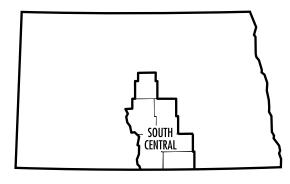


February 2024

# Projected 2024 Crop Budgets



# South Central North Dakota

Ron Haugen, Farm Management Specialist

if land is owned.

Note: This region consists of six counties: Burleigh, Emmons, Kidder, Logan, McIntosh and Sheridan.

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 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

replacing the machinery investment and land charge

expense of machinery and land, and real estate tax

cost items with your per acre interest and rental

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.

several years, increased acreage and corresponding

labor and management, and is representative for

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.



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.

The budgets for the South West, North West, South Central and North Central regions typically represent production systems where soil disturbance only occurs at seeding.

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

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.

15.00/bu

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 .30/lb Lentils Mustard .98/lb Buckwheat .52/lb .60/lb Millet Winter Wheat 13.00/bu Rye 11.00/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	42		47	
Market Price	7.02		8.28*	
MARKET REVENUE	294.84		389.16	
DIDECT COCTO				
DIRECT COSTS -Seed	05.50		00.00	
	25.50		30.60	
-Herbicides	28.70		28.70	
-Fungicides**	10.50		10.50	
-Insecticides***	0.00		0.00	
-Fertilizer	69.59		79.84	
-Crop Insurance	7.20		7.60	
-Fuel & Lubrication	18.19		18.58	
-Repairs	21.02		21.18	
-Drying	0.00		0.00	
-Miscellaneous	9.50	- <del></del> -	9.50	
-Operating Interest	7.61		8.26	
	=======	=========	=======	=========
SUM OF LISTED DIRECT COSTS	197.81		214.76	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.66		9.76	
-Machinery Depreciation	24.64		24.97	- <u></u> -
-Machinery Investment	12.49		12.64	
-Land Charge	59.00		59.00	
	======	========	======	=========
SUM OF LISTED INDIRECT COSTS	105.79		106.37	
SUM OF ALL LISTED COSTS	303.60		321.13	
20M 31 7 LL 2131 LB 23313	000.00		02 10	
RETURN TO LABOR & MANAGEMENT	(8.76)		68.03	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.71		4.57	
-Indirect Costs	2.52	-	2.26	
-Total Costs	7.23		6.83	
10101 00313	1.20		0.00	

#### Wheat notes:

<sup>\*</sup>Durum price is for milling quality. There is risk of lower quality and lower price.

<sup>\*\*</sup>Includes seed treatment, an early season foliar fungicide, and a late season fungicide. Prothioconazole, metconazole or pydiflumetofen containing products are highly recommended when conditions are favorable for fusarium head blight (scab).

<sup>\*\*\*</sup>Cereal grain aphid insecticide would cost about \$4.

# Malting Barley Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	60		113	
Market Price	5.24*		4.40	
	_			
MARKET REVENUE	314.40		497.20	
DIRECT COSTS				
-Seed	19.20		87.00*	
-Herbicides	27.90		31.60	
-Fungicides	10.50**		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	60.03		102.17	
-Crop Insurance	6.00		10.90	
-Fuel & Lubrication	19.60		29.10	
-Repairs	21.59		27.50	
-Drying	0.00		22.60	
-Miscellaneous	9.50		9.50	
-Operating Interest	6.97		12.81	
- Personal annual a	=======		=======	
SUM OF LISTED DIRECT COSTS	181.29		333.18	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.02		12.96	
-Machinery Depreciation	25.83		42.23	
-Machinery Investment	13.01		20.29	
-Land Charge	59.00		59.00	
•	=======	=========	======	========
SUM OF LISTED INDIRECT COSTS	107.86		134.48	
SUM OF ALL LISTED COSTS	289.15		467.66	
RETURN TO LABOR & MANAGEMENT	25.25		29.54	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.02		2.95	
-Indirect Costs	1.80		1.19	
-Total Costs	4.82		4.14	

#### Barley notes:

#### Corn notes:

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

<sup>\*\*</sup>Includes seed treatment, an early season foliar fungicide, and a late season fungicide. Prothioconazole, metconazole or pydiflumetofen containing products are highly recommended when conditions are favorable for fusarium head blight (scab).

<sup>\*</sup>GM corn with herbicide tolerance and above ground insect control traits.

# Soybeans

# **Drybeans**

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	32		1640	
Market Price	10.95		0.34	
MARKET REVENUE	350.40		557.60	
DIRECT COSTS				
-Seed	65.80*		86.63	
-Herbicides	27.20		54.70*	
-Fungicides	0.00		20.00**	
-Insecticides	4.00**		0.00	
-Fertilizer	7.77		51.46	
-Crop Insurance	8.50		12.50	
-Fuel & Lubrication	17.42		23.92	
-Repairs	20.51		25.51	
-Drying	0.00		0.00	
-Miscellaneous	5.50		15.00	
-Operating Interest	6.27		11.59	
	=======	========	=======	
SUM OF LISTED DIRECT COSTS	162.97		301.31	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.52		10.77	
-Machinery Depreciation	25.12		31.86	
-Machinery Investment	12.40		16.23	
-Land Charge	59.00		59.00	
3	=======		======	
SUM OF LISTED INDIRECT COSTS	106.04		117.86	
SUM OF ALL LISTED COSTS	269.01		419.17	
RETURN TO LABOR & MANAGEMENT	81.39		138.43	
	-		-	
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	5.09		0.184	
-Indirect Costs	3.31		0.072	
-Total Costs	8.41		0.256	

#### Soybean notes:

#### Drybean notes:

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

<sup>\*\*</sup>Insecticide for soybean aphid, spider mite, or foliage-feeding caterpillars.

<sup>\*</sup>Includes dessicant prior to straight cutting.

<sup>\*\*</sup>Fungicide for white mold. Fungicide for rust at \$4-\$12 plus application maybe necessary.

## Oil Sunflower

# **Confection Sunflower**

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1870		1760	
Market Price	0.201		0.311	
	00.			
MARKET REVENUE	375.87		547.36	
DIRECT COSTS				
-Seed	37.62		54.36	
-Herbicides	37.20		40.20	
-Fungicides	0.00*		0.00*	
-Insecticides	5.00**		10.00**	
-Fertilizer	61.02		56.46	
-Crop Insurance	9.00		21.50	
-Fuel & Lubrication	20.65		20.37	
-Repairs	21.47		21.37	
-Drying	7.48		7.04	
-Miscellaneous	19.00		28.50	
-Operating Interest	8.74		10.39	
Sperating interest	=======		=======	
SUM OF LISTED DIRECT COSTS	227.18		270.19	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.52		10.45	
-Machinery Depreciation	28.05		27.82	
-Machinery Investment	14.54		14.44	
-Land Charge	59.00		59.00	
-Land Charge	59.00 =====		59.00 ======	
SUM OF LISTED INDIRECT COSTS	112.11		====== 111.71	
0.00.05.00.0050			22122	
SUM OF ALL LISTED COSTS	339.29		381.90	
RETURN TO LABOR & MANAGEMENT	36.58		165.46	
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.121		0.154	
-Indirect Costs	0.060		0.063	
-Total Costs	0.181		0.217	

#### Oil Sunflower notes:

#### Confection Sunflower notes:

<sup>\*</sup>Fungicide for rust would cost \$4 plus application.

<sup>\*\*</sup>One spraying for head feeding insects (red seed weevil, lygus bug and banded moths). Custom application cost of \$8 is under "Miscellaneous." Foliar applied insecticide for cutworms would cost about \$5 per acre plus application (usually tank mixed with herbicide).

<sup>\*</sup>Fungicide for rust would cost \$4 plus application.

<sup>\*\*</sup>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." Foliar applied insecticide for cutworms would cost about \$5 per acre plus application (usually tank mixed with herbicide).

# Canola

# Flax

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1580		16	
Market Price	0.211		11.32	
MARKET REVENUE	333.38		181.12	
DIRECT COSTS				
-Seed	79.00		18.00	
-Herbicides	15.60		33.60	
-Fungicides	0.00*		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	86.25		22.24	
-Crop Insurance	6.50		11.50	
-Fuel & Lubrication	17.39		17.53	
-Repairs	20.29		21.32	
-Drying	0.00		0.00	
-Miscellaneous	9.50		2.00	
-Operating Interest	9.38		5.05	
	=======	=========	======	========
SUM OF LISTED DIRECT COSTS	243.91		131.24	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.34	- <del></del>	9.45	
-Machinery Depreciation	24.98	- <del></del>	25.36	
-Machinery Investment	11.94		12.70	
-Land Charge	59.00		59.00	
	=======	========	======	=========
SUM OF LISTED INDIRECT COSTS	105.26		106.51	
SUM OF ALL LISTED COSTS	349.17		237.75	
RETURN TO LABOR & MANAGEMENT	(15.79)		(56.63)	
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.154		8.20	
-Indirect Costs	0.067		6.66	
-Total Costs	0.221		14.86	

#### Canola notes:

<sup>\*</sup>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		59	
Market Price	8.52		2.95	
MARKET REVENUE	301.04		174.05	
DIRECT COSTS				
-Seed	60.00		18.00	
-Herbicides	39.70		12.30	
-Fungicides	3.00		0.00	
-Insecticides	0.00*		0.00	
-Fertilizer	12.78		47.97	
-Crop Insurance	6.00		15.00	
-Fuel & Lubrication	19.39		21.23	
-Repairs	22.27		22.40	
-Drying	0.00		0.00	
-Miscellaneous	10.00		9.50	
-Operating Interest	6.93		5.86	
SUM OF LISTED DIRECT COSTS	180.07		152.26	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.85		10.48	
-Machinery Depreciation	27.44		27.65	
-Machinery Investment	13.27		14.39	
-Land Charge	59.00		59.00	
	======		======	
SUM OF LISTED INDIRECT COSTS	109.56		111.52	<del></del>
SUM OF ALL LISTED COSTS	289.63		263.78	
RETURN TO LABOR & MANAGEMENT	11.41		(89.73)	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	5.10	<del></del>	2.58	-
-Indirect Costs	3.10	<del></del>	1.89	-
-Total Costs	8.20		4.47	

#### Field Pea notes:

<sup>\*</sup>Foliar insecticide for cutworms and/or pea aphids would cost about \$4 per acre plus application.

#### Lentils **Yellow Mustard**

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1200		800	
Market Price	0.30		0.45	
MARKET REVENUE	360.00		360.00	
DIRECT COSTS				
-Seed	21.00		13.72	
-Herbicides	39.20*		22.60	
-Fungicides	16.00**	=	0.00	
-Insecticides	0.00***		0.00	
-Fertilizer	7.24		28.87	
-Crop Insurance	7.00		0.00*	
-Fuel & Lubrication	20.99		17.73	
-Repairs	25.40		20.98	
-Drying	0.00		0.00	
-Miscellaneous	10.00		9.50	
-Operating Interest	5.87		4.54	
	=======	=========	=======	=========
SUM OF LISTED DIRECT COSTS	152.70		117.94	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.35		9.58	
-Machinery Depreciation	30.94		24.70	
-Machinery Investment	14.90		13.12	
-Land Charge	59.00	·	59.00	
	=======	========	======	=========
SUM OF LISTED INDIRECT COSTS	115.19		106.40	
SUM OF ALL LISTED COSTS	267.89		224.34	
SUM OF ALL LISTED COSTS	207.09		224.34	
RETURN TO LABOR & MANAGEMENT	92.11		135.66	
LICTED COCTO DED DUDOET LIVET	/II-\-		/11- \ .	
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.127		0.147	
-Indirect Costs	0.096		0.133	
-Total Costs	0.223		0.280	

#### Lentil notes:

#### Yellow Mustard notes:

<sup>\*</sup>Includes pre-harvest dessicant.

<sup>\*\*</sup>Fungicide treatment for ascochyta/anthracnose.
\*\*\*Foliar insecticide for cutworms, pea aphids and/or grasshoppers would cost about \$4 per acre plus application.

<sup>\*\*</sup>Crop insurance is not available in this region.

# Buckwheat

# Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	900		1500	
Market Price	0.313		0.11	
MARKET REVENUE	281.70		165.00	
DIRECT COSTS				
-Seed	26.00		15.00	
-Herbicides	20.70		11.10	
-Fungicides	0.00		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	19.90		27.40	
-Crop Insurance	10.00*		0.00	
-Fuel & Lubrication	17.27		18.96	
-Repairs	20.19		21.48	
-Drying	0.00		0.00	
-Miscellaneous	2.00		9.50	
-Operating Interest	4.64		4.14	- <u></u> -
	=======		=======	=========
SUM OF LISTED DIRECT COSTS	120.70		107.58	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.39		9.89	
	9.39 24.15		9.69 25.73	
<ul><li>-Machinery Depreciation</li><li>-Machinery Investment</li></ul>	12.39		25.73 13.57	
	12.39 59.00			
-Land Charge	59.00		59.00 =====	
SUM OF LISTED INDIRECT COSTS	104.93		108.19	
SUM OF ALL LISTED COSTS	225.63		215.77	
RETURN TO LABOR & MANAGEMENT	56.07		(50.77)	
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.134		0.072	
-Indirect Costs				
	0.117		0.072	

#### Buckwheat notes:

<sup>\*</sup>Crop insurance is not available in some counties of the region.

# Winter Wheat Rye

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	46*		43	
Market Price	6.04		6.49	
MARKET REVENUE	277.84		279.07	
DIRECT COSTS				
-Seed	14.30		13.20	
-Herbicides	24.60		4.00	
-Fungicides	10.00		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	77.79		71.64	
-Crop Insurance	7.20		13.00	
-Fuel & Lubrication	16.84		16.92	
-Repairs	19.17		19.05	
-Drying	0.00		0.00	
-Miscellaneous	9.50		9.50	
-Operating Interest	7.18		5.89	
	======	=========	=======	=========
SUM OF LISTED DIRECT COSTS	186.58		153.20	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.26		9.31	
-Machinery Depreciation	22.97		23.07	
-Machinery Investment	11.21		11.44	
-Land Charge	59.00	-	59.00	-
Land Onlings	=======		======	
SUM OF LISTED INDIRECT COSTS	102.44		102.82	
SUM OF ALL LISTED COSTS	289.02		256.02	
RETURN TO LABOR & MANAGEMENT	(11.18)		23.05	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.06		3.56	
-Indirect Costs	2.23		2.39	
-Total Costs	6.28		5.95	

#### Winter Wheat notes:

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

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