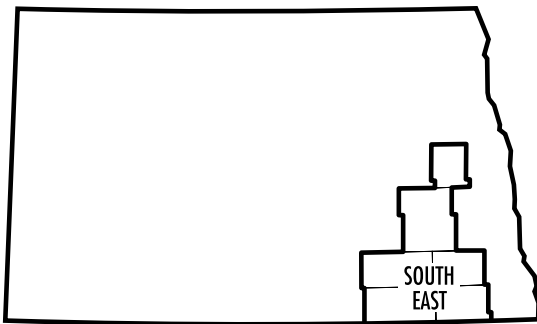




# FARM MANAGEMENT PLANNING GUIDE

February 2024

## Projected 2024 Crop Budgets



# South East North Dakota

Ron Haugen, Farm Management Specialist

Note: This region consists of six counties:  
Barnes, Dickey, LaMoure, Ransom, Sargent and Steele.

The 2024 crop budgets provide an estimate of revenues and costs for selected crops. Each set of budgets are developed for a multi-county region. There is considerable variation in soil type and productivity, weather conditions, as well as management and production practices within each region. Therefore, **THESE BUDGETS ARE ONLY INTENDED TO BE USED AS A GUIDE. EVERY INDIVIDUAL IS HIGHLY ENCOURAGED TO DEVELOP HIS/HER OWN BUDGETS!**

The profitability budget accounts for full economic opportunity costs for land and machinery investment, regardless of farm operator equity position. The bottom line is the return to labor and management. This is the expected “payment” to the producer for the labor and managerial efforts required by the crop enterprise. Each individual must make the decision whether it is sufficient.

The budget can be changed to conform to the more common definition of accounting profit (return to unpaid labor and management, and owner equity) by

replacing the machinery investment and land charge cost items with your per acre interest and rental expense of machinery and land, and real estate tax if land is owned.

The budget can be used for long run decisions if the revenues and costs are realistic for several years. (Crop prices, direct costs, and the land charge are best estimates for only the 2024 crop year, but crop yields are historic averages and machinery ownership costs are an average for the total length of ownership). If the budget shows a high return to labor and management, and is representative for several years, increased acreage and corresponding investment should be considered. However, if long-run returns to labor and management are unsatisfactory the best decision may be to exit the crop enterprise and employ the machinery and land investment, and labor and management, in a different enterprise or investment.

For short-run planning decisions you can omit the indirect costs if the land and machinery required to produce the different enterprises are in place. Simply compare the crop enterprises by calculating return over direct costs. Labor requirements and risk should also be considered. Insurance is not available for some crops.

# NDSU

# EXTENSION

The budget can be used to estimate cashflow by making a few modifications. Machinery depreciation should be omitted and the machinery investment number replaced with your per acre principal and interest payment on machinery debt. For owned land, the land charge should be replaced with your per acre real estate tax and principal and interest payment on land debt.

The 2018 Farm Bill continues the Price Loss Coverage (PLC) and Agricultural Risk Coverage (ARC) support programs. PLC and ARC payments have been omitted from the budgets because those payments, if any, are tied to historic farm program base acres, not to current crop selection or production.

### Primary Assumptions:

Crops are planted on dryland recrop ground. Costs of moving crop to local market/storage are included.

**Market Price:** Best estimates of NDSU extension economists. The greater of projected market price and marketing loan rate is used.

**Market Yields:** Average yield for the 7 year period 2016-2022, after the low and high yield years are removed. Yields for safflower, yellow mustard, buckwheat, millet, rye and chickpeas are from NDSU extension agronomists and industry sources.

**Fertilizer:** Cost of fertilizer applied, based on soil test, to meet yield goal. N fertilizer can be reduced if previous crop was soybean, dry bean, field peas or lentil.

**Fertilizer prices:**

Nitrogen	- .53/lb
Phosphorus	- .67/lb
Potassium	- .44/lb

**Seed Prices:**

Spring Wheat	15.00/bu
Durum	17.00/bu
Barley	12.00/bu
Corn GM	3.00/thou.kern.
Soybean GM	.34/thou.kern.
Dry Beans	1.05/thou.kern.
Oil Sunflower	1.71/thou.kern.
Conf. Sunflower	3.02/thou.kern.
Canola	15.80/lb
Flax	20.00/bu
Field Peas	20.00/bu
Oats	9.00/bu
Buckwheat	.52/lb
Millet	.60/lb
Winter Wheat	13.00/bu

**Fuel prices:**

Diesel	3.55/gal
Gasoline	2.90/gal

**Lubrication charge:** 15% of fuel cost

**Crop Insurance:** Revenue Protection was used for all wheat, barley, soybeans, corn, canola, sunflowers, field peas, dry beans and lentils with a 75% coverage level and enterprise units. APH insurance was used for other crops for which 70% coverage and optional units were assumed.

**Miscellaneous:** soil testing, machinery rent and custom work.

**Operating Interest:** Direct costs charged 8.0% interest for 6 month period.

**Misc. Overhead:** Machinery housing and insurance at .5% and .85%, respectively, of average machinery investment. Also, liability insurance and license fees of trucks. In addition, \$5.00 per acre is assumed for general farm utilities, farm publications, meetings, dues, income tax preparation, legal fees, etc.

**Land charge** = average cash rent.

**Machinery investment:** 4.0% real interest rate, over the years of machine ownership, is charged on average machinery investment. The real, or inflation adjusted, rate is the commercial rate minus the inflation rate. Ave. mach. investment = (Purchase price + Disposal price)/2

**Depreciation** = (Purchase price - disposal price / years ownership)

## Spring Wheat

## Durum

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	57	_____	54	_____
Market Price	7.14	_____	8.35*	_____
<b>MARKET REVENUE</b>	<b>406.98</b>	_____	<b>450.90</b>	_____
<b>DIRECT COSTS</b>				
-Seed	26.25	_____	34.00	_____
-Herbicides	21.70	_____	21.70	_____
-Fungicides**	18.50	_____	18.50	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	96.59	_____	90.61	_____
-Crop Insurance	5.30	_____	6.70	_____
-Fuel & Lubrication	24.07	_____	23.84	_____
-Repairs	23.79	_____	23.69	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	2.00	_____	2.00	_____
-Operating Interest	8.73	_____	8.84	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>226.93</b>	_____	<b>229.88</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	10.45	_____	10.39	_____
-Machinery Depreciation	27.95	_____	27.75	_____
-Machinery Investment	14.38	_____	14.29	_____
-Land Charge	104.00	_____	104.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>156.78</b>	_____	<b>156.43</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>383.71</b>	_____	<b>386.31</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>23.27</b>	_____	<b>64.59</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(bu):</b>		<b>(bu):</b>	
-Direct Costs	3.98	_____	4.26	_____
-Indirect Costs	2.75	_____	2.90	_____
-Total Costs	6.73	_____	7.15	_____

Wheat notes:

\*Durum price is for milling quality. There is high risk of lower quality and lower price.

\*\*Includes seed treatment, an early season foliar fungicide, and a late season fungicide which is recommended when conditions are favorable for fusarium head blight (scab).

\*\*\*Cereal grain aphid insecticide would cost about \$4.

## Malting Barley

## Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	75	_____	167	_____
Market Price	5.24*	_____	4.40	_____
<b>MARKET REVENUE</b>	<b>393.00</b>	_____	<b>734.80</b>	_____
<b>DIRECT COSTS</b>				
-Seed	24.00	_____	100.50*	_____
-Herbicides	22.70	_____	37.50	_____
-Fungicides	18.50**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	75.47	_____	152.17	_____
-Crop Insurance	5.00	_____	11.40	_____
-Fuel & Lubrication	25.28	_____	35.94	_____
-Repairs	24.06	_____	33.15	_____
-Drying	0.00	_____	33.40	_____
-Miscellaneous	2.00	_____	2.00	_____
-Operating Interest	7.88	_____	16.24	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>204.89</b>	_____	<b>422.30</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	10.88	_____	14.51	_____
-Machinery Depreciation	29.50	_____	46.94	_____
-Machinery Investment	15.10	_____	23.32	_____
-Land Charge	104.00	_____	104.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>159.48</b>	_____	<b>188.77</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>364.37</b>	_____	<b>611.07</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>28.63</b>	_____	<b>123.73</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(bu):</b>		<b>(bu):</b>	
-Direct Costs	2.73	_____	2.53	_____
-Indirect Costs	2.13	_____	1.13	_____
-Total Costs	4.86	_____	3.66	_____

### Barley notes:

\*There is risk of not making malting barley quality. Use \$3.75 for feed barley.

\*\*Includes seed treatment, an early season foliar fungicide, and a late season fungicide which is recommended when conditions are favorable for fusarium head blight (scab).

### Corn notes:

\*GM corn with herbicide tolerance and above and below ground insect control traits.

## Soybeans

## Drybeans

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	41	_____	1990	_____
Market Price	11.08	_____	0.34	_____
<b>MARKET REVENUE</b>	<b>454.28</b>	_____	<b>676.60</b>	_____
<b>DIRECT COSTS</b>				
-Seed	65.80*	_____	86.63	_____
-Herbicides	46.00	_____	54.70*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	4.00**	_____	0.00	_____
-Fertilizer	5.15	_____	64.54	_____
-Crop Insurance	5.30	_____	12.50	_____
-Fuel & Lubrication	19.20	_____	26.69	_____
-Repairs	21.67	_____	27.95	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.50	_____	15.00	_____
-Operating Interest	6.90	_____	12.32	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>179.52</b>	_____	<b>320.33</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	10.14	_____	11.29	_____
-Machinery Depreciation	26.68	_____	33.83	_____
-Machinery Investment	13.95	_____	17.60	_____
-Land Charge	104.00	_____	104.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>154.77</b>	_____	<b>166.72</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>334.29</b>	_____	<b>487.05</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>119.99</b>	_____	<b>189.55</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(bu):</b>		<b>(lb):</b>	
-Direct Costs	4.38	_____	0.161	_____
-Indirect Costs	3.77	_____	0.084	_____
-Total Costs	8.15	_____	0.245	_____

### Soybean notes:

\*GM soybeans with herbicide tolerance. The cost includes \$8 for inoculant and fungicide treatment in addition to seed expense.

\*\*Insecticide for soybean aphid, spider mite, or foliage-feeding caterpillars.

### Drybean notes:

\*Includes desiccant prior to straight cutting.

\*\*Fungicide for white mold. A second treatment may be necessary. Fungicide for rust at \$4-\$12 plus application maybe necessary.

## Oil Sunflower

## Confection Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1740	_____	1760	_____
Market Price	0.203	_____	0.315	_____
<b>MARKET REVENUE</b>	<b>353.22</b>	_____	<b>554.40</b>	_____
<b>DIRECT COSTS</b>				
-Seed	37.62	_____	57.38	_____
-Herbicides	28.60	_____	31.60	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	53.06	_____	53.87	_____
-Crop Insurance	9.00	_____	17.00	_____
-Fuel & Lubrication	26.30	_____	26.35	_____
-Repairs	24.65	_____	24.67	_____
-Drying	6.96	_____	7.04	_____
-Miscellaneous	11.50	_____	21.00	_____
-Operating Interest	8.11	_____	9.96	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>210.80</b>	_____	<b>258.87</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	11.56	_____	11.57	_____
-Machinery Depreciation	32.64	_____	32.69	_____
-Machinery Investment	17.73	_____	17.75	_____
-Land Charge	104.00	_____	104.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>165.93</b>	_____	<b>166.01</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>376.73</b>	_____	<b>424.88</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>(23.51)</b>	_____	<b>129.52</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(lb):</b>		<b>(lb):</b>	
-Direct Costs	0.121	_____	0.147	_____
-Indirect Costs	0.095	_____	0.094	_____
-Total Costs	0.217	_____	0.241	_____

Oil Sunflower notes:

\*Fungicide for rust would cost \$4 plus application.

\*\*One spraying for head feeding insects (red seed weevil, lygus bug and banded moths). Custom application cost of \$8 is under "Miscellaneous."

Confection Sunflower notes:

\*Fungicide for rust would cost \$4 plus application.

\*\*Two sprayings for head feeding insects (red seed weevil, lygus bug and banded moths) at about \$5 per application. Each custom application cost of \$8 is under "Miscellaneous."

## Canola

## Flax

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1680	_____	24	_____
Market Price	0.206	_____	11.46	_____
<b>MARKET REVENUE</b>	<b>346.08</b>	_____	<b>275.04</b>	_____
<b>DIRECT COSTS</b>				
-Seed	79.00	_____	20.00	_____
-Herbicides	15.60	_____	27.10	_____
-Fungicides	0.00*	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	88.28	_____	39.58	_____
-Crop Insurance	8.00	_____	12.50	_____
-Fuel & Lubrication	22.94	_____	22.95	_____
-Repairs	23.32	_____	24.35	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	2.00	_____	2.00	_____
-Operating Interest	9.57	_____	5.94	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>248.71</b>	_____	<b>154.42</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	10.12	_____	10.29	_____
-Machinery Depreciation	28.10	_____	28.53	_____
-Machinery Investment	14.18	_____	14.92	_____
-Land Charge	104.00	_____	104.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>156.40</b>	_____	<b>157.74</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>405.11</b>	_____	<b>312.16</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>(59.03)</b>	_____	<b>(37.12)</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(lb):</b>		<b>(bu):</b>	
-Direct Costs	0.148	_____	6.43	_____
-Indirect Costs	0.093	_____	6.57	_____
-Total Costs	0.241	_____	13.01	_____

Canola notes:

\*Fungicide for white mold would cost about \$18 plus application.

## Field Peas

## Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	35.333	_____	76	_____
Market Price	8.52	_____	3.07	_____
<b>MARKET REVENUE</b>	<b>301.04</b>	_____	<b>233.32</b>	_____
<b>DIRECT COSTS</b>				
-Seed	60.00	_____	18.00	_____
-Herbicides	34.90	_____	6.20	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	10.83	_____	63.39	_____
-Crop Insurance	7.00	_____	9.00	_____
-Fuel & Lubrication	23.89	_____	27.07	_____
-Repairs	24.96	_____	24.93	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	10.00	_____	2.00	_____
-Operating Interest	6.86	_____	6.02	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>178.44</b>	_____	<b>156.61</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	10.49	_____	11.25	_____
-Machinery Depreciation	29.90	_____	30.84	_____
-Machinery Investment	15.17	_____	16.17	_____
-Land Charge	104.00	_____	104.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>159.56</b>	_____	<b>162.26</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>338.00</b>	_____	<b>318.87</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>(36.96)</b>	_____	<b>(85.55)</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>				
	(bu):		(bu):	
-Direct Costs	5.05	_____	2.06	_____
-Indirect Costs	4.52	_____	2.14	_____
-Total Costs	9.57	_____	4.20	_____



## Buckwheat

## Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	950	_____	1800	_____
Market Price	0.315	_____	0.11	_____
<b>MARKET REVENUE</b>	<b>299.25</b>	_____	<b>198.00</b>	_____
<b>DIRECT COSTS</b>				
-Seed	26.00	_____	15.00	_____
-Herbicides	13.60	_____	3.90	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	20.01	_____	33.97	_____
-Crop Insurance	9.50*	_____	6.00	_____
-Fuel & Lubrication	20.00	_____	23.93	_____
-Repairs	21.88	_____	23.66	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	2.00	_____	2.00	_____
-Operating Interest	4.52	_____	4.34	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>117.51</b>	_____	<b>112.80</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	9.66	_____	10.45	_____
-Machinery Depreciation	24.98	_____	28.20	_____
-Machinery Investment	13.15	_____	15.03	_____
-Land Charge	104.00	_____	104.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>151.79</b>	_____	<b>157.68</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>269.30</b>	_____	<b>270.48</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>29.95</b>	_____	<b>(72.48)</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(lb):</b>		<b>(lb):</b>	
-Direct Costs	0.124	_____	0.063	_____
-Indirect Costs	0.160	_____	0.088	_____
-Total Costs	0.283	_____	0.150	_____

Buckwheat notes:

\*Crop insurance is not available in some counties of the region.

# Winter Wheat

	Per Acre	Your Figures
Market Yield	63*	_____
Market Price	6.18	_____
<b>MARKET INCOME</b>	<b>389.34</b>	_____
<b>DIRECT COSTS</b>		
-Seed	15.60	_____
-Herbicides	26.80	_____
-Fungicides	10.00	_____
-Insecticides	0.00	_____
-Fertilizer	108.54	_____
-Crop Insurance	5.30	_____
-Fuel & Lubrication	20.86	_____
-Repairs	21.17	_____
-Drying	0.00	_____
-Miscellaneous	9.50	_____
-Operating Interest	8.71	_____
	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>226.48</b>	_____
<b>INDIRECT (FIXED) COSTS</b>		
-Misc. Overhead	9.83	_____
-Machinery Depreciation	25.44	_____
-Machinery Investment	12.36	_____
-Land Charge	104.00	_____
	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>151.63</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>378.11</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>11.23</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(bu):</b>	
-Direct Costs	3.59	_____
-Indirect Costs	2.41	_____
-Total Costs	6.00	_____

Winter Wheat notes:

\*Yield is per harvested acre. There is some risk of acreage abandonment in spring.



NDSU Extension does not endorse commercial products or companies even though reference may be made to tradenames, trademarks or service names. NDSU encourages you to use and share this content, but please do so under the conditions of our Creative Commons license. You may copy, distribute, transmit and adapt this work as long as you give full attribution, don't use the work for commercial purposes and share your resulting work similarly. For more information, visit [www.ag.ndsu.edu/agcomm/creative-commons](http://www.ag.ndsu.edu/agcomm/creative-commons).

**For more information on this and other topics, see [www.ndsu.edu/extension](http://www.ndsu.edu/extension)**

County commissions, North Dakota State University and U.S. Department of Agriculture cooperating. NDSU does not discriminate in its programs and activities on the basis of age, color, gender expression/identity, genetic information, marital status, national origin, participation in lawful off-campus activity, physical or mental disability, pregnancy, public assistance status, race, religion, sex, sexual orientation, spousal relationship to current employee, or veteran status, as applicable. Direct inquiries to Vice Provost for Title IX/ADA Coordinator, Old Main 201, NDSU Main Campus, 701-231-7708, [ndsu.eoaa@ndsu.edu](mailto:ndsu.eoaa@ndsu.edu). This publication will be made available in alternative formats for people with disabilities upon request, 701-231-7881. 240-2-24