



MINNESOTA STATE

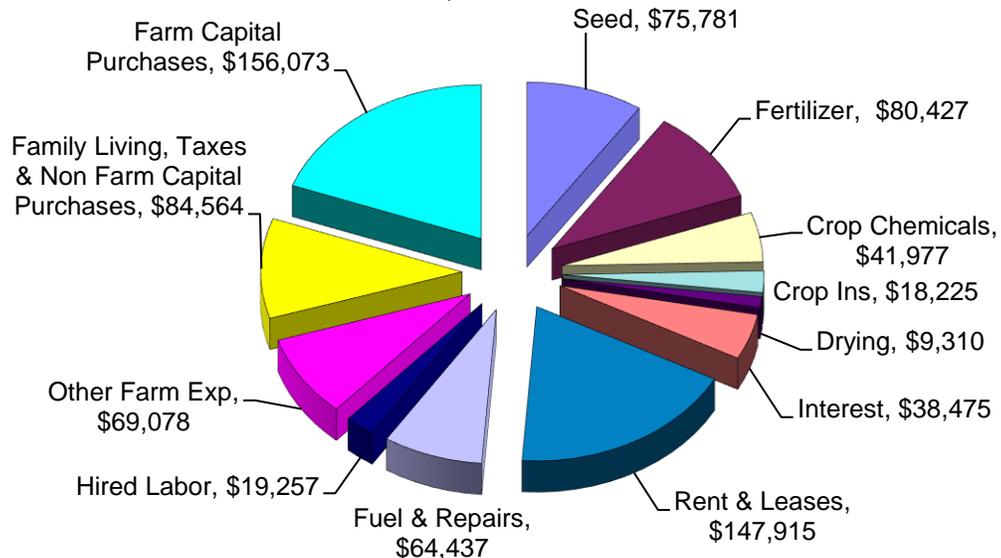
# Farm Business Management Program Data

## Crop Farm Sort - 2019

*Financial Summary by Gross Farm Income & Crop Acres  
Corn & Soybean Enterprise Data  
Environmental Practices & Tillage Data*

April, 2020

### Average Dollars Spent by a Crop Farm totals \$805,519 in 2019



In cooperation with the Center for Farm Financial Management University of Minnesota  
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Farm Business Management Website: [agcentric.org](http://agcentric.org) or [centerofagriculture.org](http://centerofagriculture.org)

## Brief Overview of 2019 Financial Summary

### Minnesota State - Farm Business Management

This special sort report for crops provides summary financial information from 1137 crop producers in the Minnesota State Farm Business Management (FBM) Database, which is a little over half of the 2167 total producers in the state FBM database. Selected data also includes 1217 corn enterprises and 1147 soybean enterprises on rented land. Of the acres for corn and soybeans in this database 76% of them are rented.

Based on the graphic on the cover, the average crop farm in Minnesota spent \$805,519 in their greater communities in 2019. At this level over a 40 year farming career each farmer would spend \$32,220,760. Collectively in 2019, the farms in this report spent \$915,875,103 operating their businesses. The majority of this money is spent locally, including businesses and cooperatives; demonstrating the vital importance of farm on the economy of Minnesota.

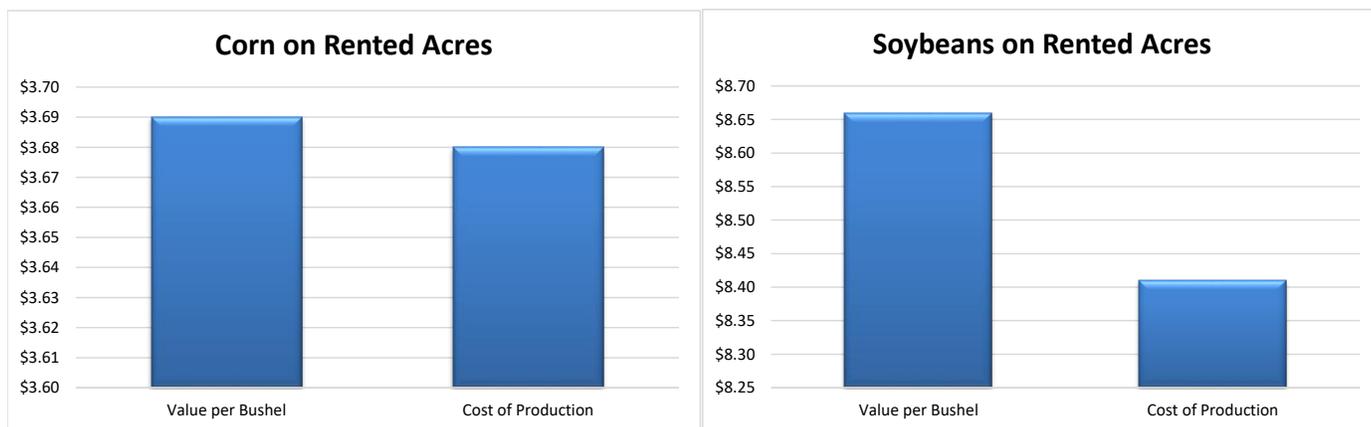
2019 proved to be an extremely variable year for crops in Minnesota. Most of the state started the spring extremely wet. This led to widespread planting delays and many acres never were able to be planted. The crop that was able to be sown suffered from a delayed start, a cool summer and a wet fall. This produced widespread quality issues as well as standing crops yet to be harvested well into the winter of 2019 and spring of 2020. The Market Facilitation Program payment helped corn and soybean producers show profits in 2019. This payment was made to offset trade issues for many agricultural commodities. Without this payment the average return per acre would have dropped below breakeven levels.

For producers participating in the Minnesota State Farm Business Management program, the average corn yield was 178 bushels per acre. This was very similar in 2018, 179 bushels per acre, and down from the 2017 average of 203 bushels and the 2016 average of 199 bushels. Statewide yield for soybeans was 46 bushels, down from the 2018 yield of 49 bushels, and from 47 bushels in 2017.

- The average price received for corn sold by participating producers increased to \$3.63 per bushel, up from \$3.33 in 2018. In 2017 producers received \$3.20 and \$3.31 in 2016.
- The average producer sold soybeans for \$8.48 per bushel compared to \$9.02 per bushel in 2018, \$9.19 in 2017 and \$9.35 in 2016.
- Wheat yielded 61 bushels per acre compared to 2018 levels of 62.5 bushels per acre, down from 73 bushels in 2017 and from 67 bushels in 2016. Wheat sold for \$5.13 per bushel compared to \$5.69 per bushel in 2018, \$5.94 in 2017 but still higher than the \$4.79 received in 2016.

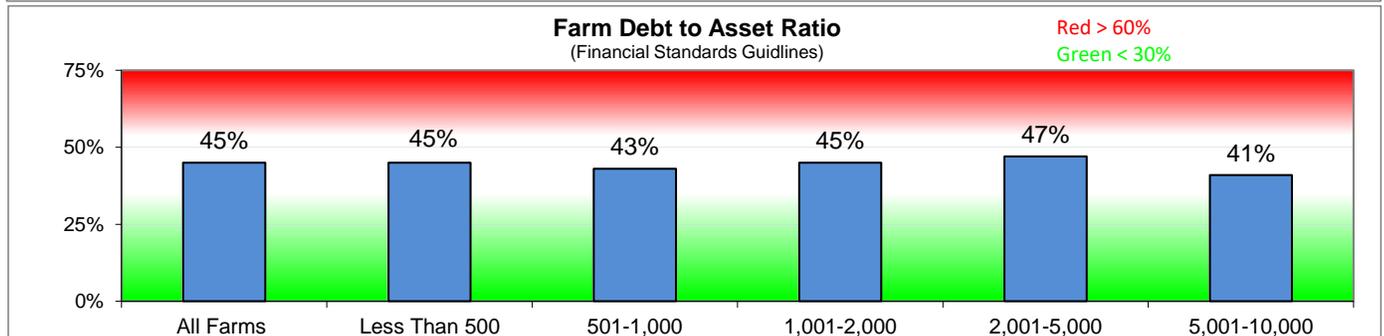
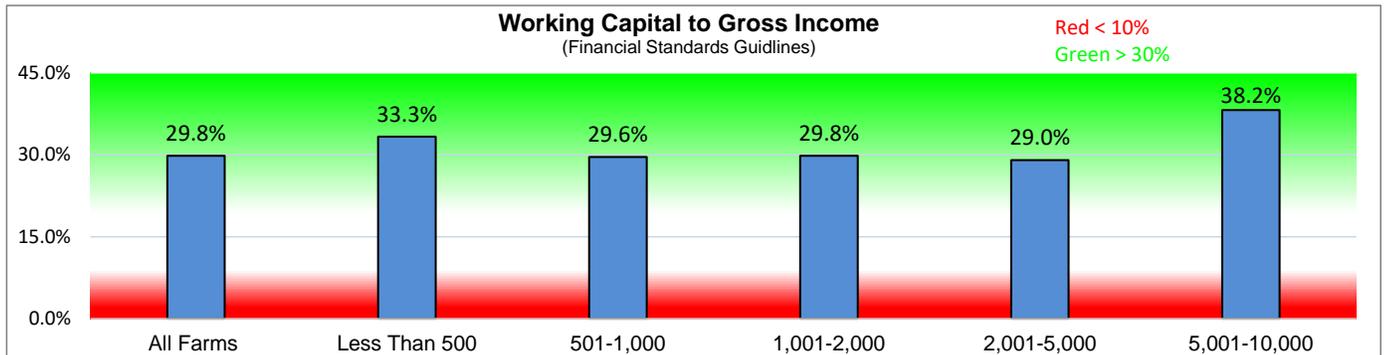
The median net farm income for crop producers for the last five years was: \$33,352 (2019), \$29,712 (2018), \$21,920 (2017), \$43,705 (2016), \$24,294 (2015). Net farm income is the amount of profit made from the operation that must pay for family living expenses, taxes and debt payments. These extremely low levels are a main indicator of eroding farm financial health.

Like any business, every farm has a different cost structure and some farms are doing better than others. The average farm's balance sheet is still strong, but there are obvious signs of financial stress. Working capital, term debt coverage and operating expense ratios are deteriorating or are at concerning levels. Farmer/lender mediation requests are up again in 2019. Many farms have already restructured debt to lengthen terms and free up cash flow. Some farms will have to make major adjustments in the coming year in order to continue farming.



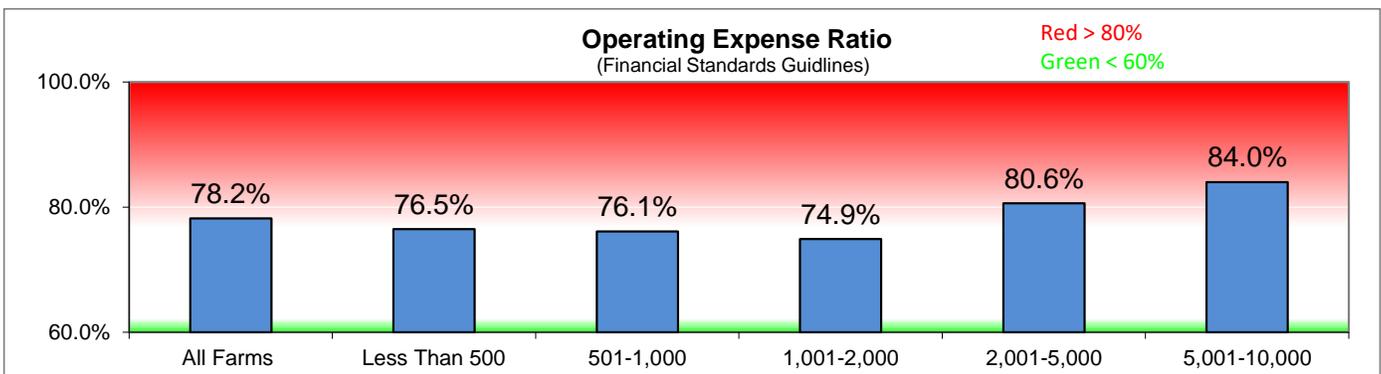
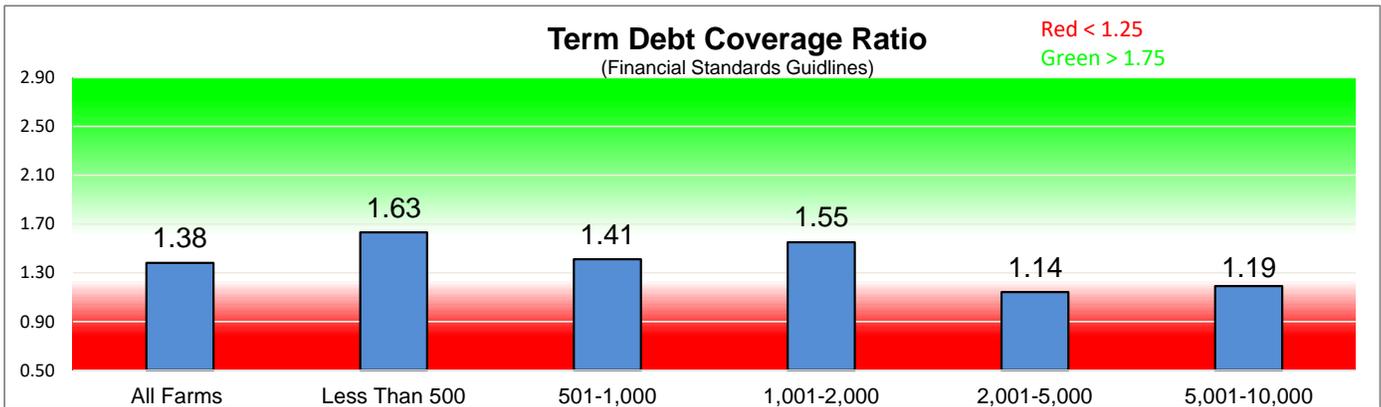
**Financial Summary**  
**(Farms Sorted By Total Crop Acres)**  
**Minnesota State - Farm Business Management**

	Avg. Of All Farms	Less Than 500	501 - 1,000	1,001 - 2,000	2,001 - 5,000	5,001 - 10,000
Number of farms	1137	422	297	263	139	13
<b>Income Statement</b>						
Gross cash farm income	659,016	181,638	464,149	878,924	1,686,481	3,447,100
Total cash farm expense	564,882	156,195	397,303	731,061	1,461,999	2,971,701
Net cash farm income	94,134	25,443	66,846	147,863	224,482	475,399
Average net farm income	66,875	18,880	47,925	121,699	125,686	241,531
Median net farm income	33,352	12,810	45,883	89,824	96,852	6,990
<b>Profitability (cost)</b>						
Rate of return on assets	2.6%	1.5%	2.3%	3.6%	2.4%	1.6%
Rate of return on equity	1.1%	-1.2%	0.6%	2.9%	0.6%	0.0%
Operating profit margin	7.6%	5.5%	7.4%	10.6%	6.6%	3.9%
Asset turnover rate	33.9%	27.2%	31.5%	33.8%	36.4%	40.4%
<b>Liquidity &amp; Repayment (end of year)</b>						
Current ratio	1.51	1.61	1.53	1.54	1.47	1.78
Working capital	204,944	62,327	143,954	277,333	505,905	1,353,776
Working capital to gross income	29.8%	33.3%	29.6%	29.8%	29.0%	38.2%
Term debt coverage ratio	1.38	1.63	1.35	1.55	1.14	1.19
Replacement coverage ratio	0.94	1.12	0.90	1.08	0.77	0.83
Term debt to EBITDA	3.48	4.92	3.73	2.92	3.54	3.02
<b>Solvency (end of year at market)</b>						
Total assets	3,107,701	1,280,161	2,560,754	4,094,331	6,679,348	12,386,804
Total liabilities	1,322,791	513,656	1,006,584	1,732,720	3,056,297	5,042,199
Net worth	1,784,910	766,505	1,554,171	2,361,611	3,623,051	7,344,605
Farm debt to asset ratio	45%	45%	43%	45%	47%	41%
<b>Nonfarm Information</b>						
Net nonfarm income	43,814	56,196	42,118	38,623	24,215	4,711
Farms reporting living expenses	201	75	55	54	17	-
Total family living expense	62,502	50,074	55,877	77,490	91,160	-
Total living, invest, cap. purch	95,316	91,582	85,020	103,916	117,787	-



**Financial Standards Measures  
(Farms Sorted By Total Crop Acres)  
Minnesota State - Farm Business Management**

	Avg. Of All Farms	Less Than 500	501 - 1,000	1,001 2,000	2,001 - 5,000	5,001 - 10,000
Number of farms	1137	422	463	263	139	13
<b>Liquidity</b>						
Current ratio	1.51	1.61	1.53	1.54	1.47	1.78
Working capital	204,944	62,327	176,534	277,333	505,905	1,353,776
Working capital to gross inc	29.8%	33.3%	29.6%	29.8%	29.0%	38.2%
<b>Solvency (market)</b>						
Farm debt to asset ratio	45%	45%	44%	45%	47%	41%
Farm equity to asset ratio	55%	55%	56%	55%	53%	59%
Farm debt to equity ratio	0.83	0.81	0.78	0.82	0.9	0.71
<b>Profitability (cost)</b>						
Rate of return on farm assets	2.6%	1.5%	2.8%	3.6%	2.4%	1.6%
Rate of return on farm equity	1.1%	-1.2%	1.5%	2.9%	0.6%	0.0%
Operating profit margin	7.7%	5.5%	8.7%	10.6%	6.6%	3.9%
Net farm income	66,875	18,880	67,759	121,699	125,686	241,531
EBITDA	150,083	44,070	142,433	233,157	338,108	566,539
<b>Repayment Capacity</b>						
Capital debt repayment	104,748	40,981	102,717	166,395	201,672	370,196
Capital debt repayment	29,000	15,893	30,005	58,737	25,288	59,485
Replacement margin	-6,470	4,420	-4,058	11,681	-60,581	-73,851
Term debt coverage ratio	1.38	1.63	1.41	1.55	1.14	1.19
Replacement coverage ratio	0.94	1.12	0.90	1.08	0.77	0.83
<b>Efficiency</b>						
Asset turnover rate (cost)	33.9%	27.2%	32.3%	33.8%	36.4%	40.4%
Operating expense ratio	78.2%	76.5%	76.1%	74.9%	80.6%	84.0%
Depreciation expense ratio	7.0%	6.9%	7.4%	7.6%	6.9%	6.5%
Interest expense ratio	5.8%	7.6%	6.1%	5.8%	5.7%	3.8%
Net farm income ratio	8.9%	9.1%	10.3%	11.7%	6.7%	5.7%

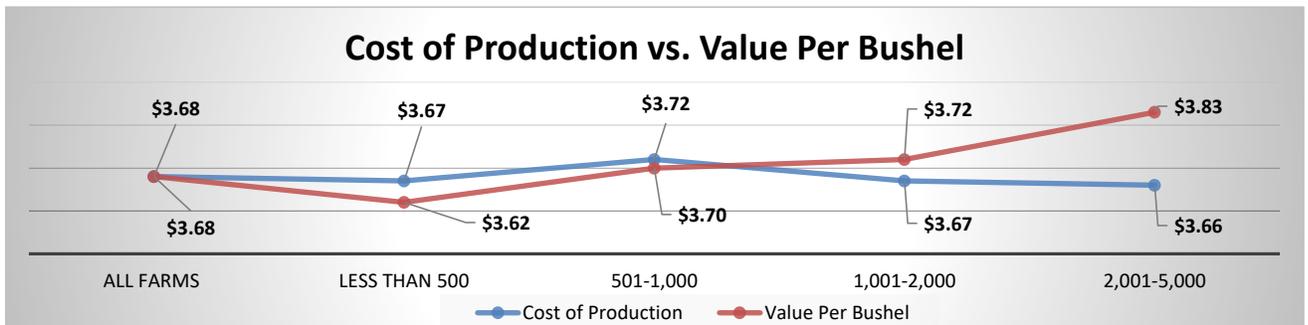
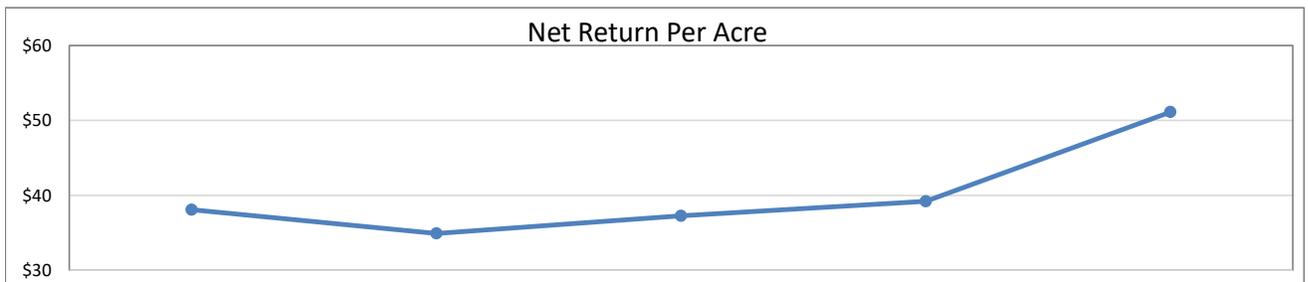


**Crop Enterprise Analysis for Corn on Rented Acres  
(Farms Sorted By Total Crop Enterprise Acres)  
Farm Business Management Database**

	Avg. of All Farms	Less Than 500	501 - 1,000	1,001 - 2,000	2,001 - 5,000
Number of farms	1217	976	185	44	10
Yield per acre (bu.)	177.74	173.16	179.06	180.61	176.28
Value Per Bushel	3.68	3.62	3.70	3.72	3.83
Gross return per acre	751.85	721.89	765.46	759.98	802.07
Seed	104.73	105.11	106.26	104.70	103.45
Fertilizer	125.91	121.13	129.36	126.71	125.56
Crop chemicals	34.73	31.01	34.40	34.34	36.44
Crop insurance	19.06	18.03	19.85	19.67	19.40
Drying expense	21.05	22.00	23.10	18.45	17.60
Storage	2.55	1.69	1.83	0.71	2.84
Fuel & oil	24.59	24.71	24.66	23.48	22.30
Repairs	42.55	44.41	45.56	43.11	31.57
Custom hire	12.60	16.64	9.26	9.16	9.00
Hired labor	4.59	2.23	3.94	6.57	18.45
Land rent	195.03	179.05	196.50	203.23	233.85
Machinery leases	4.35	2.64	4.34	8.93	7.59
Utilities	1.54	1.29	1.39	1.66	4.50
Hauling and trucking	2.28	1.92	2.04	4.06	3.02
Marketing	1.80	1.52	2.15	1.88	2.87
Operating interest	17.28	14.76	19.43	16.91	22.72
Miscellaneous	2.78	2.06	2.77	2.72	7.34
Total direct expenses per acre	617.72	593.73	626.88	626.63	668.48
Return over direct exp per acre	134.13	128.16	138.59	133.35	133.58
Total overhead expenses per acre	96.04	93.25	101.31	94.14	82.46
Total dir&ovhd expenses per acre	713.75	686.99	728.19	720.78	750.94
Net return per acre	38.09	34.91	37.27	39.20	51.12

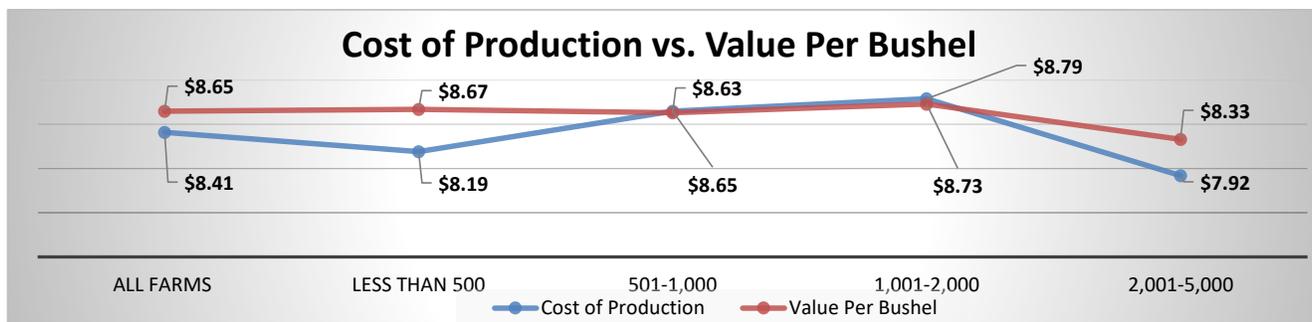
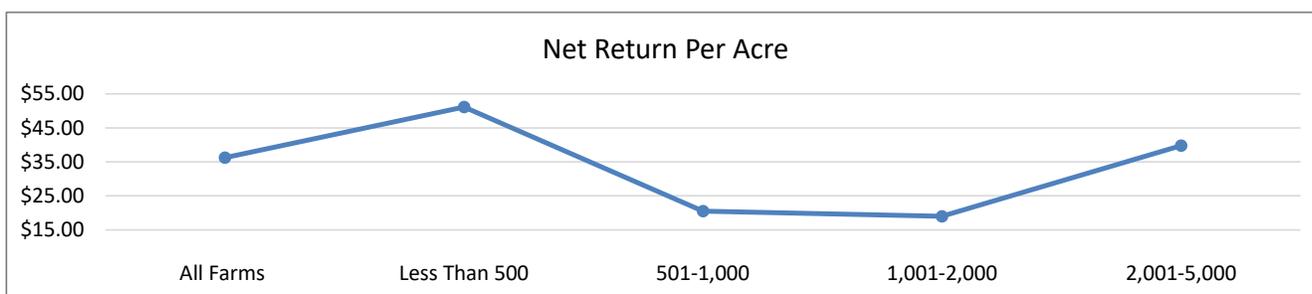
**Cost of Production**

Total direct expense per bu.	3.48	3.43	3.50	3.47	3.79
Total dir & ovhd exp per bu.	4.02	3.97	4.07	3.99	4.26
Less govt & other income	3.43	3.38	3.46	3.47	3.47
With labor & management	3.68	3.67	3.72	3.67	3.66
Net value per unit	3.69	3.62	3.71	3.74	3.84
Machinery cost per acre	132.99	138.17	135.36	129.51	109.73



## Crop Enterprise Analysis for Soybeans on Rented Acres (Farms Sorted By Total Crop Enterprise Acres) Minnesota State - Farm Business Management

	Avg. of All Farms	Less Than 500	501 1,000	1,001 - 2,000	2,001 - 5,000
Number of farms	1147	944	149	47	7
Yield per acre (bu.)	46.23	47.31	45.88	44.96	42.44
Value Per Bushel	8.65	8.67	8.63	8.73	8.33
Gross return per acre	478.90	492.30	471.71	471.57	421.22
Seed	56.24	56.24	57.73	56.83	46.76
Fertilizer	21.28	20.30	20.91	23.27	25.64
Crop chemicals	39.51	40.92	39.53	38.64	29.72
Crop insurance	18.04	17.60	18.96	18.48	15.80
Storage	0.78	0.73	-	0.97	2.18
Fuel & oil	15.65	15.48	15.92	15.44	16.43
Repairs	26.98	27.85	26.52	28.20	17.89
Custom hire	8.81	11.45	6.41	6.07	6.69
Hired labor	3.25	1.96	2.85	6.54	6.49
Land rent	171.24	170.57	176.96	171.08	147.97
Machinery leases	3.19	2.80	2.81	5.91	-
Utilities	0.94	0.87	1.13	1.11	-
Hauling and trucking	0.98	1.10	0.69	1.39	-
Marketing	1.43	1.52	1.51	1.25	-
Operating interest	10.53	9.68	11.62	11.60	8.94
Miscellaneous	2.09	2.22	3.35	2.15	1.51
Total direct expenses per acre	381.44	381.57	386.88	389.37	327.50
Return over direct exp per acre	97.46	110.73	84.83	82.20	93.72
Total overhead expenses per acre	61.25	59.61	64.30	63.18	53.93
Total dir & ovhd expenses per acre	442.69	441.17	451.18	452.55	381.43
Net return per acre	36.21	51.13	20.53	19.01	39.79
<b>Cost of Production</b>					
Total direct expense per bu.	8.25	8.07	8.43	8.66	7.72
Total dir & ovhd exp per bu.	9.58	9.33	9.83	10.07	8.99
Less govt & other income	7.76	7.48	8.05	8.21	7.37
With labor & management	8.41	8.19	8.65	8.79	7.92
Net value per unit	8.66	8.68	8.64	8.74	8.33
Machinery cost per acre	86.00	88.90	83.52	87.77	67.87



## Environmental Practices Relating to Economic Viability

### Minnesota State - Farm Business Management

Farms use a variety of practices to limit environmental impact while trying to maintain economic viability. Below is a sampling of these practices from the farms in the Minnesota State Farm Management Database.

**Manure/Commercial Fertilizer:** Manure as part of a fertilizer plan to improve plant uptake and limits fossil fuel produced inputs.

**Variable Rate Fertilizer:** Fertilizer applied by grids of the field to apply only where needed and minimize over application.

**Variable Rate Seeding:** Seed is sown at differing rates across fields to match soil types to minimize over population.

**Side-Dress Fertilizer:** Fertilizer applied multiple times during the growing season to better align application with crop nutrient needs. This limits unused fertilizer from contaminating the environment.

**Crop Rotation:** A traditional practice alternating crops planted in a field to minimize fertilizer needs and improve soil quality.

**Drainage Tile:** Traditional practice promoting plant health through improved water absorption, resulting in reduced water runoff and maximized nutrient usage.

#### Corn Enterprise

Sort	All Fields	Manure and Comm. Fert.	Variable Rate Fert.	Variable Rate Seed	Side-Dress Fertilizer	Prev. Crop Soybeans	Drainage Pattern Tile
Number of Farms	1217	418	145	108	64	448	121
Yield	177.74	179.85	181.61	180.18	186.41	177.89	189.44
Seed	\$104.73	\$106.79	\$104.83	\$104.13	\$109.07	\$106.65	\$107.93
Fertilizer	\$125.91	\$122.56	\$132.00	\$132.88	\$132.02	\$128.52	\$131.88
Chemical	\$34.76	\$34.96	\$33.54	\$32.25	\$33.90	\$34.29	\$41.75
Fuel & Oil	\$24.59	\$24.32	\$24.50	\$25.37	\$22.52	\$25.09	\$24.31
Repairs	\$42.55	\$44.36	\$46.16	\$43.02	\$35.18	\$47.02	\$44.95
Rent	\$195.03	\$209.05	\$193.44	\$189.12	\$207.50	\$194.99	\$212.28
Interest	\$23.79	\$24.58	\$24.25	\$25.01	\$15.17	\$24.89	\$22.00
Mach and Bldg Depreciation	\$45.71	\$51.27	\$53.53	\$52.14	\$42.20	\$55.58	\$54.56
Net Return	\$38.09	\$48.26	\$51.46	\$53.08	\$77.76	\$33.55	\$43.31
Cost of Prod - w/ Labor & Mgt	\$3.68	\$3.64	\$3.66	\$3.62	\$3.48	\$3.75	\$3.73
Mach Cost/Ac	\$132.99	\$136.43	\$139.02	\$138.63	\$123.23	\$139.91	\$139.82



#### Soybean Enterprise

Sort	All Fields	Manure and Comm. Fert.	Variable Rate Fert.	Variable Rate Seed	Swath Control	Prev. Crop Soybeans	Drainage Pattern Tile
Number of Farms	1147	227	80	66	318	79	109
Yield	46.23	49.96	48.98	47.76	47.43	45.00	52.23
Seed	\$56.24	\$54.65	\$55.31	\$55.00	\$58.06	\$53.88	\$56.55
Fertilizer	\$21.28	\$18.50	\$25.55	\$22.23	\$21.11	\$24.08	\$24.03
Chemical	\$39.51	\$44.41	\$43.42	\$41.18	\$40.85	\$38.87	\$44.85
Fuel & Oil	\$15.65	\$15.23	\$14.09	\$15.18	\$15.18	\$15.25	\$15.23
Repairs	\$26.98	\$30.26	\$28.87	\$24.83	\$26.15	\$27.44	\$27.91
Rent	\$171.24	\$194.98	\$191.78	\$189.40	\$174.79	\$150.68	\$207.37
Interest	\$14.77	\$14.17	\$13.26	\$15.36	\$13.94	\$12.23	\$14.06
Mach and Bldg Depreciation	\$29.10	\$33.81	\$32.15	\$30.33	\$30.98	\$27.83	\$35.01
Net Return	\$36.21	\$51.26	\$45.21	\$47.35	\$41.47	\$51.19	\$51.48
Cost of Prod - w/ Labor & Mgt	\$8.41	\$8.19	\$8.41	\$8.33	\$8.33	\$8.02	\$8.30
Mach Cost/Ac	\$86.00	\$90.58	\$84.51	\$85.03	\$84.04	\$82.23	\$90.50



## Environmental Practices - Tillage Alternatives

### Minnesota State - Farm Business Management

	Avg. of All Farms	Chisel / Reduced Till	No Till	Strip Till	Southern MN Row Width 19-25"	Northern MN Row Width 19- 25"
Number of farms	1217	778	22	19	70	24
Yield per acre (bu.)	177.74	177.95	165.60	165.10	191.31	159.59
Value per bu.	3.68	3.68	3.63	3.68	3.69	3.45
Gross return per acre	751.85	753.27	711.39	730.27	791.56	610.16
Seed	104.73	104.78	94.87	102.34	107.71	77.12
Fertilizer	125.91	125.69	137.01	119.76	124.60	110.22
Crop chemicals	34.73	34.38	30.65	39.17	34.12	24.18
Crop insurance	19.06	19.18	16.74	18.31	24.52	15.50
Drying expense	21.05	21.51	21.32	20.67	28.87	25.90
Storage	2.55	1.87	1.39	0.59	2.51	0.81
Fuel & oil	24.59	24.42	17.39	21.76	25.15	25.32
Repairs	42.55	43.34	40.48	46.93	45.07	43.91
Custom hire	12.60	11.74	14.79	14.05	10.36	17.99
Hired labor	4.59	5.28	0.85	1.83	6.05	1.70
Land rent	195.03	196.79	185.03	186.38	212.24	132.84
Machinery leases	4.35	4.84	8.39	6.06	2.19	0.95
Utilities	1.54	1.68	2.23	1.10	0.87	0.56
Hauling and trucking	2.28	2.36	5.17	0.42	4.65	0.05
Marketing	1.80	1.85	0.91	6.72	0.99	1.92
Operating interest	17.28	17.74	12.77	14.04	16.67	18.32
Miscellaneous	2.91	3.01	1.19	3.57	3.37	2.80
Total direct expenses per acre	617.72	620.59	595.66	604.49	648.67	498.48
Return over direct exp per acre	134.13	132.68	115.73	125.79	142.89	111.67
Total overhead expenses per acre	96.04	95.71	63.56	95.95	104.08	91.08
Total dir & ovhd expenses per acre	713.75	716.30	659.22	700.44	752.75	589.56
Net return per acre	38.09	36.97	52.16	29.84	38.81	20.60
Cost of Production						
Total direct expense per bu.	3.48	3.49	3.60	3.66	3.39	3.12
Total dir & ovhd exp per bu.	4.02	4.03	3.98	4.24	3.93	3.69
Less govt & other income	3.43	3.42	3.28	3.41	3.47	3.31
With labor & management	3.68	3.69	3.54	3.69	3.72	3.61
Net value per unit	3.69	3.69	3.66	3.69	3.68	3.45
Machinery cost per acre	132.99	133.62	110.42	130.98	132.81	140.31

