



MINNESOTA STATE

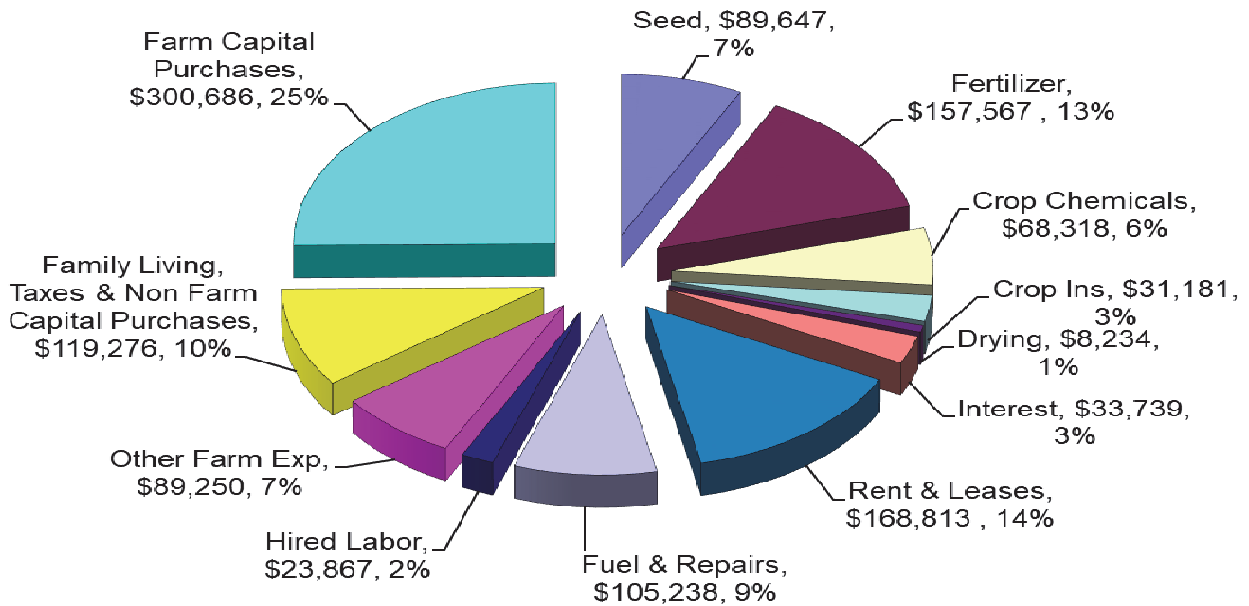
# Farm Business Management Program Data

## Crop Farm Sort - 2022

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

April 2023

**Average Dollars Spent by a Crop Farm totals  
\$1,195,816 in 2022**



In cooperation with the Center for Farm Financial Management University of Minnesota  
Compiled by Aaron Brudelic

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Farm Business Management Website: [agcentric.org](http://agcentric.org) or [centerofagriculture.org](http://centerofagriculture.org)

## Brief Overview of 2022 Financial Summary

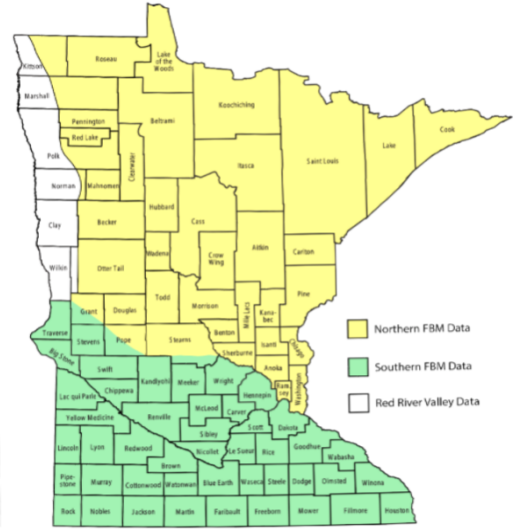
### Minnesota State - Farm Business Management

This special report for crops provides summary financial information from 1,304 crop producers in the Minnesota State Farm Business Management (FBM) database, which is over half of the 2,154 total producers in the state FBM database.

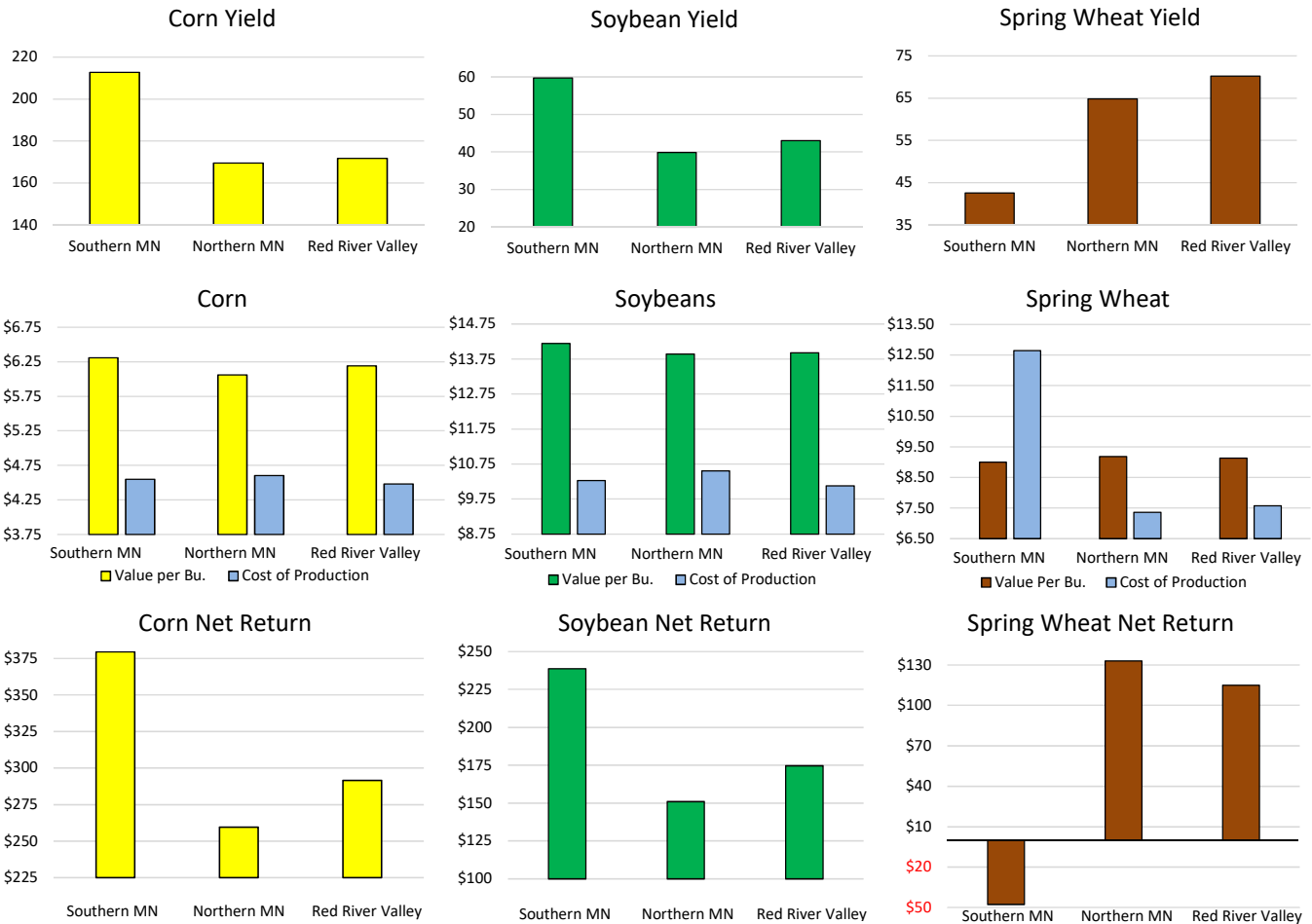
Based on the graphic on the cover, the average crop farm in Minnesota spent \$1,195,816 in their greater communities in 2022. At this level, over a 40 year farming career each farmer would spend \$47,832,640. Collectively in 2022, the farms in this report spent \$1,559,344,064 operating their businesses. The majority of this money is spent locally, including businesses and cooperatives, demonstrating the vital importance of farming on the economy of Minnesota.

This crop report shows data from crop producers split in various ways. Data is reported as Statwide FBM data, Northern Minnesota FBM data, Red River Valley FBM data, and Southern Minnesota FBM data.

The map to the right shows the approximate split between the Northern Minnesota and the Southern Minnesota FBM data. The Red River Valley FBM data runs along the western counties of the top one third of the state of Minnesota. The Red River Valley contains fertile agricultural soils that produce a variety of agricultural commodities in Northwest Minnesota.



Selected data also includes 1,223 corn enterprises and 1,195 soybean enterprises on rented land analyzing various environmental and tillage practices.



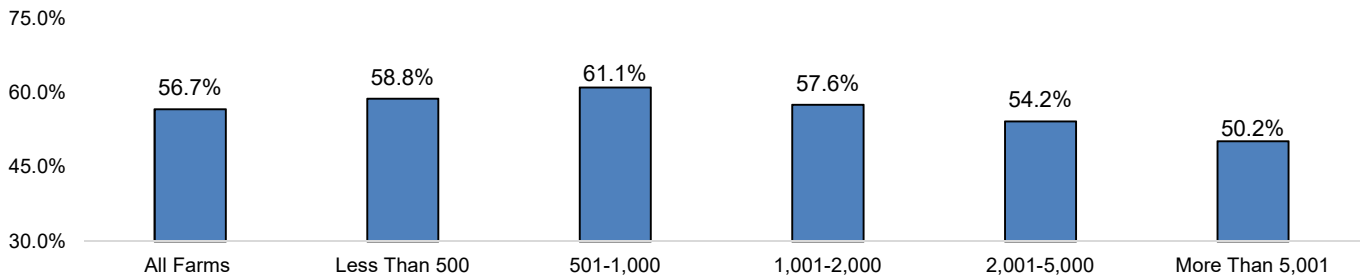
## Financial Summary

### (Farms Sorted By Total Crop Acres)

Minnesota Statewide Data	All Farm Average	Less Than 500	501 - 1,000	1,001 - 2,000	2,001 - 5,000	More Than 5,001
Number of farms	1304	518	320	295	153	18
<b>Income Statement</b>						
Gross cash farm income	989,448	296,334	720,999	1,341,369	2,579,532	6,424,836
Total cash farm expense	775,854	228,789	543,618	1,043,069	2,056,269	5,384,928
Net cash farm income	213,594	67,545	177,381	298,300	523,264	1,039,908
Average net farm income	363,741	109,815	285,013	502,730	948,973	1,818,400
Median net farm income	228,179	77,351	258,947	483,120	827,041	1,509,964
<b>Profitability (cost)</b>						
Rate of return on assets	12.4%	9.8%	11.7%	12.9%	13.8%	12.5%
Rate of return on equity	18.5%	15.0%	16.6%	19.0%	21.0%	18.6%
Operating profit margin	28.2%	26.6%	29.4%	28.8%	28.8%	23.7%
Asset turnover rate	44.1%	36.8%	39.9%	44.8%	47.7%	52.7%
<b>Liquidity &amp; Repayment</b>						
Current ratio	2.80	3.21	3.08	2.81	2.61	2.51
Working capital	657,501	204,515	518,841	904,653	1,656,256	3,618,521
Working capital to gross income	56.7%	58.8%	61.1%	57.6%	54.2%	50.2%
Term debt coverage ratio	4.38	3.78	4.26	4.52	4.55	4.93
Replacement coverage ratio	2.95	2.66	2.79	3.05	3.07	3.19
Term debt to EBITDA	1.48	2.08	1.47	1.38	1.38	1.35
<b>Solvency</b>						
Total assets	4,029,380	1,717,164	3,396,670	5,230,067	9,078,508	19,222,474
Total liabilities	1,603,597	659,253	1,220,763	2,127,258	3,843,356	7,965,479
Net worth	2,425,783	1,057,910	2,175,907	3,102,809	5,235,152	11,256,994
Farm debt to asset ratio	42%	43%	39%	43%	44%	42%
<b>Nonfarm Information</b>						
Net nonfarm income	4,870	61,329	45,708	41,329	31,063	9,517
Farms reporting living expenses	230	88	73	51	17	-
Total family living expense	74,552	58,783	70,730	87,098	127,083	-
Total living, invest, cap. purch	125,508	82,503	119,475	153,755	228,929	-

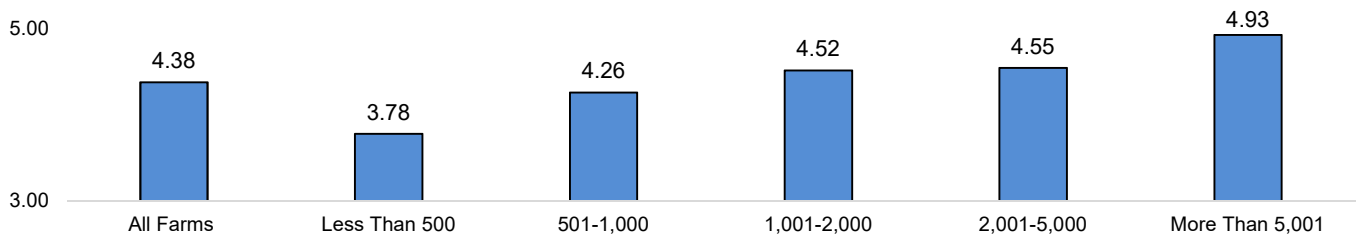
**Working Capital to Gross Income**  
(Financial Standards Guidelines)

Red < 10% is vulnerable  
Green > 30% is strong



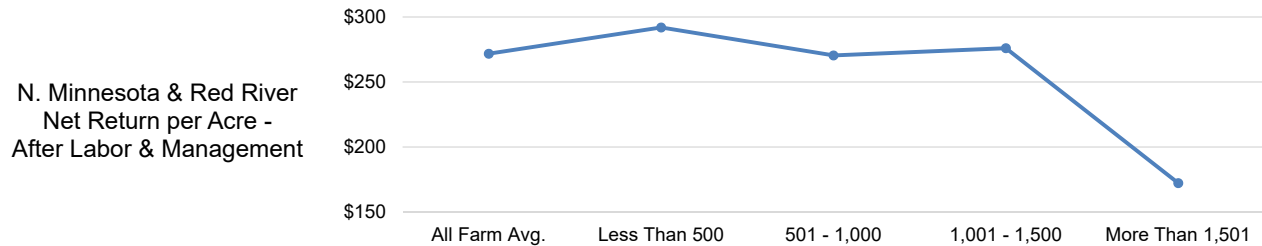
**Term Debt Coverage Ratio**  
(Financial Standards Guidelines)

Red < 1.25 is vulnerable  
Green > 1.75 is strong

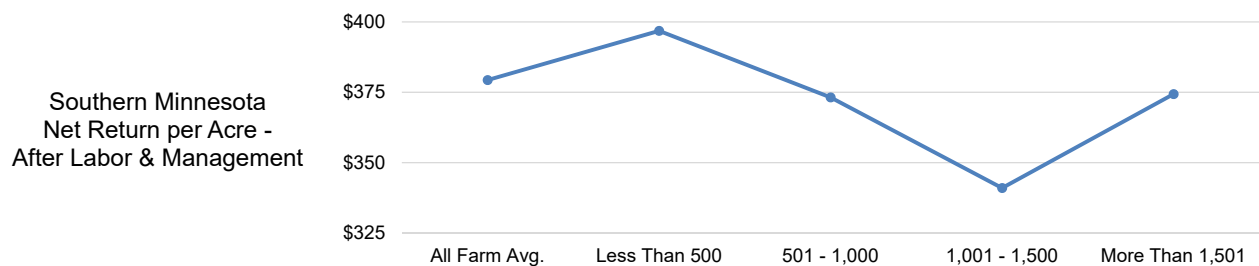


**Crop Enterprise Analysis for Corn on Rented Acres**  
**(Farms Sorted By Total Crop Enterprise Acres)**

<b>Northern Minnesota &amp; Red River Data</b>	<b>All Farm Average</b>	<b>Less Than 500</b>	<b>501 - 1,000</b>	<b>1,001 - 1,500</b>	<b>More Than 1,501</b>
Number of farms	298	248	37	9	4
Yield per acre (bu.)	170.28	168.30	173.65	170.87	169.48
Value per bushel	6.11	6.13	6.06	6.19	6.06
Gross return per acre	1,047.34	1,043.56	1,056.92	1,048.22	1,028.35
Seed	99.98	99.86	101.67	95.07	101.17
Fertilizer	194.25	190.10	185.96	203.53	228.09
Crop chemicals	38.99	40.62	34.98	41.54	39.48
Fuel & oil	41.26	41.83	39.93	34.71	49.68
Repairs	68.01	68.81	67.55	66.70	66.97
Land rent	144.06	126.88	155.13	142.88	197.02
Total direct expenses per acre	663.49	644.81	666.27	666.87	742.66
Return over direct expenses per acre	383.85	398.74	393.65	381.35	285.70
Total overhead expenses per acre	112.10	106.79	123.20	105.35	113.43
Total dir & ovhd expenses per acre	775.59	751.61	789.46	772.22	856.08
Net return per acre	271.75	291.95	270.45	276.00	172.27
<b>Cost of Production</b>					
Total direct expense per bu.	3.90	3.83	3.84	3.90	4.38
Total direct and ovhd expense per bu.	4.55	4.47	4.55	4.52	5.05
Less government & other income	4.50	4.38	4.49	4.57	5.05
With labor & management	4.85	4.78	4.83	4.88	5.21
Machinery cost per acre	181.70	183.10	185.52	162.41	185.44

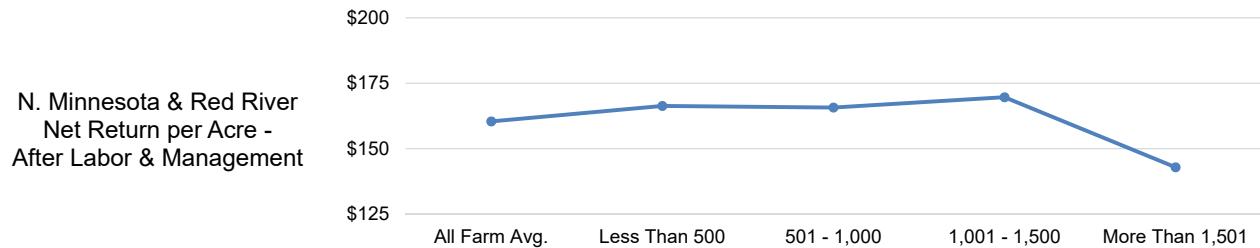


<b>Southern Minnesota Data</b>	<b>All Farm Average</b>	<b>Less Than 500</b>	<b>501 - 1,000</b>	<b>1,001 - 1,500</b>	<b>More Than 1,501</b>
Number of farms	925	720	146	31	28
Yield per acre (bu.)	212.73	207.32	214.47	214.77	220.64
Value per bushel	6.31	6.35	6.32	6.21	6.29
Gross return per acre	1,347.06	1,326.73	1,359.03	1,324.57	1,386.36
Seed	114.44	114.70	118.29	115.99	106.55
Fertilizer	225.50	215.26	233.90	220.78	237.30
Crop chemicals	55.27	54.03	55.05	57.27	57.18
Fuel & oil	39.33	38.05	40.30	37.78	41.53
Repairs	64.55	65.22	74.22	61.03	49.27
Land rent	249.02	232.26	252.71	250.18	279.50
Total direct expenses per acre	853.96	818.99	872.38	848.69	904.53
Return over direct expenses per acre	493.10	507.74	486.66	475.88	481.83
Total overhead expenses per acre	113.75	110.91	113.48	134.88	107.47
Total dir & ovhd expenses per acre	967.71	929.90	985.85	983.57	1,012.00
Net return per acre	379.35	396.83	373.18	341.00	374.37
<b>Cost of Production</b>					
Total direct expense per bu.	4.01	3.95	4.07	3.95	4.10
Total direct and ovhd expense per bu.	4.55	4.49	4.60	4.58	4.59
Less government & other income	4.53	4.44	4.58	4.62	4.59
With labor & management	4.84	4.80	4.90	4.91	4.77
Machinery cost per acre	182.71	186.55	186.53	188.80	164.11

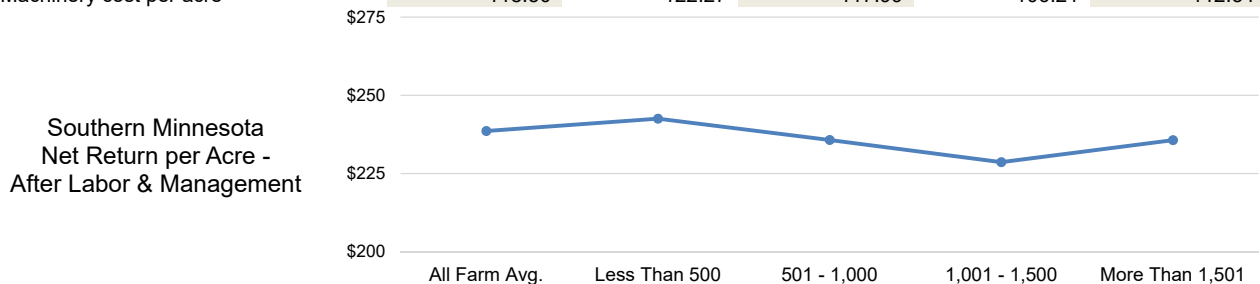


**Crop Enterprise Analysis for Soybeans on Rented Acres**  
**(Farms Sorted By Total Crop Enterprise Acres)**

<b>Northern Minnesota &amp; Red River Data</b>	<b>All Farm Average</b>	<b>Less Than 500</b>	<b>501 - 1,000</b>	<b>1,001 - 1,500</b>	<b>More Than 1,501</b>
Number of farms	338	241	57	22	18
Yield per acre (bu.)	41.11	41.62	40.81	42.34	40.08
Value per bushel	13.91	13.89	14.02	13.83	13.86
Gross return per acre	586.86	592.20	591.40	591.55	573.51
Seed	59.62	59.12	60.01	62.37	58.09
Fertilizer	31.44	30.79	28.19	31.18	35.53
Crop chemicals	48.84	50.41	47.29	43.93	51.53
Fuel & oil	23.08	22.54	23.18	22.81	23.74
Repairs	36.08	35.96	37.39	37.89	33.82
Land rent	121.95	117.86	125.01	121.00	124.09
Total direct expenses per acre	364.83	365.54	361.33	359.93	370.48
Return over direct expenses per acre	222.03	226.66	230.06	231.62	203.03
Total overhead expenses per acre	61.63	60.33	64.36	61.97	60.16
Total dir & ovhd expenses per acre	426.45	425.88	425.70	421.90	430.64
Net return per acre	160.41	166.32	165.70	169.65	142.87
<b>Cost of Production</b>					
Total direct expense per bu.	8.87	8.78	8.85	8.50	9.24
Total direct and ovhd expense per bu.	10.37	10.23	10.43	9.97	10.74
Less government & other income	9.98	9.87	9.93	9.81	10.27
With labor & management	10.87	10.90	10.79	10.55	11.12
Machinery cost per acre	99.75	104.77	101.84	94.29	95.41



<b>Southern Minnesota Data</b>	<b>All Farm Average</b>	<b>Less Than 500</b>	<b>501 - 1,000</b>	<b>1,001 - 1,500</b>	<b>More Than 1,501</b>
Number of farms	857	713	110	18	16
Yield per acre (bu.)	59.73	58.60	60.37	59.90	62.80
Value per bushel	14.19	14.13	14.21	14.00	14.49
Gross return per acre	852.42	835.01	862.45	841.57	907.60
Seed	54.75	55.02	54.63	55.50	53.41
Fertilizer	35.83	31.47	34.79	38.47	54.49
Crop chemicals	69.24	67.69	69.34	62.17	80.07
Fuel & oil	24.66	23.54	25.39	24.90	27.37
Repairs	40.54	41.61	41.98	36.02	35.77
Land rent	246.69	234.29	256.71	254.98	268.67
Total direct expenses per acre	541.61	523.16	549.40	542.91	598.30
Return over direct expenses per acre	310.81	311.85	313.05	298.66	309.30
Total overhead expenses per acre	72.21	69.30	77.31	70.01	73.61
Total dir & ovhd expenses per acre	613.82	592.47	626.71	612.92	671.91
Net return per acre	238.60	242.55	235.74	228.65	235.69
<b>Cost of Production</b>					
Total direct expense per bu.	9.07	8.93	9.10	9.06	9.53
Total direct and ovhd expense per bu.	10.28	10.11	10.38	10.23	10.70
Less government & other income	10.19	9.99	10.31	10.18	10.73
With labor & management	10.90	10.81	10.97	10.85	11.11
Machinery cost per acre	118.50	122.27	117.99	106.21	112.34



## Environmental Practices Relating to Economic Viability

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.

**CSP/EQIP Gov. Conservation:** USDA programs which incentivize environmentally friendly farming practices

**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

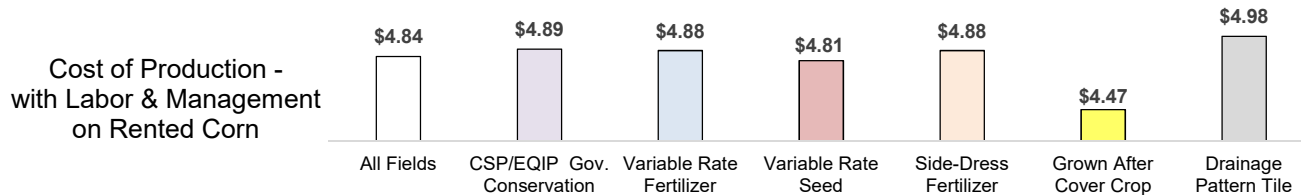
**Side-Dress Fertilizer:** Fertilizer applied multiple times during the growing season to better align fertilizer application with crop nutrient needs. This limits unused fertilizer from contaminating the environment.

**Cover Crops:** Reduce the need for fertilizer and herbicide while improving soil health, sequestering carbon and reducing erosion

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

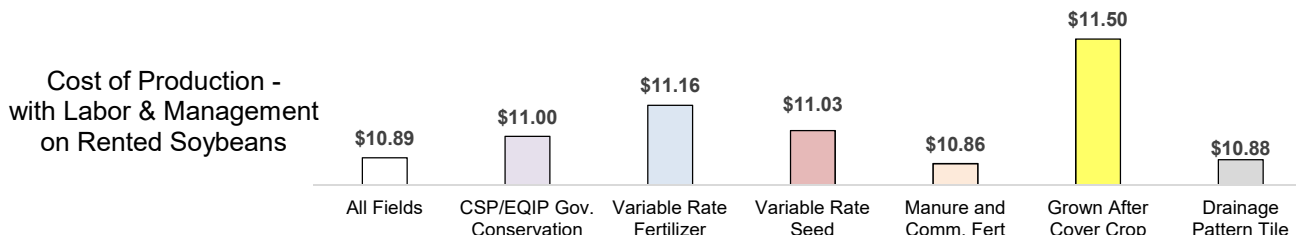
### Corn Enterprise

Minnesota Statewide Data	All Fields	CSP/EQIP Gov. Conservation	Variable Rate Fertilizer	Variable Rate Seed	Side-Dress Fertilizer	Grown After Cover Crop	Drainage Pattern Tile
Number of farms	1223	43	163	120	77	25	126
Yield	203.70	195.71	206.37	205.26	211.20	187.01	214.13
Seed	\$111.36	\$100.07	\$110.56	\$111.24	\$115.02	\$100.95	\$116.07
Fertilizer	\$218.85	\$200.62	\$232.69	\$222.63	\$240.13	\$198.56	\$241.41
Chemical	\$51.81	\$44.25	\$51.57	\$50.38	\$54.63	\$52.52	\$56.51
Fuel & oil	\$39.74	\$32.93	\$36.91	\$38.09	\$40.75	\$32.62	\$39.26
Repairs	\$65.29	\$61.89	\$62.24	\$61.89	\$64.15	\$65.46	\$69.40
Rent	\$226.69	\$218.20	\$230.92	\$230.49	\$245.08	\$168.58	\$245.57
Interest	\$16.36	\$13.70	\$18.98	\$18.17	\$18.05	\$12.47	\$16.50
Mach and bldg depreciation	\$55.75	\$78.25	\$64.01	\$59.96	\$54.16	\$37.48	\$64.31
Net return	\$356.45	\$328.90	\$359.03	\$360.81	\$370.79	\$406.79	\$339.04
Cost of prod - w/ labor & mgt	\$4.84	\$4.89	\$4.88	\$4.81	\$4.88	\$4.47	\$4.98
Machinery cost / acre	\$182.50	\$197.69	\$182.85	\$181.17	\$184.83	\$150.89	\$192.98



### Soybean Enterprise

Minnesota Statewide Data	All Fields	CSP/EQIP Gov. Conservation	Variable Rate Fertilizer	Variable Rate Seed	Manure and Comm. Fert	Grown After Cover Crop	Drainage Pattern Tile
Number of farms	1195	36	102	80	205	37	103
Yield	52.91	52.49	54.77	53.85	57.28	50.54	57.73
Seed	\$56.53	\$54.77	\$54.81	\$55.52	\$55.77	\$58.40	\$54.80
Fertilizer	\$34.22	\$31.95	\$38.62	\$38.01	\$38.76	\$59.35	\$33.99
Chemical	\$61.76	\$61.79	\$67.24	\$62.09	\$65.24	\$68.51	\$66.81
Fuel & oil	\$24.08	\$21.91	\$22.43	\$22.63	\$25.12	\$16.32	\$22.59
Repairs	\$38.91	\$33.95	\$38.99	\$36.52	\$40.25	\$34.71	\$40.09
Rent	\$201.01	\$210.67	\$223.32	\$214.68	\$234.58	\$199.36	\$243.04
Interest	\$9.82	\$6.31	\$9.78	\$10.48	\$9.52	\$9.93	\$9.81
Mach and bldg depreciation	\$32.87	\$43.01	\$37.82	\$29.91	\$34.69	\$28.10	\$38.67
Net return	\$209.97	\$231.00	\$192.18	\$192.21	\$229.81	\$158.67	\$223.96
Cost of prod - w/ labor & mgt	\$10.89	\$11.00	\$11.16	\$11.03	\$10.86	\$11.50	\$10.88
Machinery cost / acre	\$111.64	\$122.23	\$112.95	\$104.70	\$113.85	\$100.30	\$115.42

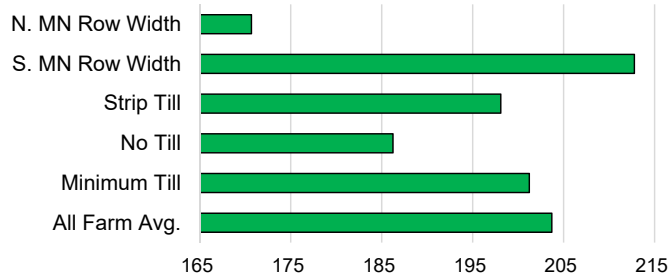


## Environmental Practices - Tillage Alternatives

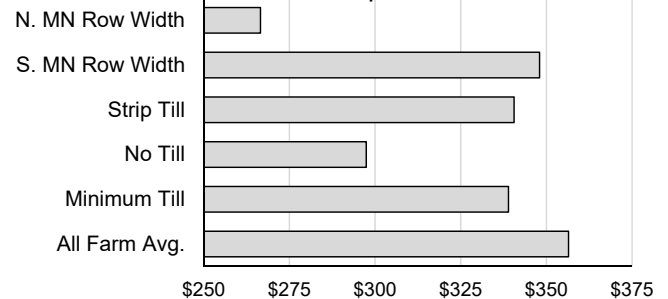
### Corn on Rented Acres

Minnesota Statewide Data	All Farm Average	Minimum Till	No Till	Strip Till	Southern MN Row Width 19 - 25"	Northern MN Row Width 19 - 25"
Number of farms	1223	61	26	26	76	74
Yield per acre (bu.)	203.70	201.23	186.24	198.09	212.78	170.68
Value per bu.	6.28	6.45	6.24	6.33	6.12	6.15
Gross return per acre	1,283.28	1,302.43	1,102.53	1,268.75	1,315.18	1,047.07
Seed	111.36	112.55	104.05	109.76	115.96	100.56
Fertilizer	218.85	215.07	189.81	215.35	217.32	196.61
Crop chemicals	51.81	46.87	45.75	54.61	50.95	38.18
Crop insurance	34.82	37.01	31.75	32.22	37.77	31.13
Drying expense	18.91	27.81	16.56	23.23	21.20	12.88
Storage	1.74	2.17	1.75	1.93	2.37	-
Fuel & oil	39.74	41.81	28.63	35.58	39.83	40.70
Repairs	65.29	56.12	65.50	69.71	65.29	67.84
Custom hire	16.56	18.63	27.20	17.39	14.99	10.87
Hired labor	5.00	8.05	2.70	0.25	4.66	1.51
Land rent	226.69	237.45	191.01	238.23	250.78	149.99
Machinery leases	3.68	3.75	7.21	2.91	2.09	2.16
Utilities	1.29	3.40	2.58	1.43	-	-
Hauling and trucking	2.60	1.70	3.81	1.52	4.89	0.68
Marketing	1.55	0.71	1.49	2.08	0.73	1.20
Operating interest	10.41	10.46	3.45	9.02	10.18	10.76
Miscellaneous	3.13	4.35	3.43	2.31	3.61	4.31
Total direct expenses per acre	813.43	827.92	726.69	817.55	842.60	669.38
Return over direct exp per acre	469.85	474.51	375.85	451.20	472.58	377.69
Total overhead expenses per acre	113.40	135.59	78.42	110.66	124.58	111.11
Total dir & ovhd expenses per acre	926.83	963.51	805.10	928.20	967.18	780.50
<b>Net return per acre before labor &amp; mgmt</b>	<b>356.45</b>	<b>338.93</b>	<b>297.43</b>	<b>340.55</b>	<b>347.99</b>	<b>266.57</b>
<b>Cost of Production</b>						
Total direct expense per bu.	3.99	4.11	4.14	4.13	3.96	3.92
Total direct and ovhd expense per bu.	4.55	4.79	4.59	4.69	4.55	4.57
Less government & other income	4.52	4.77	4.53	4.61	4.49	4.58
With labor & management	4.84	5.12	4.89	4.97	4.79	4.98
Machinery cost per acre	182.50	194.83	173.50	182.86	178.91	177.61

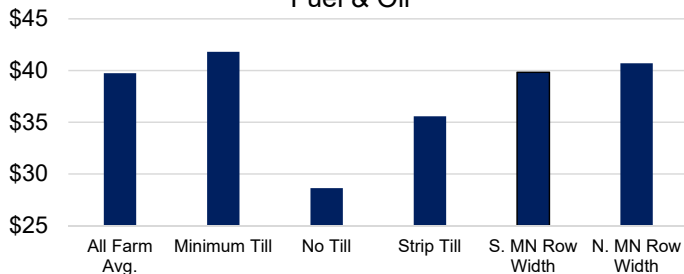
**Corn Yields**



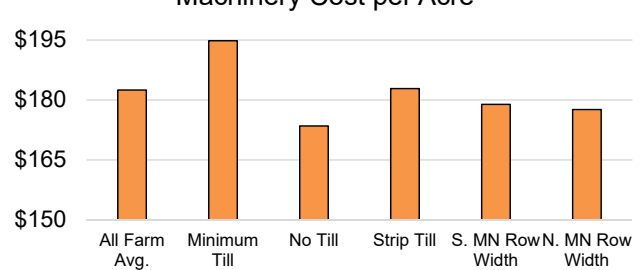
**Net Return per Acre**



**Fuel & Oil**



**Machinery Cost per Acre**

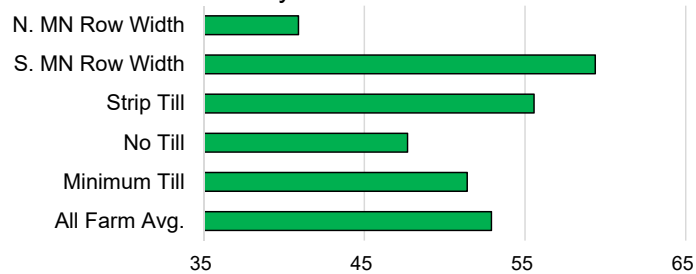


## Environmental Practices - Tillage Alternatives

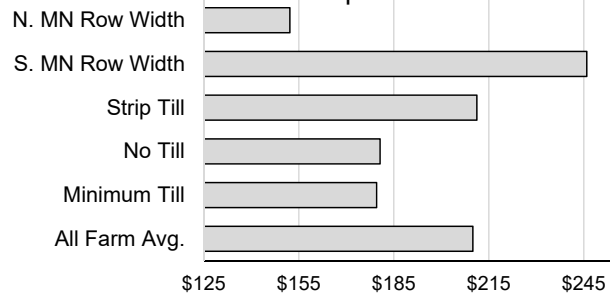
### Soybeans on Rented Acres

Minnesota Statewide Data	All Farm Average	Minimum Till	No Till	Strip Till	Southern MN 22" or Less Row Width	Northern MN 22" or Less Row Width
Number of farms	1195	65	44	16	141	140
Yield per acre (bu.)	52.91	51.40	47.69	55.56	59.37	40.90
Value per bu.	14.11	13.97	13.98	14.26	14.14	13.99
Gross return per acre	755.18	728.16	675.06	815.91	848.16	590.59
Seed	56.53	55.72	53.69	53.20	52.24	60.87
Fertilizer	34.22	53.04	31.92	54.13	40.24	31.71
Crop chemicals	61.76	61.80	62.24	53.97	69.29	48.98
Crop insurance	29.80	29.69	25.13	32.44	34.11	24.01
Storage	0.72	0.50	-	0.91	0.80	-
Fuel & oil	24.08	24.57	19.56	22.88	23.82	23.03
Repairs	38.91	34.03	35.25	48.90	41.76	36.23
Custom hire	11.56	10.64	17.57	19.70	11.97	7.24
Hired labor	3.37	3.54	10.25	-	2.49	1.56
Land rent	201.01	182.56	159.57	225.75	239.03	129.53
Machinery leases	2.89	2.72	5.34	9.86	1.79	1.49
Utilities	0.73	1.17	1.08	0.34	0.35	-
Hauling and trucking	1.12	1.11	0.41	-	1.14	0.39
Marketing	1.44	0.80	1.51	1.27	1.05	0.79
Operating interest	6.17	6.85	5.08	5.22	6.36	6.23
Miscellaneous	2.56	3.91	3.87	0.40	3.73	2.63
Total direct expenses per acre	476.87	472.64	432.46	528.97	530.16	374.70
Return over direct exp per acre	278.30	255.52	242.61	286.94	318.00	215.89
Total overhead expenses per acre	68.33	75.96	61.94	75.71	72.06	63.72
Total dir & ovhd expenses per acre	545.21	548.60	494.40	604.68	602.22	438.42
<b>Net return per acre before labor &amp; mgmt</b>	<b>209.97</b>	<b>179.57</b>	<b>180.66</b>	<b>211.23</b>	<b>245.93</b>	<b>152.17</b>
<b>Cost of Production</b>						
Total direct expense per bu.	9.01	9.20	9.07	9.52	8.93	9.16
Total direct and ovhd expense per bu.	10.30	10.67	10.37	10.88	10.14	10.72
Less government & other income	10.13	10.47	10.19	10.46	10.00	10.25
With labor & management	10.89	11.26	11.13	11.37	10.66	11.16
Machinery cost per acre	111.64	109.30	108.35	137.17	115.46	100.18

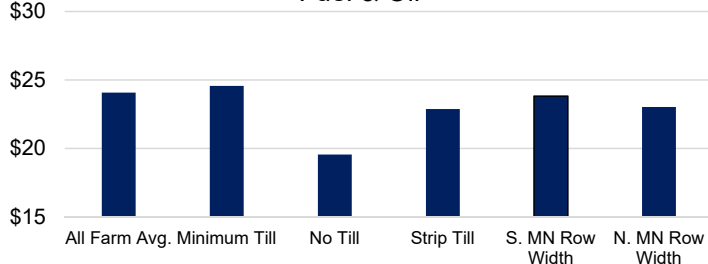
**Soybean Yields**



**Net Return per Acre**



**Fuel & Oil**



**Machinery Cost per Acre**

