	64.10
Operators share of yield %	100.00
Value per bu.	4.32
Total product return per acre	276.82
Crop insurance per acre	0.73
Other crop income per acre	6.59
Gross return per acre	284.15
<b>Direct Expenses</b>	
Seed	13.72
Fertilizer	46.14
Crop chemicals	31.86
Crop insurance	13.50
Fuel & oil	8.54
Repairs	12.90
Custom hire	0.61
Machinery leases	0.42
Operating interest	1.93
Miscellaneous	1.87
Total direct expenses per acre	131.49
Return over direct exp per acre	152.66
<b>Overhead Expenses</b>	
Custom hire	3.67
Hired labor	7.04
Machinery leases	1.64
Building leases	0.44
RE & pers. property taxes	4.78
Farm insurance	3.91
Utilities	2.56
Dues & professional fees	0.56
Interest	12.93
Mach & bldg depreciation	29.76
Miscellaneous	1.95
Total overhead expenses per acre	69.25
Total dir & ovhd expenses per acre	200.74
Net return per acre	83.41
Government payments	19.81
Net return with govt pmts	103.22
Labor & management charge	16.80
Net return over lbr & mgt	86.42
<b>Cost of Production</b>	
Total direct expense per bu.	2.05
Total dir & ovhd exp per bu.	3.13
Less govt & other income	2.71
With labor & management	2.97
Net value per unit	4.32
Machinery cost per acre	58.35
Est. labor hours per acre	1.25

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Barley on Cash Rent**

	<u>Avg. Of</u> <u>All Farms</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	22	5	5
Acres	356.94	285.13	470.21
Yield per acre (bu.)	73.13	77.62	77.75
Operators share of yield %	100.00	100.00	100.00
Value per bu.	4.19	3.79	4.95
Total product return per acre	306.34	293.83	385.17
Crop insurance per acre	6.41	4.29	7.08
Other crop income per acre	1.83	-	3.67
Gross return per acre	314.59	298.12	395.92
<b>Direct Expenses</b>			
Seed	17.10	23.12	16.79
Fertilizer	41.10	36.53	40.42
Crop chemicals	34.44	23.02	38.23
Crop insurance	16.06	10.55	16.87
Fuel & oil	8.95	9.42	8.02
Repairs	19.63	29.77	19.52
Custom hire	4.65	9.25	3.74
Land rent	52.16	56.27	53.25
Operating interest	3.90	5.65	2.65
Miscellaneous	2.79	1.71	3.66
Total direct expenses per acre	200.78	205.29	203.17
Return over direct exp per acre	113.81	92.83	192.75
<b>Overhead Expenses</b>			
Custom hire	2.03	0.00	3.80
Hired labor	8.28	4.15	7.38
Machinery leases	3.39	3.97	2.36
Building leases	0.93	3.81	-
Farm insurance	4.06	4.69	3.43
Utilities	2.41	2.20	2.93
Dues & professional fees	1.39	0.53	1.10
Interest	2.93	3.82	2.01
Mach & bldg depreciation	30.39	28.76	27.32
Miscellaneous	2.87	4.71	2.67
Total overhead expenses per acre	58.67	56.64	52.99
Total dir & ovhd expenses per acre	259.45	261.94	256.16
Net return per acre	55.14	36.18	139.76
Government payments	18.87	19.33	19.02
Net return with govt pmts	74.01	55.51	158.78
Labor & management charge	23.26	27.15	21.23
Net return over lbr & mgt	50.75	28.35	137.55
<b>Cost of Production</b>			
Total direct expense per bu.	2.75	2.64	2.61
Total dir & ovhd exp per bu.	3.55	3.37	3.29
Less govt & other income	3.18	3.07	2.91
With labor & management	3.50	3.42	3.18
Net value per unit	4.19	3.79	4.95
Machinery cost per acre	69.26	83.05	63.80
Est. labor hours per acre	1.13	1.25	0.98

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Barley on Share Rent**

	<u>Avg. Of All Farms</u>
Number of farms	6
Acres	179.53
Yield per acre (bu.)	71.20
Operators share of yield %	55.98
Value per bu.	4.28
Total product return per acre	170.71
Crop insurance per acre	4.93
Other crop income per acre	5.73
Gross return per acre	181.37
<b>Direct Expenses</b>	
Seed	11.42
Fertilizer	31.49
Crop chemicals	19.64
Crop insurance	7.24
Fuel & oil	8.52
Repairs	15.41
Operating interest	2.51
Miscellaneous	12.64
Total direct expenses per acre	108.87
Return over direct exp per acre	72.50
<b>Overhead Expenses</b>	
Custom hire	1.19
Hired labor	5.91
Machinery leases	2.97
Building leases	0.16
Farm insurance	2.34
Utilities	2.52
Dues & professional fees	0.86
Interest	2.85
Mach & bldg depreciation	29.23
Miscellaneous	4.13
Total overhead expenses per acre	52.15
Total dir & ovhd expenses per acre	161.02
Net return per acre	20.35
Government payments	13.82
Net return with govt pmts	34.17
Labor & management charge	18.86
Net return over lbr & mgt	15.31
<b>Cost of Production</b>	
Total direct expense per bu.	2.73
Total dir & ovhd exp per bu.	4.04
Less govt & other income	3.43
With labor & management	3.90
Net value per unit	4.28
Machinery cost per acre	58.89
Est. labor hours per acre	1.07

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Canola on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	16
Acres	245.68
Yield per acre (cwt.)	19.68
Operators share of yield %	100.00
Value per cwt.	16.45
Total product return per acre	323.76
Other crop income per acre	2.49
Gross return per acre	326.25
<b>Direct Expenses</b>	
Seed	52.35
Fertilizer	56.88
Crop chemicals	21.04
Crop insurance	14.46
Fuel & oil	11.79
Repairs	19.55
Custom hire	2.40
Machinery leases	0.52
Operating interest	3.75
Miscellaneous	1.19
Total direct expenses per acre	183.95
Return over direct exp per acre	142.30
<b>Overhead Expenses</b>	
Custom hire	1.90
Hired labor	6.85
Machinery leases	0.81
Building leases	0.33
RE & pers. property taxes	5.50
Farm insurance	3.91
Utilities	3.00
Dues & professional fees	1.40
Interest	13.41
Mach & bldg depreciation	28.50
Miscellaneous	2.19
Total overhead expenses per acre	67.80
Total dir & ovhd expenses per acre	251.75
Net return per acre	74.50
Government payments	25.23
Net return with govt pmts	99.73
Labor & management charge	21.06
Net return over lbr & mgt	78.67
<b>Cost of Production</b>	
Total direct expense per cwt.	9.35
Total dir & ovhd exp per cwt.	12.79
Less govt & other income	11.38
With labor & management	12.45
Net value per unit	16.45
Machinery cost per acre	66.69
Est. labor hours per acre	1.30



**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Canola on Cash Rent**

	<u>Avg. Of</u> <u>All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	31	6	6	7
Acres	276.23	367.04	259.82	206.01
Yield per acre (cwt.)	18.64	15.53	18.56	19.95
Operators share of yield %	100.00	100.00	100.00	100.00
Value per cwt.	16.76	16.72	16.06	18.08
Total product return per acre	312.27	259.64	297.96	360.72
Crop insurance per acre	4.82	9.09	-	8.49
Other crop income per acre	1.55	0.70	-	2.75
Gross return per acre	318.65	269.43	297.96	371.96
<b>Direct Expenses</b>				
Seed	55.81	60.84	53.55	59.27
Fertilizer	56.10	57.78	50.76	55.46
Crop chemicals	19.99	13.01	18.47	31.20
Crop insurance	13.51	16.35	15.79	10.68
Fuel & oil	10.09	10.46	11.16	8.03
Repairs	20.81	21.91	20.85	19.56
Custom hire	6.55	12.26	0.71	5.05
Land rent	50.12	56.30	53.88	44.22
Machinery leases	0.63	-	2.65	-
Operating interest	5.20	9.35	4.57	3.02
Miscellaneous	1.39	0.87	1.16	0.77
Total direct expenses per acre	240.21	259.13	233.55	237.26
Return over direct exp per acre	78.43	10.30	64.41	134.70
<b>Overhead Expenses</b>				
Custom hire	1.31	1.61	0.20	1.36
Hired labor	6.33	7.95	0.30	5.90
Machinery leases	4.21	6.28	1.63	1.64
Building leases	1.39	1.01	0.09	0.34
Farm insurance	3.42	3.64	2.97	3.62
Utilities	2.34	2.34	3.69	1.35
Dues & professional fees	1.84	3.93	1.33	1.23
Interest	3.44	7.06	1.95	2.31
Mach & bldg depreciation	21.49	22.16	18.90	17.12
Miscellaneous	2.37	1.99	2.22	2.05
Total overhead expenses per acre	48.16	57.98	33.29	36.92
Total dir & ovhd expenses per acre	288.37	317.11	266.84	274.17
Net return per acre	30.28	-47.68	31.13	97.78
Government payments	19.90	16.60	23.57	19.99
Net return with govt pmnts	50.18	-31.08	54.70	117.77
Labor & management charge	22.38	21.55	24.86	21.11
Net return over lbr & mgt	27.80	-52.63	29.84	96.66
<b>Cost of Production</b>				
Total direct expense per cwt.	12.89	16.68	12.59	11.90
Total dir & ovhd exp per cwt.	15.47	20.42	14.38	13.75
Less govt & other income	14.06	18.72	13.11	12.18
With labor & management	15.27	20.11	14.45	13.24
Net value per unit	16.76	16.72	16.06	18.08
Machinery cost per acre	67.28	80.93	56.59	53.05
Est. labor hours per acre	1.18	1.11	1.06	1.16

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Canola on Share Rent**

	<u>Avg. Of All Farms</u>
Number of farms	7
Acres	145.82
Yield per acre (cwt.)	19.93
Operators share of yield %	81.73
Value per cwt.	15.94
Total product return per acre	259.54
Other crop income per acre	4.48
Gross return per acre	264.01
<b>Direct Expenses</b>	
Seed	53.52
Fertilizer	57.17
Crop chemicals	20.54
Crop insurance	11.85
Fuel & oil	11.16
Repairs	16.71
Custom hire	5.68
Operating interest	3.94
Miscellaneous	4.21
Total direct expenses per acre	184.78
Return over direct exp per acre	79.24
<b>Overhead Expenses</b>	
Custom hire	0.43
Hired labor	5.07
Machinery leases	3.47
Farm insurance	2.62
Utilities	1.20
Dues & professional fees	0.57
Interest	3.43
Mach & bldg depreciation	30.38
Miscellaneous	2.88
Total overhead expenses per acre	50.06
Total dir & ovhd expenses per acre	234.83
Net return per acre	29.18
Government payments	20.03
Net return with govt pmts	49.21
Labor & management charge	22.39
Net return over lbr & mgt	26.81
<b>Cost of Production</b>	
Total direct expense per cwt.	11.35
Total dir & ovhd exp per cwt.	14.42
Less govt & other income	12.91
With labor & management	14.29
Net value per unit	15.94
Machinery cost per acre	70.72
Est. labor hours per acre	1.30

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Corn on Owned Land**

	<u>Avg. Of</u> <u>All Farms</u>
Number of farms	16
Acres	177.28
Yield per acre (bu.)	122.61
Operators share of yield %	100.00
Value per bu.	2.87
Other product return per acre	7.04
Total product return per acre	359.32
Hedging gains/losses per acre	5.86
Crop insurance per acre	1.06
Other crop income per acre	4.12
Gross return per acre	370.35
<b>Direct Expenses</b>	
Seed	72.32
Fertilizer	74.49
Crop chemicals	24.35
Crop insurance	17.39
Drying expense	6.62
Fuel & oil	16.56
Repairs	34.64
Custom hire	3.64
Machinery leases	1.34
Operating interest	7.46
Miscellaneous	0.91
Total direct expenses per acre	259.72
Return over direct exp per acre	110.63
<b>Overhead Expenses</b>	
Custom hire	1.24
Hired labor	16.65
Machinery leases	1.92
Building leases	0.22
RE & pers. property taxes	6.08
Farm insurance	5.46
Utilities	4.13
Dues & professional fees	1.41
Interest	21.04
Mach & bldg depreciation	54.80
Miscellaneous	2.28
Total overhead expenses per acre	115.23
Total dir & ovhd expenses per acre	374.95
Net return per acre	-4.60
Government payments	20.83
Net return with govt pmts	16.23
Labor & management charge	35.84
Net return over lbr & mgt	-19.60
<b>Cost of Production</b>	
Total direct expense per bu.	2.12
Total dir & ovhd exp per bu.	3.06
Less govt & other income	2.74
With labor & management	3.03
Net value per unit	2.92
Machinery cost per acre	111.68
Est. labor hours per acre	2.08

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Corn on Cash Rent**

	<u>Avg. Of</u> <u>All Farms</u>
Number of farms	19
Acres	251.88
Yield per acre (bu.)	125.76
Operators share of yield %	100.00
Value per bu.	2.90
Total product return per acre	365.07
Hedging gains/losses per acre	5.34
Crop insurance per acre	3.67
Other crop income per acre	1.98
Gross return per acre	376.05
<b>Direct Expenses</b>	
Seed	75.30
Fertilizer	72.55
Crop chemicals	23.79
Crop insurance	16.29
Drying expense	3.66
Fuel & oil	15.60
Repairs	33.97
Custom hire	2.02
Land rent	45.39
Machinery leases	0.60
Operating interest	5.93
Miscellaneous	1.60
Total direct expenses per acre	296.72
Return over direct exp per acre	79.34
<b>Overhead Expenses</b>	
Custom hire	3.64
Hired labor	16.51
Machinery leases	5.96
Farm insurance	4.51
Utilities	3.06
Dues & professional fees	2.22
Interest	3.76
Mach & bldg depreciation	44.40
Miscellaneous	3.80
Total overhead expenses per acre	87.86
Total dir & ovhd expenses per acre	384.57
Net return per acre	-8.52
Government payments	19.10
Net return with govt pmts	10.58
Labor & management charge	34.71
Net return over lbr & mgt	-24.14
<b>Cost of Production</b>	
Total direct expense per bu.	2.36
Total dir & ovhd exp per bu.	3.06
Less govt & other income	2.82
With labor & management	3.09
Net value per unit	2.95
Machinery cost per acre	105.09
Est. labor hours per acre	1.82

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Corn Silage on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	12
Acres	62.06
Yield per acre (ton)	17.48
Operators share of yield %	100.00
Value per ton	27.67
Total product return per acre	483.63
Other crop income per acre	0.48
Gross return per acre	484.11
<b>Direct Expenses</b>	
Seed	63.93
Fertilizer	41.30
Crop chemicals	15.92
Crop insurance	11.99
Fuel & oil	19.47
Repairs	36.84
Custom hire	31.84
Operating interest	6.87
Miscellaneous	0.46
Total direct expenses per acre	228.60
Return over direct exp per acre	255.51
<b>Overhead Expenses</b>	
Custom hire	2.25
Hired labor	3.14
Machinery leases	2.21
RE & pers. property taxes	4.99
Farm insurance	4.97
Utilities	2.66
Dues & professional fees	1.18
Interest	15.90
Mach & bldg depreciation	39.41
Miscellaneous	1.67
Total overhead expenses per acre	78.37
Total dir & ovhd expenses per acre	306.97
Net return per acre	177.14
Government payments	16.38
Net return with govt pmts	193.52
Labor & management charge	33.85
Net return over lbr & mgt	159.68
<b>Cost of Production</b>	
Total direct expense per ton	13.08
Total dir & ovhd exp per ton	17.56
Less govt & other income	16.60
With labor & management	18.53
Net value per unit	27.67
Machinery cost per acre	129.88
Est. labor hours per acre	2.63

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**CRP on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	13
Acres	157.27
Yield per acre (\$)	34.37
Operators share of yield %	100.00
Value per \$	1.00
Other product return per acre	0.53
Total product return per acre	34.97
Other crop income per acre	0.05
Gross return per acre	35.02
<b>Direct Expenses</b>	
Crop chemicals	1.13
Repairs	0.46
Total direct expenses per acre	1.81
Return over direct exp per acre	33.21
<b>Overhead Expenses</b>	
RE & pers. property taxes	6.73
Interest	4.96
Mach & bldg depreciation	0.96
Miscellaneous	0.71
Total overhead expenses per acre	13.37
Total dir & ovhd expenses per acre	15.18
Net return per acre	19.84
Government payments	-
Net return with govt pmts	19.84
Labor & management charge	0.57
Net return over lbr & mgt	19.26
<b>Cost of Production</b>	
Total direct expense per \$	0.05
Total dir & ovhd exp per \$	0.44
Less govt & other income	0.42
With labor & management	0.44
Net value per unit	1.00
Machinery cost per acre	1.73
Est. labor hours per acre	0.04

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Fallow on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	5
Acres	26.62
Yield per acre	-
Operators share of yield %	-
Value per 0	-
Total product return per acre	-
Gross return per acre	-
<b>Direct Expenses</b>	
Fuel & oil	6.84
Repairs	10.95
Land rent	36.81
Operating interest	2.40
Total direct expenses per acre	57.00
Return over direct exp per acre	-57.00
<b>Overhead Expenses</b>	
Custom hire	0.81
Hired labor	3.90
Building leases	0.62
Farm insurance	4.47
Utilities	2.68
Dues & professional fees	1.48
Interest	1.54
Mach & bldg depreciation	17.71
Miscellaneous	2.40
Total overhead expenses per acre	35.62
Total dir & ovhd expenses per acre	92.62
Net return per acre	-92.62
Government payments	19.32
Net return with govt pmts	-73.29
Labor & management charge	11.41
Net return over lbr & mgt	-84.70
<b>Cost of Production</b>	
Total direct expense per 0	-
Total dir & ovhd exp per 0	-
Less govt & other income	-
With labor & management	-
Net value per unit	-
Machinery cost per acre	34.93
Est. labor hours per acre	0.66

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Flax on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	7
Acres	148.90
Yield per acre (bu.)	26.60
Operators share of yield %	100.00
Value per bu.	8.13
Other product return per acre	0.32
Total product return per acre	216.47
Other crop income per acre	0.35
Gross return per acre	216.83
<b>Direct Expenses</b>	
Seed	13.07
Fertilizer	22.38
Crop chemicals	16.80
Crop insurance	8.15
Fuel & oil	9.11
Repairs	13.68
Custom hire	6.75
Operating interest	3.53
Miscellaneous	0.30
Total direct expenses per acre	93.77
Return over direct exp per acre	123.06
<b>Overhead Expenses</b>	
Hired labor	3.13
RE & pers. property taxes	5.66
Farm insurance	3.38
Utilities	1.91
Dues & professional fees	0.69
Interest	5.12
Mach & bldg depreciation	25.10
Miscellaneous	1.54
Total overhead expenses per acre	46.53
Total dir & ovhd expenses per acre	140.30
Net return per acre	76.53
Government payments	21.66
Net return with govt pmts	98.19
Labor & management charge	19.31
Net return over lbr & mgt	78.88
<b>Cost of Production</b>	
Total direct expense per bu.	3.53
Total dir & ovhd exp per bu.	5.28
Less govt & other income	4.44
With labor & management	5.16
Net value per unit	8.13
Machinery cost per acre	53.83
Est. labor hours per acre	1.15



**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Flax on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	6
Acres	302.85
Yield per acre (bu.)	24.22
Operators share of yield %	100.00
Value per bu.	8.89
Total product return per acre	215.30
Gross return per acre	215.30
<b>Direct Expenses</b>	
Seed	15.29
Fertilizer	32.95
Crop chemicals	16.48
Crop insurance	13.47
Fuel & oil	7.37
Repairs	16.42
Custom hire	7.85
Land rent	44.92
Operating interest	3.52
Miscellaneous	0.03
Total direct expenses per acre	158.30
Return over direct exp per acre	57.00
<b>Overhead Expenses</b>	
Custom hire	1.28
Hired labor	3.69
Building leases	0.17
Farm insurance	4.13
Utilities	2.38
Dues & professional fees	0.41
Interest	4.14
Mach & bldg depreciation	23.99
Miscellaneous	1.91
Total overhead expenses per acre	42.10
Total dir & ovhd expenses per acre	200.41
Net return per acre	14.90
Government payments	16.64
Net return with govt pmts	31.54
Labor & management charge	19.53
Net return over lbr & mgt	12.01
<b>Cost of Production</b>	
Total direct expense per bu.	6.54
Total dir & ovhd exp per bu.	8.27
Less govt & other income	7.59
With labor & management	8.39
Net value per unit	8.89
Machinery cost per acre	57.95
Est. labor hours per acre	1.05

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Hay, Alfalfa on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	111.26
Yield per acre (ton)	2.32
Operators share of yield %	100.00
Value per ton	86.99
Total product return per acre	201.48
Gross return per acre	201.48
<b>Direct Expenses</b>	
Seed	0.46
Fertilizer	1.75
Crop chemicals	0.13
Fuel & oil	7.19
Repairs	12.20
Custom hire	1.57
Operating interest	2.10
Miscellaneous	0.07
Total direct expenses per acre	25.49
Return over direct exp per acre	176.00
<b>Overhead Expenses</b>	
Custom hire	2.61
Hired labor	2.16
Machinery leases	1.22
RE & pers. property taxes	5.16
Farm insurance	3.79
Utilities	3.04
Dues & professional fees	0.48
Interest	17.79
Mach & bldg depreciation	21.94
Miscellaneous	1.50
Total overhead expenses per acre	59.68
Total dir & ovhd expenses per acre	85.17
Net return per acre	116.32
Government payments	2.95
Net return with govt pmts	119.27
Labor & management charge	10.32
Net return over lbr & mgt	108.95
<b>Cost of Production</b>	
Total direct expense per ton	11.00
Total dir & ovhd exp per ton	36.77
Less govt & other income	35.50
With labor & management	39.95
Net value per unit	86.99
Machinery cost per acre	46.70
Est. labor hours per acre	0.86

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Hay, Alfalfa on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	88.33
Yield per acre (ton)	2.38
Operators share of yield %	100.00
Value per ton	85.88
Total product return per acre	204.08
Gross return per acre	204.08
<b>Direct Expenses</b>	
Fertilizer	3.07
Fuel & oil	6.34
Repairs	20.02
Custom hire	0.78
Land rent	26.21
Operating interest	1.94
Miscellaneous	0.25
Total direct expenses per acre	58.60
Return over direct exp per acre	145.47
<b>Overhead Expenses</b>	
Hired labor	2.68
Farm insurance	5.41
Utilities	3.12
Dues & professional fees	0.50
Interest	2.79
Mach & bldg depreciation	19.35
Miscellaneous	0.26
Total overhead expenses per acre	34.11
Total dir & ovhd expenses per acre	92.71
Net return per acre	111.36
Government payments	0.14
Net return with govt pmts	111.50
Labor & management charge	15.51
Net return over lbr & mgt	95.99
<b>Cost of Production</b>	
Total direct expense per ton	24.66
Total dir & ovhd exp per ton	39.01
Less govt & other income	38.95
With labor & management	45.48
Net value per unit	85.88
Machinery cost per acre	47.76
Est. labor hours per acre	1.41

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Hay, Grass on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	17
Acres	120.31
Yield per acre (ton)	1.29
Operators share of yield %	100.00
Value per ton	32.88
Total product return per acre	42.48
Other crop income per acre	0.17
Gross return per acre	42.65
<b>Direct Expenses</b>	
Fuel & oil	5.02
Repairs	11.13
Operating interest	1.37
Miscellaneous	0.23
Total direct expenses per acre	17.75
Return over direct exp per acre	24.90
<b>Overhead Expenses</b>	
Custom hire	0.60
Hired labor	2.85
Machinery leases	0.44
Building leases	0.22
RE & pers. property taxes	2.74
Farm insurance	1.14
Utilities	0.84
Dues & professional fees	0.36
Interest	7.57
Mach & bldg depreciation	12.85
Miscellaneous	0.33
Total overhead expenses per acre	29.92
Total dir & ovhd expenses per acre	47.67
Net return per acre	-5.02
Government payments	0.30
Net return with govt pmts	-4.73
Labor & management charge	10.80
Net return over lbr & mgt	-15.52
<b>Cost of Production</b>	
Total direct expense per ton	13.74
Total dir & ovhd exp per ton	36.90
Less govt & other income	36.54
With labor & management	44.90
Net value per unit	32.88
Machinery cost per acre	30.11
Est. labor hours per acre	0.90

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Hay, Grass on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	18
Acres	323.51
Yield per acre (ton)	1.05
Operators share of yield %	100.00
Value per ton	31.96
Total product return per acre	33.54
Gross return per acre	33.54
<b>Direct Expenses</b>	
Crop chemicals	0.10
Fuel & oil	4.69
Repairs	11.94
Land rent	16.04
Operating interest	1.35
Miscellaneous	0.82
Total direct expenses per acre	34.94
Return over direct exp per acre	-1.40
<b>Overhead Expenses</b>	
Hired labor	3.78
Machinery leases	0.13
Farm insurance	1.48
Utilities	0.78
Interest	0.71
Mach & bldg depreciation	12.94
Miscellaneous	0.84
Total overhead expenses per acre	20.66
Total dir & ovhd expenses per acre	55.59
Net return per acre	-22.05
Government payments	0.36
Net return with govt pmts	-21.69
Labor & management charge	10.52
Net return over lbr & mgt	-32.21
<b>Cost of Production</b>	
Total direct expense per ton	33.29
Total dir & ovhd exp per ton	52.97
Less govt & other income	52.62
With labor & management	62.65
Net value per unit	31.96
Machinery cost per acre	30.00
Est. labor hours per acre	1.01

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

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

	<u>Avg. Of All Farms</u>
Number of farms	5
Acres	91.91
Yield per acre (ton)	1.69
Operators share of yield %	100.00
Value per ton	43.40
Total product return per acre	73.47
Gross return per acre	73.47
<b>Direct Expenses</b>	
Fuel & oil	6.08
Repairs	16.93
Operating interest	2.75
Miscellaneous	1.70
Total direct expenses per acre	27.47
Return over direct exp per acre	46.00
<b>Overhead Expenses</b>	
Custom hire	0.49
Hired labor	1.18
Machinery leases	1.16
RE & pers. property taxes	4.52
Farm insurance	5.07
Utilities	3.19
Dues & professional fees	1.30
Interest	17.77
Mach & bldg depreciation	13.93
Total overhead expenses per acre	48.71
Total dir & ovhd expenses per acre	76.18
Net return per acre	-2.71
Government payments	-
Net return with govt pmts	-2.71
Labor & management charge	12.43
Net return over lbr & mgt	-15.14
<b>Cost of Production</b>	
Total direct expense per ton	16.22
Total dir & ovhd exp per ton	45.00
Less govt & other income	45.00
With labor & management	52.34
Net value per unit	43.40
Machinery cost per acre	43.14
Est. labor hours per acre	1.07

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

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

	<u>Avg. Of All Farms</u>
Number of farms	10
Acres	102.91
Yield per acre (ton)	1.42
Operators share of yield %	100.00
Value per ton	46.94
Total product return per acre	66.58
Other crop income per acre	1.52
Gross return per acre	68.09
<b>Direct Expenses</b>	
Fuel & oil	4.81
Repairs	7.33
Land rent	22.97
Operating interest	1.71
Miscellaneous	1.75
Total direct expenses per acre	38.58
Return over direct exp per acre	29.51
<b>Overhead Expenses</b>	
Custom hire	0.44
Hired labor	1.90
Machinery leases	1.40
Building leases	0.42
Farm insurance	2.74
Utilities	1.75
Dues & professional fees	0.82
Interest	2.99
Mach & bldg depreciation	13.81
Miscellaneous	0.31
Total overhead expenses per acre	26.57
Total dir & ovhd expenses per acre	65.15
Net return per acre	2.94
Government payments	-
Net return with govt pmts	2.94
Labor & management charge	12.17
Net return over lbr & mgt	-9.23
<b>Cost of Production</b>	
Total direct expense per ton	27.20
Total dir & ovhd exp per ton	45.94
Less govt & other income	44.87
With labor & management	53.45
Net value per unit	46.94
Machinery cost per acre	30.20
Est. labor hours per acre	0.82

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Hay, Small Grain on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	6
Acres	43.24
Yield per acre (ton)	2.55
Operators share of yield %	100.00
Value per ton	46.55
Other product return per acre	8.33
Total product return per acre	127.21
Gross return per acre	127.21
<b>Direct Expenses</b>	
Seed	11.22
Fertilizer	23.16
Crop chemicals	7.46
Fuel & oil	8.02
Repairs	17.47
Custom hire	2.39
Operating interest	2.51
Miscellaneous	1.08
Total direct expenses per acre	73.30
Return over direct exp per acre	53.91
<b>Overhead Expenses</b>	
Custom hire	0.72
Hired labor	3.35
Machinery leases	2.00
Building leases	0.31
RE & pers. property taxes	4.60
Farm insurance	3.58
Utilities	2.10
Dues & professional fees	2.31
Interest	10.81
Mach & bldg depreciation	14.05
Miscellaneous	1.75
Total overhead expenses per acre	45.58
Total dir & ovhd expenses per acre	118.88
Net return per acre	8.33
Government payments	18.02
Net return with govt pmts	26.35
Labor & management charge	14.18
Net return over lbr & mgt	12.16
<b>Cost of Production</b>	
Total direct expense per ton	28.70
Total dir & ovhd exp per ton	46.55
Less govt & other income	36.23
With labor & management	41.78
Net value per unit	46.55
Machinery cost per acre	49.12
Est. labor hours per acre	1.18



**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Hay, Small Grain on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	5
Acres	131.32
Yield per acre (ton)	2.36
Operators share of yield %	100.00
Value per ton	49.96
Total product return per acre	118.00
Other crop income per acre	2.63
Gross return per acre	120.64
<b>Direct Expenses</b>	
Seed	16.71
Fertilizer	24.75
Crop chemicals	11.52
Fuel & oil	5.05
Repairs	13.55
Custom hire	0.42
Land rent	29.88
Operating interest	1.48
Miscellaneous	0.35
Total direct expenses per acre	103.71
Return over direct exp per acre	16.92
<b>Overhead Expenses</b>	
Custom hire	1.12
Hired labor	4.91
Farm insurance	3.77
Utilities	2.31
Dues & professional fees	0.37
Interest	2.90
Mach & bldg depreciation	13.46
Miscellaneous	1.80
Total overhead expenses per acre	30.64
Total dir & ovhd expenses per acre	134.35
Net return per acre	-13.71
Government payments	6.17
Net return with govt pmts	-7.54
Labor & management charge	12.61
Net return over lbr & mgt	-20.15
<b>Cost of Production</b>	
Total direct expense per ton	43.91
Total dir & ovhd exp per ton	56.88
Less govt & other income	53.15
With labor & management	58.49
Net value per unit	49.96
Machinery cost per acre	35.99
Est. labor hours per acre	1.13

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Pasture on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	20
Acres	540.37
Yield per acre (aum)	0.97
Operators share of yield %	100.00
Value per aum	17.29
Total product return per acre	16.75
Gross return per acre	16.75
<b>Direct Expenses</b>	
Crop chemicals	0.28
Repairs	0.69
Total direct expenses per acre	1.40
Return over direct exp per acre	15.36
<b>Overhead Expenses</b>	
RE & pers. property taxes	2.92
Interest	6.63
Mach & bldg depreciation	0.74
Miscellaneous	0.46
Total overhead expenses per acre	10.75
Total dir & ovhd expenses per acre	12.15
Net return per acre	4.60
Government payments	-
Net return with govt pmts	4.60
Labor & management charge	0.55
Net return over lbr & mgt	4.05
<b>Cost of Production</b>	
Total direct expense per aum	1.44
Total dir & ovhd exp per aum	12.54
Less govt & other income	12.54
With labor & management	13.11
Net value per unit	17.29
Machinery cost per acre	1.86
Est. labor hours per acre	0.05

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Pasture on Cash Rent**

	<u>Avg. Of All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	27	5	6	6
Acres	867.97	1,281.09	1,048.71	208.61
Yield per acre (aum)	0.92	0.93	0.91	1.45
Operators share of yield %	100.00	100.00	100.00	100.00
Value per aum	17.60	17.54	18.26	17.68
Total product return per acre	16.18	16.33	16.63	25.63
Other crop income per acre	0.12	-	-	2.21
Gross return per acre	16.30	16.33	16.63	27.84
<b>Direct Expenses</b>				
Crop chemicals	0.22	-	0.82	-
Repairs	0.75	0.94	0.54	0.45
Land rent	15.13	22.11	12.52	14.81
Total direct expenses per acre	16.50	23.60	14.16	15.55
Return over direct exp per acre	-0.20	-7.27	2.47	12.28
<b>Overhead Expenses</b>				
Mach & bldg depreciation	0.72	0.97	0.64	0.28
Miscellaneous	0.61	0.75	0.62	0.24
Total overhead expenses per acre	1.33	1.71	1.26	0.52
Total dir & ovhd expenses per acre	17.83	25.32	15.42	16.07
Net return per acre	-1.53	-8.98	1.21	11.77
Government payments	0.06	-	-	0.77
Net return with govt pmts	-1.47	-8.98	1.21	12.54
Labor & management charge	0.66	0.67	0.42	0.63
Net return over lbr & mgt	-2.13	-9.65	0.79	11.91
<b>Cost of Production</b>				
Total direct expense per aum	17.94	25.34	15.55	10.73
Total dir & ovhd exp per aum	19.39	27.18	16.93	11.09
Less govt & other income	19.20	27.18	16.93	9.03
With labor & management	19.91	27.90	17.40	9.47
Net value per unit	17.60	17.54	18.26	17.68
Machinery cost per acre	1.88	2.49	1.50	1.02
Est. labor hours per acre	0.06	0.05	0.04	0.06

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Peas, Field on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	166.50
Yield per acre (bu.)	45.45
Operators share of yield %	100.00
Value per bu.	6.62
Total product return per acre	300.71
Crop insurance per acre	8.32
Other crop income per acre	2.77
Gross return per acre	311.80
<b>Direct Expenses</b>	
Seed	42.79
Fertilizer	9.18
Crop chemicals	36.70
Crop insurance	13.87
Fuel & oil	9.21
Repairs	17.13
Custom hire	10.87
Operating interest	4.51
Miscellaneous	3.56
Total direct expenses per acre	147.83
Return over direct exp per acre	163.97
<b>Overhead Expenses</b>	
Custom hire	4.66
Hired labor	13.85
Machinery leases	1.04
Building leases	0.66
RE & pers. property taxes	5.14
Farm insurance	4.05
Utilities	3.45
Dues & professional fees	1.15
Interest	26.79
Mach & bldg depreciation	36.92
Miscellaneous	2.08
Total overhead expenses per acre	99.77
Total dir & ovhd expenses per acre	247.61
Net return per acre	64.19
Government payments	20.23
Net return with govt pmts	84.42
Labor & management charge	23.84
Net return over lbr & mgt	60.58
<b>Cost of Production</b>	
Total direct expense per bu.	3.25
Total dir & ovhd exp per bu.	5.45
Less govt & other income	4.76
With labor & management	5.28
Net value per unit	6.62
Machinery cost per acre	78.23
Est. labor hours per acre	1.41

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Peas, Field on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	12
Acres	279.10
Yield per acre (bu.)	27.31
Operators share of yield %	100.00
Value per bu.	8.01
Total product return per acre	218.62
Crop insurance per acre	61.43
Gross return per acre	280.05
<b>Direct Expenses</b>	
Seed	40.60
Fertilizer	11.90
Crop chemicals	41.06
Crop insurance	13.75
Fuel & oil	11.95
Repairs	23.82
Custom hire	9.49
Land rent	46.80
Machinery leases	0.76
Operating interest	5.86
Miscellaneous	1.11
Total direct expenses per acre	207.10
Return over direct exp per acre	72.95
<b>Overhead Expenses</b>	
Custom hire	3.14
Hired labor	10.88
Machinery leases	1.89
Building leases	1.20
Farm insurance	4.05
Utilities	2.11
Dues & professional fees	1.30
Interest	5.60
Mach & bldg depreciation	30.25
Miscellaneous	2.62
Total overhead expenses per acre	63.04
Total dir & ovhd expenses per acre	270.14
Net return per acre	9.91
Government payments	16.74
Net return with govt pmts	26.65
Labor & management charge	24.98
Net return over lbr & mgt	1.67
<b>Cost of Production</b>	
Total direct expense per bu.	7.58
Total dir & ovhd exp per bu.	9.89
Less govt & other income	7.03
With labor & management	7.94
Net value per unit	8.01
Machinery cost per acre	83.57
Est. labor hours per acre	1.39

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Soybeans on Owned Land**

	<u>Avg. Of</u> <u>All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	27	5	6	6
Acres	288.78	156.66	394.21	230.50
Yield per acre (bu.)	38.47	28.71	38.23	47.62
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	8.89	8.76	8.79	8.92
Total product return per acre	342.09	251.57	336.01	424.61
Hedging gains/losses per acre	6.18	-	-	12.54
Crop insurance per acre	23.64	31.36	-	-
Other crop income per acre	6.32	22.18	2.08	-
Gross return per acre	378.24	305.11	338.09	437.15
<b>Direct Expenses</b>				
Seed	69.38	72.83	58.57	71.42
Fertilizer	9.18	10.03	12.83	9.23
Crop chemicals	22.15	13.20	22.11	14.23
Crop insurance	13.36	13.14	11.32	12.14
Fuel & oil	9.52	10.82	10.33	8.07
Repairs	20.97	23.31	26.18	16.72
Custom hire	1.63	5.46	1.96	-
Machinery leases	0.32	1.04	-	1.01
Operating interest	3.49	2.60	3.38	1.51
Miscellaneous	1.15	3.52	0.35	1.84
Total direct expenses per acre	151.15	155.95	147.04	136.19
Return over direct exp per acre	227.09	149.17	191.05	300.97
<b>Overhead Expenses</b>				
Custom hire	1.29	0.94	2.58	1.19
Hired labor	7.28	8.30	8.07	6.72
Machinery leases	4.10	9.73	1.24	2.64
Building leases	0.26	0.04	-	0.65
RE & pers. property taxes	6.48	10.93	6.11	7.37
Farm insurance	5.16	7.05	3.87	3.99
Utilities	3.50	3.34	2.96	3.05
Dues & professional fees	1.24	4.54	0.90	0.51
Interest	22.91	36.36	12.48	11.69
Mach & bldg depreciation	30.22	31.63	24.06	30.30
Miscellaneous	3.18	5.53	2.00	4.57
Total overhead expenses per acre	85.62	118.39	64.28	72.69
Total dir & ovhd expenses per acre	236.77	274.34	211.32	208.87
Net return per acre	141.47	30.78	126.78	228.28
Government payments	22.96	23.56	23.29	23.73
Net return with govt pmts	164.43	54.34	150.06	252.01
Labor & management charge	22.67	22.67	19.10	22.97
Net return over lbr & mgt	141.76	31.67	130.96	229.04
<b>Cost of Production</b>				
Total direct expense per bu.	3.93	5.43	3.85	2.86
Total dir & ovhd exp per bu.	6.16	9.56	5.53	4.39
Less govt & other income	4.62	6.87	4.86	3.62
With labor & management	5.21	7.66	5.36	4.11
Net value per unit	9.05	8.76	8.79	9.18
Machinery cost per acre	68.59	82.73	68.59	61.21
Est. labor hours per acre	1.27	1.12	1.20	1.48

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Soybeans on Cash Rent**

	<u>Avg. Of</u> <u>All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	41	8	8	9
Acres	484.92	357.96	549.67	478.58
Yield per acre (bu.)	39.68	32.37	40.70	42.17
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	8.93	8.80	8.77	8.98
Total product return per acre	354.21	284.86	356.71	378.70
Hedging gains/losses per acre	1.47	-	-	2.49
Crop insurance per acre	5.59	2.35	9.51	6.78
Other crop income per acre	1.87	-	-	2.86
Gross return per acre	363.14	287.22	366.22	390.84
<b>Direct Expenses</b>				
Seed	70.78	79.94	65.97	67.45
Fertilizer	10.09	17.49	9.27	6.65
Crop chemicals	23.44	17.97	30.97	14.30
Crop insurance	11.56	10.28	15.53	10.45
Drying expense	0.15	0.63	0.17	0.10
Fuel & oil	9.81	12.23	9.31	10.08
Repairs	20.44	18.82	22.16	15.10
Custom hire	2.44	3.13	0.76	1.24
Land rent	53.45	47.69	55.96	49.49
Machinery leases	1.13	0.97	2.61	1.46
Operating interest	5.01	5.81	3.07	4.19
Miscellaneous	1.25	1.30	3.21	-
Total direct expenses per acre	209.54	216.26	218.99	180.51
Return over direct exp per acre	153.59	70.96	147.24	210.33
<b>Overhead Expenses</b>				
Custom hire	1.40	0.95	2.57	0.38
Hired labor	5.05	7.29	4.69	3.26
Machinery leases	8.05	4.23	2.41	3.36
Farm insurance	4.19	3.50	4.41	3.34
Utilities	2.68	2.64	3.74	2.07
Dues & professional fees	1.52	3.56	1.37	0.79
Interest	3.13	4.40	2.77	2.79
Mach & bldg depreciation	22.88	25.82	26.84	20.00
Miscellaneous	2.61	1.70	2.19	2.06
Total overhead expenses per acre	51.50	54.09	50.99	38.04
Total dir & ovhd expenses per acre	261.04	270.34	269.98	218.55
Net return per acre	102.10	16.87	96.24	172.29
Government payments	21.03	23.72	20.74	18.16
Net return with govt pmts	123.13	40.60	116.99	190.45
Labor & management charge	24.34	24.38	23.20	22.26
Net return over lbr & mgt	98.79	16.22	93.79	168.18
<b>Cost of Production</b>				
Total direct expense per bu.	5.28	6.68	5.38	4.28
Total dir & ovhd exp per bu.	6.58	8.35	6.63	5.18
Less govt & other income	5.82	7.55	5.89	4.46
With labor & management	6.44	8.30	6.46	4.99
Net value per unit	8.96	8.80	8.77	9.04
Machinery cost per acre	67.49	69.49	66.85	53.43
Est. labor hours per acre	1.12	1.44	0.95	1.09

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Soybeans on Share Rent**

	<u>Avg. Of All Farms</u>
Number of farms	14
Acres	301.40
Yield per acre (bu.)	38.56
Operators share of yield %	63.57
Value per bu.	8.94
Total product return per acre	219.10
Hedging gains/losses per acre	0.67
Crop insurance per acre	16.03
Other crop income per acre	5.67
Gross return per acre	241.46
<b>Direct Expenses</b>	
Seed	55.82
Fertilizer	8.88
Crop chemicals	18.34
Crop insurance	7.32
Fuel & oil	7.65
Repairs	16.13
Custom hire	0.75
Machinery leases	0.20
Operating interest	2.33
Miscellaneous	7.48
Total direct expenses per acre	124.91
Return over direct exp per acre	116.55
<b>Overhead Expenses</b>	
Custom hire	1.23
Hired labor	3.91
Machinery leases	2.60
Building leases	0.32
Farm insurance	3.09
Utilities	2.93
Dues & professional fees	0.68
Interest	1.72
Mach & bldg depreciation	30.31
Miscellaneous	3.25
Total overhead expenses per acre	50.04
Total dir & ovhd expenses per acre	174.95
Net return per acre	66.51
Government payments	13.86
Net return with govt pmts	80.37
Labor & management charge	19.53
Net return over lbr & mgt	60.84
<b>Cost of Production</b>	
Total direct expense per bu.	5.10
Total dir & ovhd exp per bu.	7.14
Less govt & other income	5.66
With labor & management	6.46
Net value per unit	8.97
Machinery cost per acre	58.76
Est. labor hours per acre	0.98



**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Sunflowers on Cash Rent**

	<u>Avg. Of</u> <u>All Farms</u>
Number of farms	11
Acres	298.66
Yield per acre (cwt.)	18.53
Operators share of yield %	100.00
Value per cwt.	17.09
Total product return per acre	316.69
Crop insurance per acre	27.08
Other crop income per acre	1.39
Gross return per acre	345.16
<b>Direct Expenses</b>	
Seed	37.79
Fertilizer	38.84
Crop chemicals	38.16
Crop insurance	17.55
Drying expense	0.88
Fuel & oil	8.81
Repairs	20.22
Custom hire	5.45
Land rent	48.68
Operating interest	5.97
Miscellaneous	1.68
Total direct expenses per acre	224.04
Return over direct exp per acre	121.12
<b>Overhead Expenses</b>	
Custom hire	4.57
Hired labor	9.91
Machinery leases	2.93
Building leases	1.17
Farm insurance	3.46
Utilities	2.13
Dues & professional fees	1.00
Interest	1.84
Mach & bldg depreciation	27.87
Miscellaneous	2.20
Total overhead expenses per acre	57.07
Total dir & ovhd expenses per acre	281.11
Net return per acre	64.05
Government payments	15.46
Net return with govt pmts	79.50
Labor & management charge	27.92
Net return over lbr & mgt	51.58
<b>Cost of Production</b>	
Total direct expense per cwt.	12.09
Total dir & ovhd exp per cwt.	15.17
Less govt & other income	12.80
With labor & management	14.31
Net value per unit	17.09
Machinery cost per acre	68.45
Est. labor hours per acre	1.22

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Wheat, Durum on Owned Land**

	<u>Avg. Of All Farms</u>
Number of farms	8
Acres	190.09
Yield per acre (bu.)	54.69
Operators share of yield %	100.00
Value per bu.	5.62
Total product return per acre	307.53
Crop insurance per acre	0.52
Gross return per acre	308.04
<b>Direct Expenses</b>	
Seed	27.09
Fertilizer	60.18
Crop chemicals	47.16
Crop insurance	21.59
Fuel & oil	7.72
Repairs	16.14
Custom hire	9.19
Operating interest	5.81
Miscellaneous	0.52
Total direct expenses per acre	195.40
Return over direct exp per acre	112.64
<b>Overhead Expenses</b>	
Custom hire	2.75
Hired labor	7.60
Machinery leases	0.74
Building leases	0.52
RE & pers. property taxes	5.03
Farm insurance	4.55
Utilities	2.30
Dues & professional fees	0.88
Interest	22.00
Mach & bldg depreciation	25.66
Miscellaneous	3.29
Total overhead expenses per acre	75.32
Total dir & ovhd expenses per acre	270.73
Net return per acre	37.32
Government payments	16.29
Net return with govt pmts	53.61
Labor & management charge	24.37
Net return over lbr & mgt	29.24
<b>Cost of Production</b>	
Total direct expense per bu.	3.57
Total dir & ovhd exp per bu.	4.95
Less govt & other income	4.64
With labor & management	5.09
Net value per unit	5.62
Machinery cost per acre	64.91
Est. labor hours per acre	1.19

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Wheat, Durum on Cash Rent**

	<u>Avg. Of All Farms</u>
Number of farms	7
Acres	418.20
Yield per acre (bu.)	54.07
Operators share of yield %	100.00
Value per bu.	5.86
Total product return per acre	316.71
Crop insurance per acre	0.37
Gross return per acre	317.08
<b>Direct Expenses</b>	
Seed	26.25
Fertilizer	60.49
Crop chemicals	44.33
Crop insurance	19.95
Fuel & oil	8.80
Repairs	19.96
Custom hire	6.24
Land rent	43.01
Operating interest	5.32
Miscellaneous	0.64
Total direct expenses per acre	234.99
Return over direct exp per acre	82.09
<b>Overhead Expenses</b>	
Custom hire	4.04
Hired labor	9.72
Machinery leases	2.20
Building leases	2.00
Farm insurance	4.68
Utilities	2.40
Dues & professional fees	1.18
Interest	5.15
Mach & bldg depreciation	28.65
Miscellaneous	2.86
Total overhead expenses per acre	62.89
Total dir & ovhd expenses per acre	297.87
Net return per acre	19.20
Government payments	15.24
Net return with govt pmts	34.44
Labor & management charge	21.05
Net return over lbr & mgt	13.39
<b>Cost of Production</b>	
Total direct expense per bu.	4.35
Total dir & ovhd exp per bu.	5.51
Less govt & other income	5.22
With labor & management	5.61
Net value per unit	5.86
Machinery cost per acre	71.67
Est. labor hours per acre	1.12

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Wheat, Spring on Owned Land**

	<u>Avg. Of</u> <u>All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	32	6	7	7
Acres	221.89	125.40	232.58	293.62
Yield per acre (bu.)	53.75	40.61	46.75	67.48
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	4.87	4.63	4.75	5.19
Other product return per acre	0.03	-	0.14	-
Total product return per acre	261.70	187.97	222.20	350.30
Crop insurance per acre	5.16	-	3.84	12.27
Other crop income per acre	2.63	0.14	0.74	1.85
Gross return per acre	269.49	188.11	226.78	364.42
<b>Direct Expenses</b>				
Seed	14.91	13.43	13.20	17.36
Fertilizer	50.29	37.09	44.87	58.23
Crop chemicals	32.59	34.84	23.15	35.85
Crop insurance	14.25	18.18	13.70	13.13
Fuel & oil	10.15	8.48	13.97	9.40
Repairs	20.11	27.72	29.69	13.78
Custom hire	4.87	21.76	1.01	2.81
Operating interest	3.77	3.04	3.72	5.71
Miscellaneous	1.39	0.65	0.19	1.78
Total direct expenses per acre	152.33	165.20	143.50	158.05
Return over direct exp per acre	117.16	22.91	83.28	206.37
<b>Overhead Expenses</b>				
Custom hire	1.66	3.20	0.69	1.16
Hired labor	7.23	5.35	5.00	12.88
Machinery leases	2.10	2.28	0.58	0.89
Building leases	0.24	0.06	-	0.70
RE & pers. property taxes	6.46	5.63	6.89	7.05
Farm insurance	5.33	6.07	4.15	7.25
Utilities	3.56	3.39	3.81	3.99
Dues & professional fees	1.46	1.52	1.34	0.81
Interest	17.58	19.31	9.22	16.88
Mach & bldg depreciation	31.59	24.38	29.72	40.25
Miscellaneous	3.12	1.98	4.59	3.45
Total overhead expenses per acre	80.34	73.17	65.98	95.29
Total dir & ovhd expenses per acre	232.67	238.37	209.48	253.34
Net return per acre	36.81	-50.27	17.30	111.08
Government payments	23.12	21.26	28.49	22.25
Net return with govt pmnts	59.93	-29.00	45.79	133.33
Labor & management charge	21.69	20.89	21.94	25.47
Net return over lbr & mgt	38.24	-49.89	23.84	107.86
<b>Cost of Production</b>				
Total direct expense per bu.	2.83	4.07	3.07	2.34
Total dir & ovhd exp per bu.	4.33	5.87	4.48	3.75
Less govt & other income	3.75	5.34	3.77	3.22
With labor & management	4.16	5.86	4.24	3.59
Net value per unit	4.87	4.63	4.75	5.19
Machinery cost per acre	70.77	89.28	76.02	66.78
Est. labor hours per acre	1.32	1.74	1.46	1.45

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Wheat, Spring on Cash Rent**

	<u>Avg. Of</u> <u>All Farms</u>	<u>Low 20%</u>	<u>40 - 60%</u>	<u>High 20%</u>
Number of farms	45	9	9	9
Acres	473.32	498.09	551.69	501.31
Yield per acre (bu.)	53.89	44.26	57.00	65.26
Operators share of yield %	100.00	100.00	100.00	100.00
Value per bu.	4.71	4.64	4.87	4.74
Total product return per acre	253.66	205.56	277.35	309.17
Crop insurance per acre	16.92	1.22	7.28	62.95
Other crop income per acre	1.95	-	-	6.08
Gross return per acre	272.53	206.79	284.62	378.21
<b>Direct Expenses</b>				
Seed	13.28	14.00	12.70	15.77
Fertilizer	53.89	49.85	60.59	60.63
Crop chemicals	33.94	31.18	36.85	37.38
Crop insurance	14.68	15.70	14.07	18.27
Fuel & oil	9.25	11.30	8.74	8.43
Repairs	19.79	21.72	18.85	17.71
Custom hire	4.62	4.61	7.59	1.76
Land rent	48.98	48.78	44.97	59.24
Operating interest	5.03	4.42	7.16	5.24
Miscellaneous	1.57	0.48	3.32	0.87
Total direct expenses per acre	205.01	202.05	214.84	225.30
Return over direct exp per acre	67.52	4.74	69.79	152.91
<b>Overhead Expenses</b>				
Custom hire	1.77	3.57	2.35	1.34
Hired labor	5.99	7.80	6.42	3.53
Machinery leases	6.40	2.98	1.12	22.12
Building leases	0.77	0.50	1.41	0.09
Farm insurance	4.27	4.10	4.35	5.01
Utilities	2.54	2.92	1.92	2.82
Dues & professional fees	1.25	2.59	0.81	1.01
Interest	3.34	4.83	4.01	1.70
Mach & bldg depreciation	25.41	29.56	32.18	22.04
Miscellaneous	2.36	1.65	4.64	2.20
Total overhead expenses per acre	54.10	60.51	59.21	61.87
Total dir & ovhd expenses per acre	259.11	262.56	274.05	287.17
Net return per acre	13.42	-55.77	10.58	91.04
Government payments	20.08	18.01	21.05	21.63
Net return with govt pmnts	33.50	-37.76	31.63	112.67
Labor & management charge	23.17	20.49	22.55	27.81
Net return over lbr & mgt	10.33	-58.25	9.08	84.85
<b>Cost of Production</b>				
Total direct expense per bu.	3.80	4.56	3.77	3.45
Total dir & ovhd exp per bu.	4.81	5.93	4.81	4.40
Less govt & other income	4.09	5.50	4.31	3.01
With labor & management	4.52	5.96	4.71	3.44
Net value per unit	4.71	4.64	4.87	4.74
Machinery cost per acre	68.89	75.95	72.90	73.23
Est. labor hours per acre	1.20	1.35	1.13	1.00

**Crop Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

**Wheat, Spring on Share Rent**

	<u>Avg. Of All Farms</u>
Number of farms	16
Acres	381.05
Yield per acre (bu.)	56.77
Operators share of yield %	64.93
Value per bu.	4.52
Total product return per acre	166.63
Crop insurance per acre	2.57
Other crop income per acre	2.14
Gross return per acre	171.33
<b>Direct Expenses</b>	
Seed	10.37
Fertilizer	42.40
Crop chemicals	28.06
Crop insurance	8.87
Fuel & oil	7.38
Repairs	16.07
Custom hire	1.00
Operating interest	2.56
Miscellaneous	3.74
Total direct expenses per acre	120.45
Return over direct exp per acre	50.88
<b>Overhead Expenses</b>	
Custom hire	1.50
Hired labor	2.30
Machinery leases	3.61
Farm insurance	2.72
Utilities	2.20
Dues & professional fees	0.71
Interest	1.75
Mach & bldg depreciation	23.31
Miscellaneous	3.52
Total overhead expenses per acre	41.61
Total dir & ovhd expenses per acre	162.06
Net return per acre	9.27
Government payments	14.02
Net return with govt pmts	23.29
Labor & management charge	19.47
Net return over lbr & mgt	3.82
<b>Cost of Production</b>	
Total direct expense per bu.	3.27
Total dir & ovhd exp per bu.	4.40
Less govt & other income	3.89
With labor & management	4.42
Net value per unit	4.52
Machinery cost per acre	53.31
Est. labor hours per acre	1.03

# Livestock Enterprise Analysis

**Livestock Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

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

	<u>Avg. Of All Farms</u>		<u>High 20%</u>	
Number of farms	23		5	
	Quantity	Value	Quantity	Value
Beef Calves sold (lb)	41.88	55.47	39.83	51.96
Transferred out (lb)	56.28	73.77	60.17	76.83
Cull sales (lb)	-	26.54	-	29.35
Other income		0.20		0.29
Purchased (lb)	-	-11.83	-	-5.58
Transferred in (lb)	-	-34.92	-	-34.43
Inventory change (lb)	1.70	14.28	-	23.15
Gross margin		123.51		141.55
<b>Direct Expenses</b>				
Protein Vit Minerals (lb.)	4.69	2.60	0.97	0.31
Creep / Starter (lb.)	47.23	2.86	111.12	5.08
Corn (bu.)	0.25	0.68	0.18	0.46
Corn Silage (lb.)	491.38	6.27	662.21	8.27
Hay, Alfalfa (lb.)	151.99	3.71	125.60	3.71
Hay, Grass (lb.)	960.58	19.64	815.50	19.64
Pasture (aum)	1.24	24.02	1.03	15.99
Other feed stuffs (lb)	24.19	0.58	2.88	0.33
Veterinary		4.42		4.68
Supplies		2.64		0.93
Fuel & oil		4.51		3.19
Repairs		10.35		8.34
Custom hire		1.39		1.31
Marketing		0.43		0.02
Operating interest		1.60		0.96
Total direct expenses		85.70		73.22
Return over direct expense		37.82		68.33
<b>Overhead Expenses</b>				
Custom hire		0.45		0.79
Hired labor		2.32		2.70
Farm insurance		2.39		1.69
Utilities		1.71		0.94
Interest		2.17		0.44
Mach & bldg depreciation		11.57		7.57
Miscellaneous		1.10		1.04
Total overhead expenses		21.72		15.17
Total dir & ovhd expenses		107.42		88.39
Net return		16.10		53.16
Labor & management charge		12.18		10.73
Net return over lbr & mgt		3.91		42.43
<b>Cost of Production Per Cwt. Produced</b>				
Total direct expense per unit		85.70		73.22
Total dir & ovhd expense per unit		107.42		88.39
With other revenue adjustments		115.47		75.91
With labor and management		127.65		86.64
Est. labor hours per unit		0.99		0.97
<b>Other Information</b>				
Number of cows		144.3		187.7
Pregnancy percentage		91.3		92.8
Pregnancy loss percentage		5.3		0.1
Culling percentage		14.9		18.4
Calving percentage		86.4		92.6
Weaning percentage		82.9		89.6
Calves sold per cow		0.95		1.08
Calf death loss percent		4.1		2.9
Cow death loss percent		1.6		1.6
Cows per FTE		508.4		445.0
Average weaning weight		603		675
Lb. weaned/exposed female		499		605
Feed cost per cow		336.81		349.93
Avg wgt/ Beef Calves sold		596		611
Avg price / cwt.		132.44		130.46



**Livestock Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

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

	<u>Avg. Of All Farms</u>		<u>High 20%</u>	
	23		5	
	Quantity	Value	Quantity	Value
Number of farms				
Beef Calves sold (lb)	233.7	309.49	259.1	338.00
Transferred out (lb)	314.0	411.57	391.5	499.79
Cull sales (lb)	-	148.10	-	190.90
Other income		1.13		1.86
Purchased (lb)	-	-66.01	-	-36.33
Transferred in (lb)	-	-194.84	-	-223.97
Inventory change (lb)	9.5	79.68	-	150.58
Gross margin		689.13		920.84
<b>Direct Expenses</b>				
Protein Vit Minerals (lb.)	26.2	14.53	6.3	1.98
Creep / Starter (lb.)	263.5	15.96	722.9	33.05
Corn (bu.)	1.4	3.80	1.1	2.98
Corn Silage (lb.)	2,741.6	34.99	4,307.9	53.78
Hay, Alfalfa (lb.)	848.0	20.69	817.1	24.16
Hay, Grass (lb.)	5,359.4	109.60	5,305.1	127.80
Pasture (aum)	6.9	133.99	6.7	104.04
Other feed stuffs (lb)	135.0	3.24	18.7	2.14
Veterinary		24.65		30.45
Supplies		14.71		6.03
Fuel & oil		25.19		20.74
Repairs		57.73		54.26
Custom hire		7.77		8.54
Marketing		2.37		0.11
Operating interest		8.90		6.27
Total direct expenses		478.13		476.33
Return over direct expense		211.00		444.51
<b>Overhead Expenses</b>				
Custom hire		2.52		5.11
Hired labor		12.94		17.58
Farm insurance		13.36		10.98
Utilities		9.54		6.11
Interest		12.12		2.87
Mach & bldg depreciation		64.58		49.28
Miscellaneous		6.12		6.76
Total overhead expenses		121.18		98.68
Total dir & ovhd expenses		599.31		575.01
Net return		89.82		345.83
Labor & management charge		67.98		69.82
Net return over lbr & mgt		21.84		276.01
<b>Cost of Production Per Cwt. Produced</b>				
Total direct expense per unit		85.70		73.22
Total dir & ovhd expense per unit		107.42		88.39
With other revenue adjustments		115.47		75.91
With labor and management		127.65		86.64
Est. labor hours per unit		5.51		6.29
<b>Other Information</b>				
Number of cows		144.3		187.7
Pregnancy percentage		91.3		92.8
Pregnancy loss percentage		5.3		0.1
Culling percentage		14.9		18.4
Calving percentage		86.4		92.6
Weaning percentage		82.9		89.6
Calves sold per cow		0.95		1.08
Calf death loss percent		4.1		2.9
Cow death loss percent		1.6		1.6
Cows per FTE		508.4		445.0
Average weaning weight		603		675
Lb. weaned/exposed female		499		605
Feed cost per cow		336.81		349.93
Avg wgt/ Beef Calves sold		596		611
Avg price / cwt.		132.44		130.46

**Livestock Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

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

	<u>Avg. Of All Farms</u>	
Number of farms	13	
	Quantity	Value
Beef Replace sold (hd)	0.1	187.87
Transferred out (hd)	0.9	1,262.98
Cull sales (hd)	0.0	16.56
Other income		-
Purchased (hd)	0.1	-60.92
Transferred in (hd)	0.9	-809.03
Inventory change (hd)	-0.1	-230.38
Gross margin		367.07
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	35.4	8.17
Creep / Starter (lb.)	46.2	3.19
Corn (bu.)	4.4	11.60
Corn Silage (lb.)	1,410.9	14.83
Hay, Alfalfa (lb.)	1,021.5	22.04
Hay, Grass (lb.)	1,917.9	42.97
Oats (bu.)	3.6	7.10
Pasture (aum)	3.4	70.86
DDGS, dry (lb.)	55.4	3.32
Other feed stuffs (lb)	114.8	5.95
Breeding fees		17.68
Veterinary		9.25
Supplies		3.47
Fuel & oil		3.16
Repairs		6.58
Custom hire		0.54
Marketing		0.20
Operating interest		1.12
Total direct expenses		232.05
Return over direct expense		135.02
<b>Overhead Expenses</b>		
Hired labor		2.03
Farm insurance		1.74
Utilities		1.33
Interest		1.30
Mach & bldg depreciation		7.17
Miscellaneous		1.21
Total overhead expenses		14.78
Total dir & ovhd expenses		246.83
Net return		120.24
Labor & management charge		8.00
Net return over lbr & mgt		112.24
<b>Cost of Production Per Head Sold/Trans</b>		
Total direct expense per unit		1,315.82
Total dir & ovhd expense per unit		1,330.61
With other revenue adjustments		1,330.61
With labor and management		1,338.60
Est. labor hours per unit		0.74
<b>Other Information</b>		
No. purchased or trans in		45
Number sold or trans out		50
Average number of head		55
Percentage death loss		0.2
Feed cost per average head		171.95
Feed cost/head sold/trans		190.04
Total cost/head sold/trans		1,338.60
Feed cost per head per day		0.47
Avg. purchase weight		785
Avg. purch price / head		1,200.00
Avg. wgt / Beef Replace sold		495
Avg. sales price / head		1,489.20

**Livestock Enterprise Analysis**  
**North Dakota Farm Business Management Education Program**  
**Bottineau - Minot - Rugby, 2016**  
**(Farms Sorted By Net Return)**

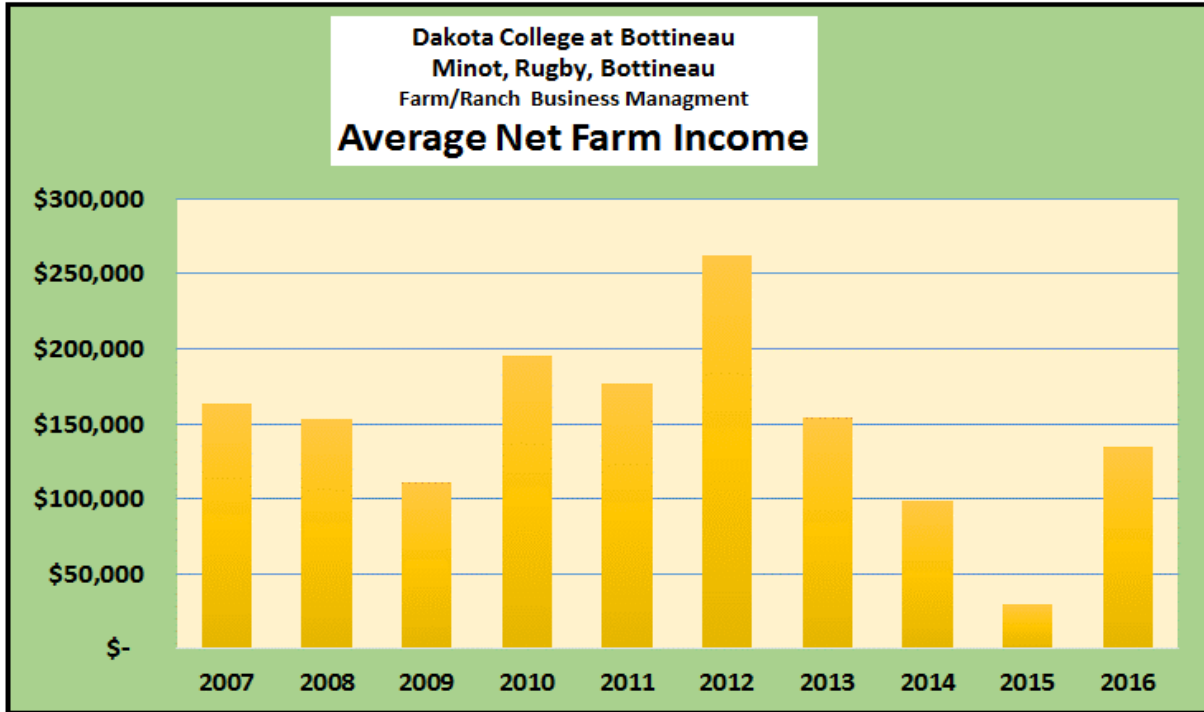
**Beef Backgrounding -- Average Per Cwt. Produced**

	<u>Avg. Of All Farms</u>	
Number of farms	14	
	Quantity	Value
Backgnd Beef sold (lb)	335.80	503.78
Transferred out (lb)	101.01	142.73
Other income		1.26
Transferred in (lb)	-116.23	-156.03
Inventory change (lb)	-221.63	-382.48
Gross margin		109.26
<b>Direct Expenses</b>		
Protein Vit Minerals (lb.)	16.70	3.46
Complete Ration (lb.)	7.31	0.47
Barley (bu.)	0.45	1.12
Corn (bu.)	2.20	5.80
Corn Silage (lb.)	383.39	5.23
Hay, Alfalfa (lb.)	75.18	1.55
Hay, Grass (lb.)	426.66	9.16
Oats (bu.)	0.81	1.87
Pasture (aum)	0.11	2.86
DDGS, wet (lb.)	3.00	0.53
Other feed stuffs (lb)	66.06	1.11
Veterinary		1.39
Supplies		0.95
Fuel & oil		0.82
Repairs		1.93
Custom hire		0.41
Marketing		1.20
Total direct expenses		39.88
Return over direct expense		69.38
<b>Overhead Expenses</b>		
Hired labor		0.68
Farm insurance		0.47
Mach & bldg depreciation		2.35
Miscellaneous		1.04
Total overhead expenses		4.54
Total dir & ovhd expenses		44.42
Net return		64.84
Labor & management charge		2.98
Net return over lbr & mgt		61.86
<b>Cost of Production Per Cwt. Produced</b>		
Total direct expense per unit		132.13
Total dir & ovhd expense per unit		133.17
With other revenue adjustments		133.17
With labor and management		133.85
Est. labor hours per unit		0.20
<b>Other Information</b>		
No. purchased or trans in		43
Number sold or trans out		121
Percentage death loss		0.4
Avg. daily gain (lb.)		1.54
Lb. of conc / lb. of gain		2.03
Lb. of feed / lb. of gain		8.95
Feed cost per cwt. of gain		33.18
Feed cost per head		52.43
Avg wgt / Backgnd Beef sold		694
Avg sales price / cwt.		150.03

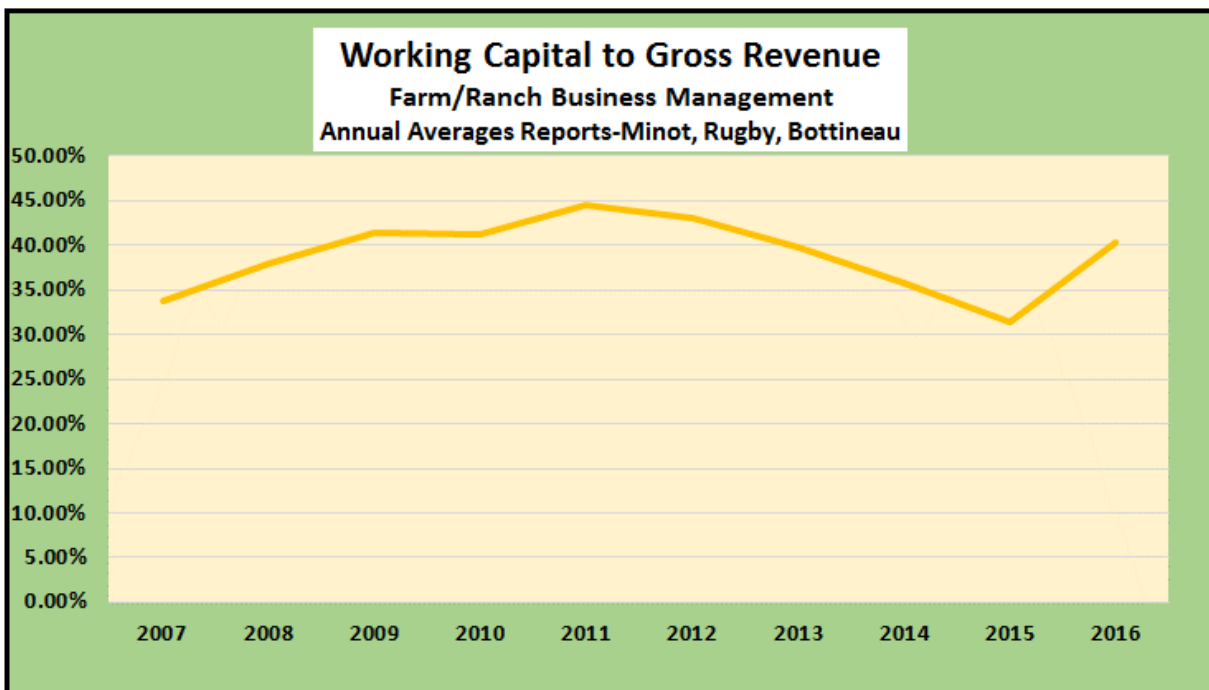
# Graphs

**Dakota College at Bottineau – Farm Business Management**  
**Rugby, Minot & Bottineau – 2016 Averages Report**

**Farm Profitability**

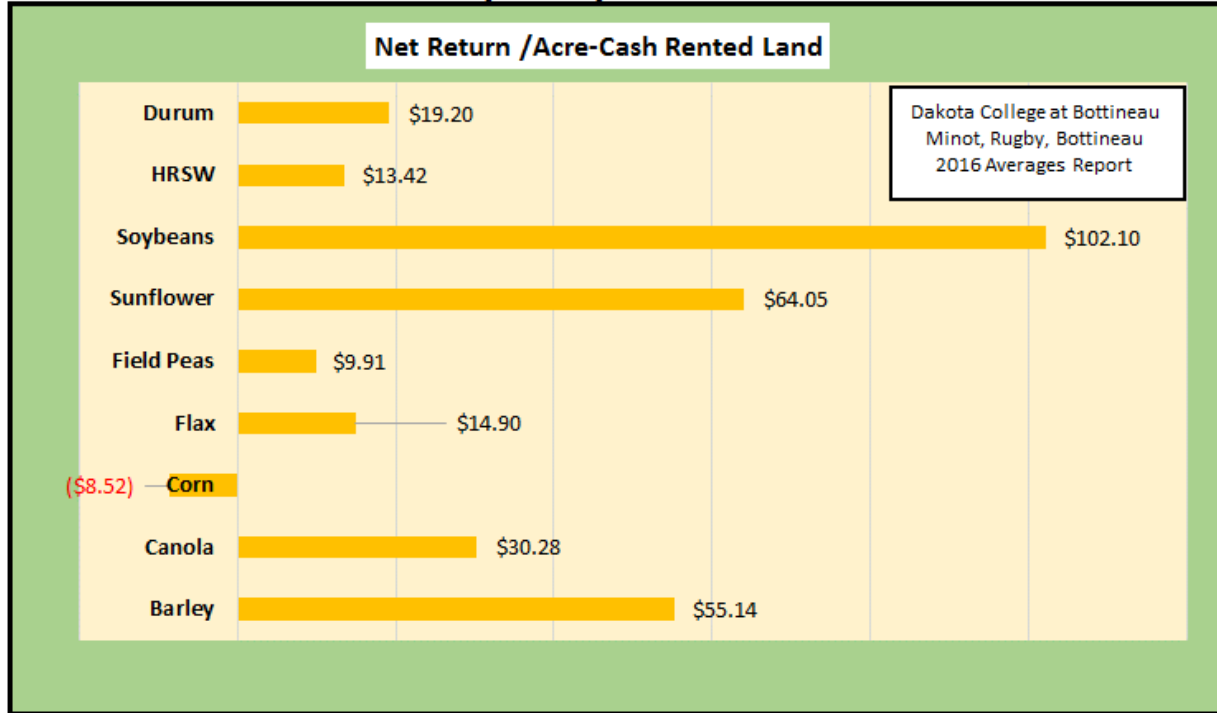


**Liquidity**

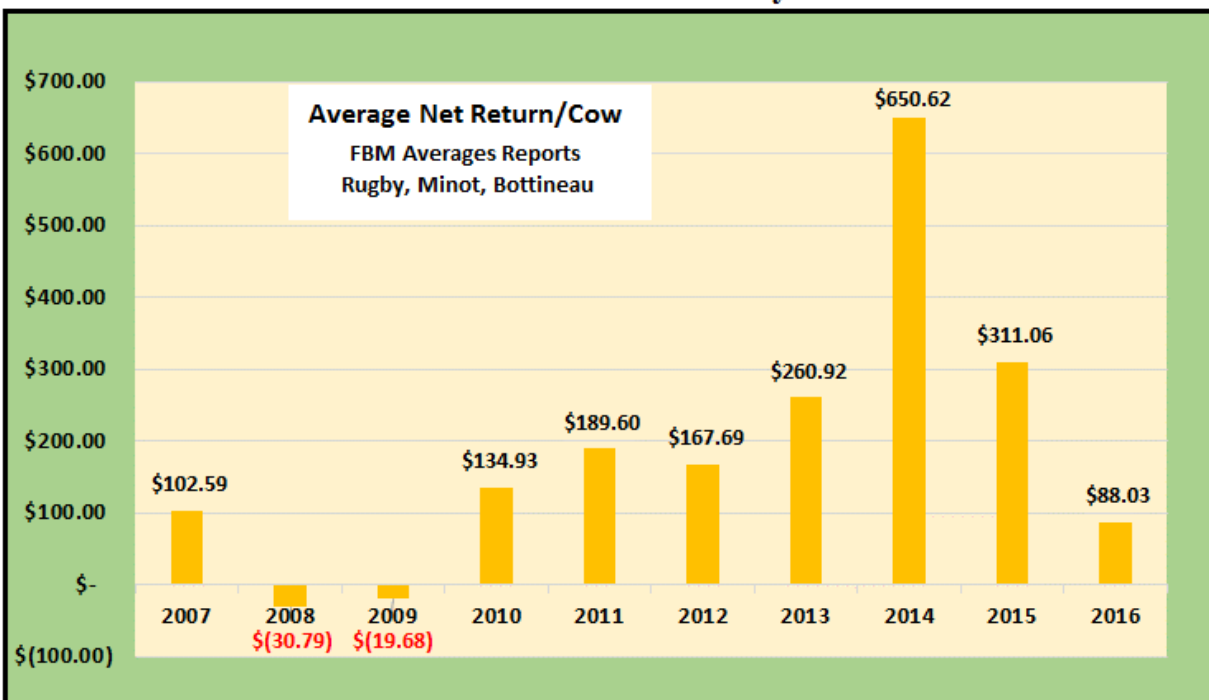


**Dakota College at Bottineau – Farm Business Management**  
**Rugby, Minot & Bottineau – 2016 Averages Report**

**Crop Comparison**

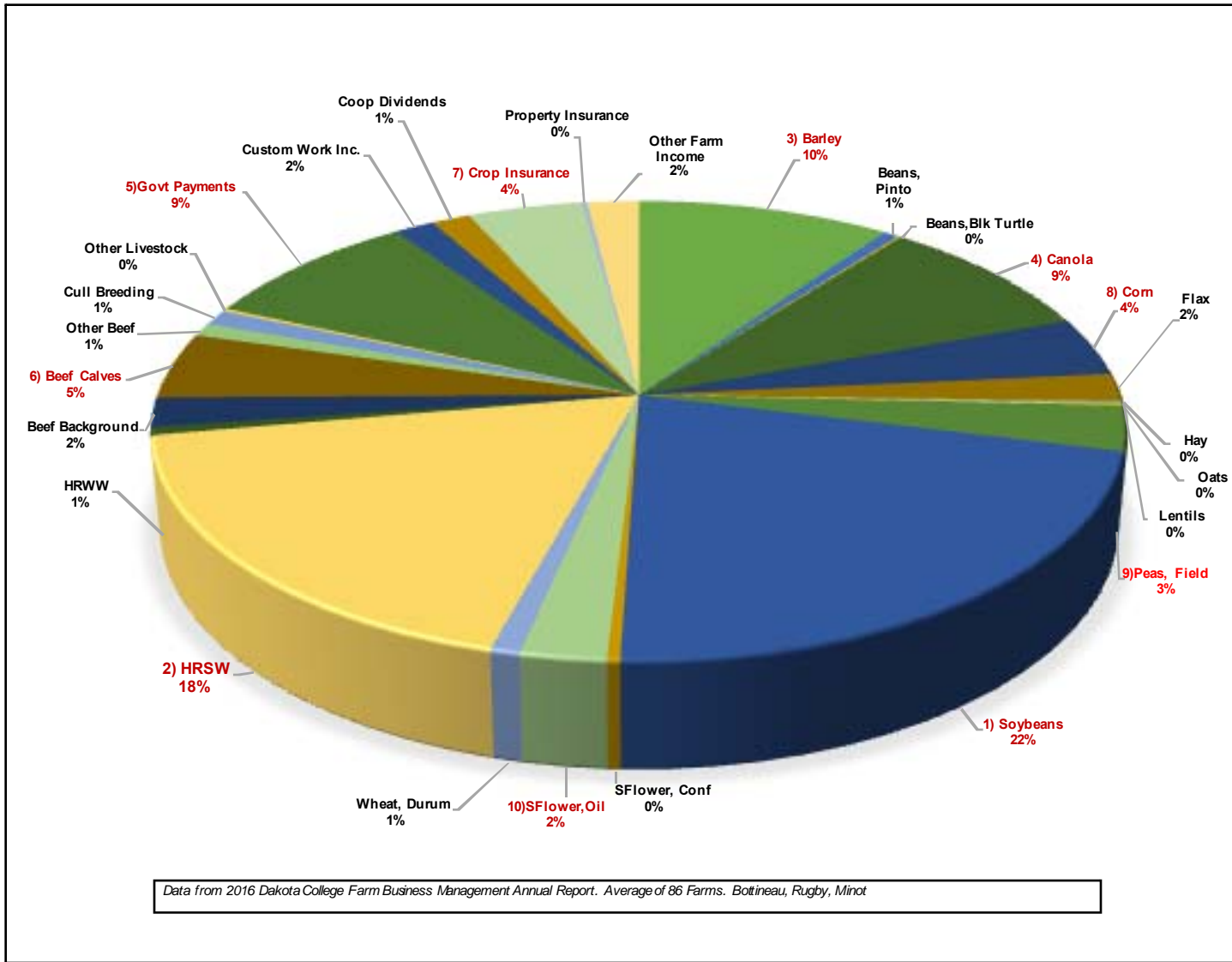


**Beef Cow/Calf Profitability**



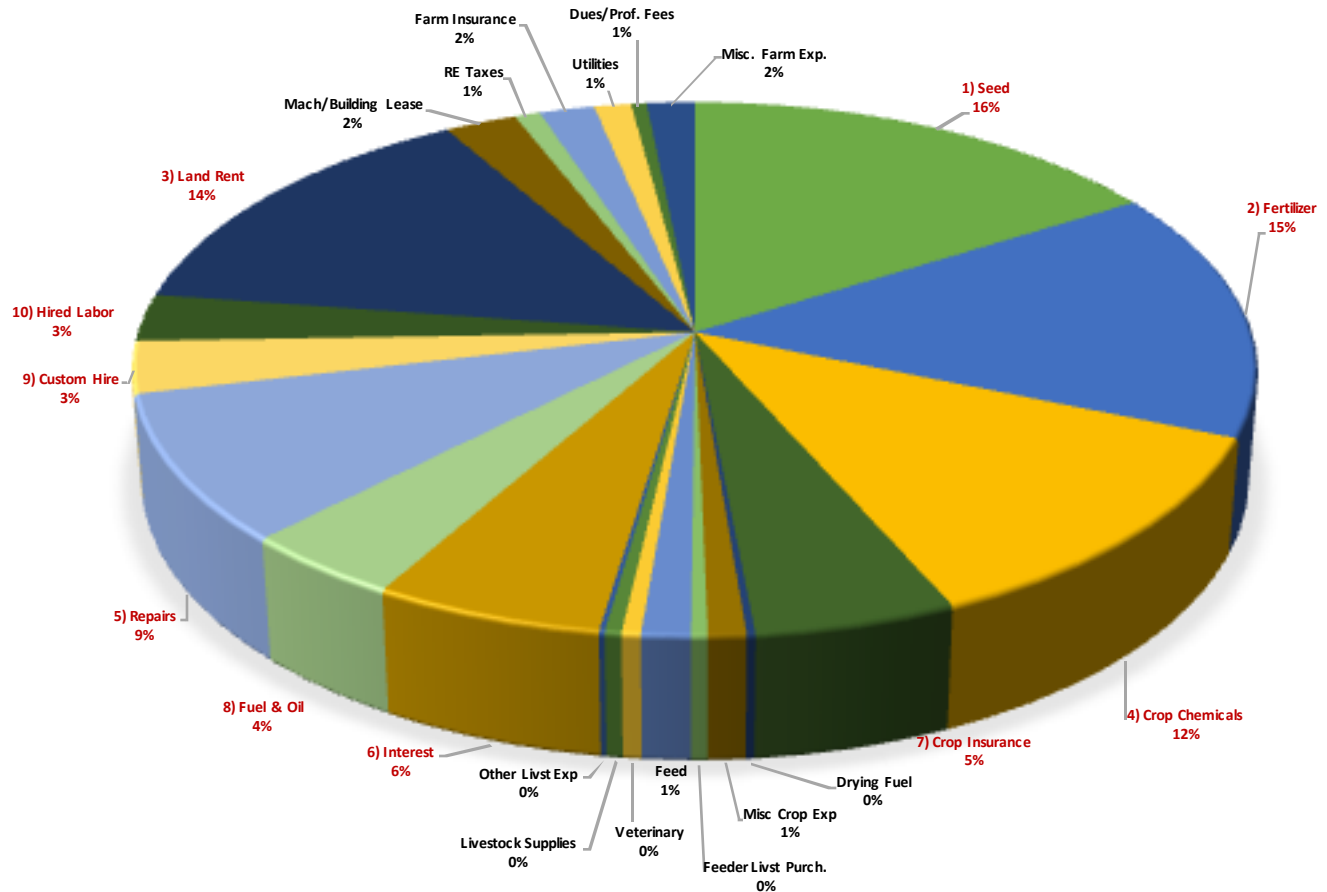
## 2016 DCB Farm Business Management Average Gross Cash Income

	Income
3) Barley	\$ 58,136
Beans, Pinto	\$ 3,618
Beans,Blk Turtle	\$ 582
4) Canola	\$ 52,988
8) Com	\$ 24,593
Flax	\$ 11,570
Hay	\$ 514
Lentils	\$ 524
Oats	\$ 782
9)Peas, Field	\$ 18,978
1) Soybeans	\$ 128,844
SFlower, Conf	\$ 2,231
10)SFlower,Oil	\$ 14,797
Wheat, Durum	\$ 5,063
2) HRSW	\$ 107,115
HRWW	\$ 3,301
Beef Background	\$ 12,320
6) Beef Calves	\$ 27,778
Other Beef	\$ 5,436
Beef Background..	\$ 6,545
Cull Breeding	\$ 1,264
Other Livestock	\$ 1,264
5)Govt Payments	\$ 51,459
Custom Work Inc.	\$ 9,283
Coop Dividends	\$ 8,926
7) Crop Insurance	\$ 26,321
Property Insurance	\$ 1,081
Other Farm Income	\$ 11,924
<b>Total</b>	<b>\$ 595,973</b>



## 2016 DCB Farm Business Management Average Cash Farm Expenses

	<u>Expense</u>
1) Seed	\$ 79,961
2) Fertilizer	\$ 75,755
4) Crop Chemicals	\$ 60,151
7) Crop Insurance	\$ 25,557
Drying Fuel	\$ 1,096
Misc Crop Exp	\$ 4,768
Feeder Livst Purch.	\$ 2,066
Feed	\$ 6,203
Veterinary	\$ 2,406
Livestock Supplies	\$ 2,091
Other Livst Exp	\$ 717
6) Interest	\$ 29,125
8) Fuel & Oil	\$ 20,528
5) Repairs	\$ 44,625
9) Custom Hire	\$ 15,673
10) Hired Labor	\$ 14,196
3) Land Rent	\$ 71,420
Mach/Building Lease	\$ 11,818
RE Taxes	\$ 4,165
Farm Insurance	\$ 9,024
Utilities	\$ 6,038
Dues/Prof. Fees	\$ 2,542
Misc. Farm Exp.	\$ 7,844
<b>Total Cash Expense</b>	<b>\$ 497,769</b>



Data from 2016 Dakota College Farm Business Management Annual Report. Average of 86 Farms. Bottineau, Rugby, Minot



# **What is the Dakota College at Bottineau Farm and Ranch Business Management Education Program?**

**It is an instructional program designed to:**

- ➡ help increase the profitability of the family farm or ranch business.**
- ➡ improve the family farm or ranch's record keeping system.**
- ➡ increase the knowledge of farm and ranch financial management.**
- ➡ help formulate family, personal and business goals.**
- ➡ develop an understanding of the financial strengths and weaknesses of the farm or ranch business.**
- ➡ improve the efficiency and organization of the family farm or ranch business.**
- ➡ develop the operator and family's appreciation of the affects of current and long term decisions.**

**The instructional sessions are individualized and are conducted in the privacy of the enrollee's home or the Farm and Ranch Business Management Education Program office.**

**The Farm and Ranch Business Management Education Program keeps the producer's information strictly Confidential.**

**It is the Farm and Ranch Business Management Education Program instructors responsibility to provide education, information and assistance to the producer in making management decisions.**

If you would like additional information about the Farm and Ranch Business Management Education Program or would like to enroll in the program you can contact the instructors at any of the locations by the following means:

Allen Graner at Rugby  
Office Phone: (701) 776-5095  
email: [allen.graner@dakotacollege.edu](mailto:allen.graner@dakotacollege.edu)  
Address: 1123 South Main, Rugby, ND 58368

Rodney Armstrong at Bottineau  
Office Phone: (701) 228-5481  
email: [rodney.armstrong@dakotacollege.edu](mailto:rodney.armstrong@dakotacollege.edu)  
Address: 105 Simrall Boulevard, Bottineau, ND 58318

BillieJo Shae at Minot  
Office Phone: (701) 857-7682  
email: [billiejo.shae@dakotacollege.edu](mailto:billiejo.shae@dakotacollege.edu)  
Address: 5400 Hwy83 S, Minot, ND 58701

