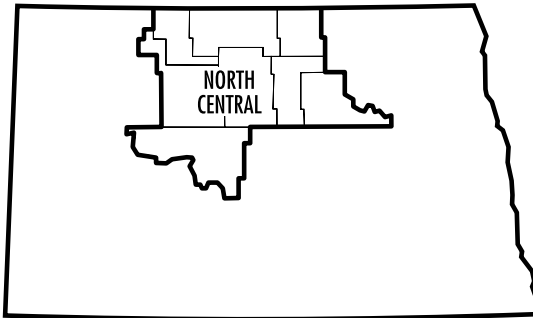




FARM MANAGEMENT PLANNING GUIDE

February 2024

Projected 2024 Crop Budgets



North Central North Dakota

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This region consists of eight counties: Benson, Bottineau, McHenry, McLean, Pierce, Renville, Rolette and Ward.

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.

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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	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
Lentils	.30/lb
Mustard	.98/lb
Buckwheat	.52/lb
Millet	.60/lb
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	51	_____	51	_____
Market Price	6.94	_____	8.15*	_____
MARKET REVENUE	353.94	_____	415.65	_____
DIRECT COSTS				
-Seed	25.50	_____	34.00	_____
-Herbicides	29.30	_____	29.30	_____
-Fungicides**	10.50	_____	18.50	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	82.94	_____	82.94	_____
-Crop Insurance	7.20	_____	9.00	_____
-Fuel & Lubrication	21.72	_____	21.72	_____
-Repairs	23.34	_____	23.34	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	2.00	_____	2.00	_____
-Operating Interest	8.10	_____	8.83	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	210.60	_____	229.63	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.32	_____	10.32	_____
-Machinery Depreciation	27.19	_____	27.19	_____
-Machinery Investment	14.18	_____	14.18	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	106.69	_____	106.69	_____
SUM OF ALL LISTED COSTS	317.29	_____	336.32	_____
RETURN TO LABOR & MANAGEMENT	36.65	_____	79.33	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.13	_____	4.50	_____
-Indirect Costs	2.09	_____	2.09	_____
-Total Costs	6.22	_____	6.59	_____

Wheat notes:

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

**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).

***Cereal grain aphid insecticide would cost about \$4. Wheat midge insecticide would cost about \$6.

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	75	_____	107	_____
Market Price	5.20*	_____	4.40	_____
MARKET REVENUE	390.00	_____	470.80	_____
DIRECT COSTS				
-Seed	19.20	_____	87.00*	_____
-Herbicides	27.90	_____	31.60	_____
-Fungicides	18.50**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	74.33	_____	91.87	_____
-Crop Insurance	5.50	_____	10.50	_____
-Fuel & Lubrication	23.46	_____	31.34	_____
-Repairs	23.90	_____	29.15	_____
-Drying	0.00	_____	21.40	_____
-Miscellaneous	2.00	_____	2.00	_____
-Operating Interest	7.79	_____	12.19	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	202.58	_____	317.05	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.77	_____	13.29	_____
-Machinery Depreciation	28.61	_____	43.64	_____
-Machinery Investment	14.76	_____	21.45	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	109.14	_____	133.38	_____
SUM OF ALL LISTED COSTS	311.72	_____	450.43	_____
RETURN TO LABOR & MANAGEMENT	78.28	_____	20.37	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.70	_____	2.96	_____
-Indirect Costs	1.46	_____	1.25	_____
-Total Costs	4.16	_____	4.21	_____

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 recommended when conditions are favorable for fusarium head blight (scab).

Corn notes:

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

Soybeans

Drybeans

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	31	_____	1590	_____
Market Price	10.85	_____	0.34	_____
MARKET REVENUE	336.35	_____	540.60	_____
DIRECT COSTS				
-Seed	65.80*	_____	86.63	_____
-Herbicides	27.20	_____	54.70*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	0.00**	_____	0.00	_____
-Fertilizer	11.16	_____	38.32	_____
-Crop Insurance	5.30	_____	13.50	_____
-Fuel & Lubrication	16.66	_____	23.86	_____
-Repairs	19.48	_____	25.48	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.50	_____	15.00	_____
-Operating Interest	6.04	_____	11.10	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	157.14	_____	288.59	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.32	_____	10.75	_____
-Machinery Depreciation	24.24	_____	31.81	_____
-Machinery Investment	11.83	_____	16.21	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	100.39	_____	113.77	_____
SUM OF ALL LISTED COSTS	257.53	_____	402.36	_____
RETURN TO LABOR & MANAGEMENT	78.82	_____	138.24	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	5.07	_____	0.182	_____
-Indirect Costs	3.24	_____	0.072	_____
-Total Costs	8.31	_____	0.253	_____

Soybean notes:

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

**Insecticide for soybean aphid, spider mite, or foliage-feeding caterpillars would cost about \$4 per acre plus application.

Drybean notes:

*Includes dessicant prior to straight cutting.

**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	1810	_____	1540	_____
Market Price	0.199	_____	0.309	_____
MARKET REVENUE	360.19	_____	475.86	_____
DIRECT COSTS				
-Seed	35.91	_____	54.36	_____
-Herbicides	37.20	_____	40.20	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	52.71	_____	41.21	_____
-Crop Insurance	9.00	_____	14.00	_____
-Fuel & Lubrication	23.19	_____	22.52	_____
-Repairs	23.25	_____	22.98	_____
-Drying	7.24	_____	6.16	_____
-Miscellaneous	11.50	_____	21.00	_____
-Operating Interest	8.20	_____	9.30	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	213.20	_____	241.73	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.93	_____	10.76	_____
-Machinery Depreciation	29.71	_____	29.15	_____
-Machinery Investment	15.81	_____	15.56	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	111.45	_____	110.47	_____
SUM OF ALL LISTED COSTS	324.65	_____	352.20	_____
RETURN TO LABOR & MANAGEMENT	35.54	_____	123.66	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.118	_____	0.157	_____
-Indirect Costs	0.062	_____	0.072	_____
-Total Costs	0.179	_____	0.229	_____

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

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." 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	1890	_____	20	_____
Market Price	0.215	_____	11.20	_____
MARKET REVENUE	406.35	_____	224.00	_____
DIRECT COSTS				
-Seed	79.00	_____	18.00	_____
-Herbicides	15.60	_____	33.60	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	99.33	_____	25.19	_____
-Crop Insurance	8.00	_____	11.00	_____
-Fuel & Lubrication	20.54	_____	20.53	_____
-Repairs	22.32	_____	23.29	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	2.00	_____	2.00	_____
-Operating Interest	9.87	_____	5.34	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	256.66	_____	138.95	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.90	_____	9.98	_____
-Machinery Depreciation	27.16	_____	27.42	_____
-Machinery Investment	13.43	_____	14.14	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	105.49	_____	106.54	_____
SUM OF ALL LISTED COSTS	362.15	_____	245.49	_____
RETURN TO LABOR & MANAGEMENT	44.20	_____	(21.49)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.136	_____	6.95	_____
-Indirect Costs	0.056	_____	5.33	_____
-Total Costs	0.192	_____	12.27	_____

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	_____	89	_____
Market Price	8.52	_____	2.99	_____
MARKET REVENUE	298.20	_____	266.11	_____
DIRECT COSTS				
-Seed	60.00	_____	18.00	_____
-Herbicides	39.70	_____	12.30	_____
-Fungicides	3.00	_____	0.00	_____
-Insecticides	0.00*	_____	0.00	_____
-Fertilizer	14.60	_____	75.83	_____
-Crop Insurance	8.50	_____	13.50	_____
-Fuel & Lubrication	19.37	_____	26.27	_____
-Repairs	22.26	_____	25.19	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	10.00	_____	2.00	_____
-Operating Interest	7.10	_____	6.92	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	184.53	_____	180.01	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.84	_____	11.52	_____
-Machinery Depreciation	27.42	_____	31.42	_____
-Machinery Investment	13.26	_____	16.57	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	105.52	_____	114.51	_____
SUM OF ALL LISTED COSTS	290.05	_____	294.52	_____
RETURN TO LABOR & MANAGEMENT	8.15	_____	(28.41)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	5.27	_____	2.02	_____
-Indirect Costs	3.01	_____	1.29	_____
-Total Costs	8.29	_____	3.31	_____

Field Pea notes:

*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	1500		850	
Market Price	0.30		0.450	
MARKET REVENUE	450.00		382.50	
DIRECT COSTS				
-Seed	21.00		13.72	
-Herbicides	39.20*		22.60	
-Fungicides	16.00**		0.00	
-Insecticides	0.00***		6.00*	
-Fertilizer	10.43		25.32	
-Crop Insurance	9.00		16.50**	
-Fuel & Lubrication	21.39		20.49	
-Repairs	25.64		22.85	
-Drying	0.00		0.00	
-Miscellaneous	10.00		2.00	
-Operating Interest	6.11		5.18	
	=====		=====	
SUM OF LISTED DIRECT COSTS	158.77		134.66	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.50		10.04	
-Machinery Depreciation	31.35		26.54	
-Machinery Investment	15.09		14.47	
-Land Charge	55.00		55.00	
	=====		=====	
SUM OF LISTED INDIRECT COSTS	111.94		106.05	
SUM OF ALL LISTED COSTS	270.71		240.71	
RETURN TO LABOR & MANAGEMENT	179.29		141.79	
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.106		0.158	
-Indirect Costs	0.075		0.125	
-Total Costs	0.180		0.283	

Lentil notes:

*Includes pre-harvest dessicant.

**Fungicide treatment for ascochyta/anthracnose.

***Foliar insecticide cutworms, pea aphids and/or grasshoppers would cost about \$4 per acre plus application.

Yellow Mustard notes:

*Insecticide seed treatment for flea beetles.

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

Buckwheat

Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	950	_____	1300	_____
Market Price	0.313	_____	0.11	_____
MARKET REVENUE	297.35	_____	143.00	_____
DIRECT COSTS				
-Seed	26.00	_____	15.00	_____
-Herbicides	20.70	_____	11.10	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	15.34	_____	14.80	_____
-Crop Insurance	8.00*	_____	0.00	_____
-Fuel & Lubrication	20.05	_____	21.34	_____
-Repairs	22.06	_____	23.19	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	2.00	_____	2.00	_____
-Operating Interest	4.57	_____	3.50	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	118.72	_____	90.93	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.86	_____	10.26	_____
-Machinery Depreciation	26.01	_____	27.26	_____
-Machinery Investment	13.75	_____	14.78	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	104.62	_____	107.30	_____
SUM OF ALL LISTED COSTS	223.34	_____	198.23	_____
RETURN TO LABOR & MANAGEMENT	74.01	_____	(55.23)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.125	_____	0.070	_____
-Indirect Costs	0.110	_____	0.083	_____
-Total Costs	0.235	_____	0.152	_____

Buckwheat notes:

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

Winter Wheat

Rye

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	56*	_____	46	_____
Market Price	5.90	_____	6.25	_____
MARKET REVENUE	330.40	_____	287.50	_____
DIRECT COSTS				
-Seed	14.30	_____	13.20	_____
-Herbicides	26.80	_____	4.00	_____
-Fungicides	10.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	93.46	_____	72.42	_____
-Crop Insurance	7.20	_____	16.00	_____
-Fuel & Lubrication	20.32	_____	19.64	_____
-Repairs	20.94	_____	20.30	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	9.50	_____
-Operating Interest	8.10	_____	6.20	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	210.62	_____	161.26	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.69	_____	9.54	_____
-Machinery Depreciation	24.98	_____	24.37	_____
-Machinery Investment	12.17	_____	12.03	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	101.84	_____	100.94	_____
SUM OF ALL LISTED COSTS	312.46	_____	262.20	_____
RETURN TO LABOR & MANAGEMENT	17.94	_____	25.30	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.76	_____	3.51	_____
-Indirect Costs	1.82	_____	2.19	_____
-Total Costs	5.58	_____	5.70	_____

Winter Wheat notes:

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

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