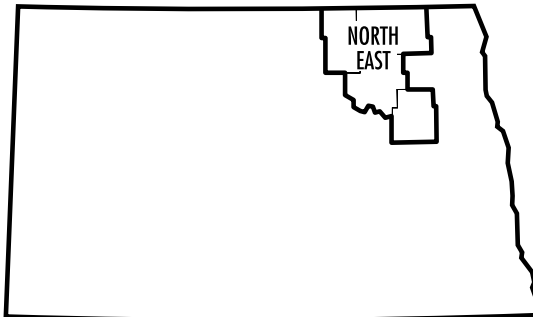




FARM MANAGEMENT PLANNING GUIDE

February 2023

Projected 2023 Crop Budgets



North East North Dakota

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Note: This region consists of four counties:
Cavalier, Nelson, Ramsey and Towner.

The 2023 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 2023 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.

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 2015-2021, 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	- .71/lb
Phosphorus	- .61/lb
Potassium	- .65/lb

Seed Prices:

Spring Wheat	16.00/bu
Durum	18.00/bu
Barley	15.50/bu
Corn GM	2.96/thou.kern.
Soybean GM	.34/thou.kern.
Dry Beans	.75/thou.kern.
Oil Sunflower	1.71/thou.kern.
Conf. Sunflower	3.02/thou.kern.
Canola	14.80/lb
Flax	30.00/bu
Field Peas	20.00/bu
Oats	10.00/bu
Mustard	.98/lb
Buckwheat	.50/lb
Millet	.60/lb
Winter Wheat	13.50/bu

Fuel prices:

Diesel	3.90/gal
Gas	3.45/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 7.5% 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	_____	55	_____
Market Price	8.08	_____	9.02*	_____
MARKET REVENUE	460.56	_____	496.10	_____
DIRECT COSTS				
-Seed	28.00	_____	36.00	_____
-Herbicides	30.90	_____	30.90	_____
-Fungicides**	18.50	_____	18.50	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	133.54	_____	128.08	_____
-Crop Insurance	9.50	_____	11.50	_____
-Fuel & Lubrication	25.36	_____	25.18	_____
-Repairs	21.62	_____	21.57	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.75	_____	1.75	_____
-Operating Interest	10.09	_____	10.26	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	279.26	_____	283.74	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.02	_____	9.98	_____
-Machinery Depreciation	25.27	_____	25.15	_____
-Machinery Investment	13.11	_____	13.06	_____
-Land Charge	58.00	_____	58.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	106.40	_____	106.19	_____
SUM OF ALL LISTED COSTS	385.66	_____	389.93	_____
RETURN TO LABOR & MANAGEMENT	74.90	_____	106.17	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.90	_____	5.16	_____
-Indirect Costs	1.87	_____	1.93	_____
-Total Costs	6.77	_____	7.09	_____

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. Wheat midge insecticide would cost about \$6.

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	71	_____	122	_____
Market Price	6.40*	_____	5.25	_____
MARKET REVENUE	454.40	_____	640.50	_____
DIRECT COSTS				
-Seed	31.00	_____	90.28*	_____
-Herbicides	23.90	_____	48.90	_____
-Fungicides	18.50	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	98.77	_____	148.48	_____
-Crop Insurance	5.00	_____	16.50	_____
-Fuel & Lubrication	26.37	_____	37.25	_____
-Repairs	21.76	_____	28.59	_____
-Drying	0.00	_____	24.40	_____
-Miscellaneous	1.75	_____	1.75	_____
-Operating Interest	8.51	_____	14.86	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	235.56	_____	411.01	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.24	_____	13.33	_____
-Machinery Depreciation	25.86	_____	41.91	_____
-Machinery Investment	13.33	_____	21.14	_____
-Land Charge	58.00	_____	58.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	107.43	_____	134.38	_____
SUM OF ALL LISTED COSTS	342.99	_____	545.39	_____
RETURN TO LABOR & MANAGEMENT	111.41	_____	95.11	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.32	_____	3.37	_____
-Indirect Costs	1.51	_____	1.10	_____
-Total Costs	4.83	_____	4.47	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$4.50 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 ground insect control traits.

Soybeans

Drybeans

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	31	_____	1490	_____
Market Price	12.20	_____	0.36	_____
MARKET REVENUE	378.20	_____	536.40	_____
DIRECT COSTS				
-Seed	65.80*	_____	61.88	_____
-Herbicides	50.40	_____	46.90*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	4.00**	_____	0.00	_____
-Fertilizer	16.78	_____	39.80	_____
-Crop Insurance	10.00	_____	19.50	_____
-Fuel & Lubrication	24.48	_____	27.76	_____
-Repairs	22.22	_____	24.99	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.25	_____	14.25	_____
-Operating Interest	7.46	_____	9.57	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	206.39	_____	264.65	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.97	_____	10.63	_____
-Machinery Depreciation	26.15	_____	30.50	_____
-Machinery Investment	13.76	_____	15.92	_____
-Land Charge	58.00	_____	58.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	107.88	_____	115.05	_____
SUM OF ALL LISTED COSTS	314.27	_____	379.70	_____
RETURN TO LABOR & MANAGEMENT	63.93	_____	156.70	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	6.66	_____	0.178	_____
-Indirect Costs	3.48	_____	0.077	_____
-Total Costs	10.14	_____	0.255	_____

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.

Drybean notes:

*Includes dessicant 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	1840	_____	1380	_____
Market Price	0.251	_____	0.352	_____
MARKET REVENUE	461.84	_____	485.76	_____
DIRECT COSTS				
-Seed	37.62	_____	57.38	_____
-Herbicides	35.90	_____	39.00	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	79.42	_____	54.06	_____
-Crop Insurance	15.50	_____	24.50	_____
-Fuel & Lubrication	26.54	_____	25.28	_____
-Repairs	21.92	_____	21.50	_____
-Drying	5.13	_____	3.60	_____
-Miscellaneous	10.75	_____	19.75	_____
-Operating Interest	8.92	_____	9.57	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	246.70	_____	264.64	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.71	_____	10.43	_____
-Machinery Depreciation	27.80	_____	26.94	_____
-Machinery Investment	15.14	_____	14.76	_____
-Land Charge	58.00	_____	58.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	111.65	_____	110.13	_____
SUM OF ALL LISTED COSTS	358.35	_____	374.77	_____
RETURN TO LABOR & MANAGEMENT	103.49	_____	110.99	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.134	_____	0.192	_____
-Indirect Costs	0.061	_____	0.080	_____
-Total Costs	0.195	_____	0.272	_____

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	1990	_____	23	_____
Market Price	0.26	_____	14.10	_____
MARKET REVENUE	517.40	_____	324.30	_____
DIRECT COSTS				
-Seed	74.00	_____	30.00	_____
-Herbicides	28.00	_____	34.30	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	140.38	_____	52.06	_____
-Crop Insurance	11.00	_____	15.00	_____
-Fuel & Lubrication	24.75	_____	24.04	_____
-Repairs	21.42	_____	22.17	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.75	_____	1.75	_____
-Operating Interest	11.30	_____	6.72	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	312.60	_____	186.04	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.83	_____	9.84	_____
-Machinery Depreciation	25.94	_____	25.96	_____
-Machinery Investment	13.14	_____	13.63	_____
-Land Charge	58.00	_____	58.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	106.91	_____	107.43	_____
SUM OF ALL LISTED COSTS	419.51	_____	293.47	_____
RETURN TO LABOR & MANAGEMENT	97.89	_____	30.83	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.157	_____	8.09	_____
-Indirect Costs	0.054	_____	4.67	_____
-Total Costs	0.211	_____	12.76	_____

Canola notes:

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

Flax notes:

*Fungicide treatment for pasmo has shown good yield response.

Field Peas

Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	42	_____	87	_____
Market Price	9.00	_____	3.00	_____
MARKET REVENUE	378.00	_____	261.00	_____
DIRECT COSTS				
-Seed	60.00	_____	20.00	_____
-Herbicides	42.50	_____	6.50	_____
-Fungicides	3.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	20.34	_____	104.77	_____
-Crop Insurance	9.50	_____	14.50	_____
-Fuel & Lubrication	25.49	_____	30.14	_____
-Repairs	22.92	_____	23.57	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.75	_____	1.75	_____
-Operating Interest	7.26	_____	7.55	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	200.76	_____	208.78	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.18	_____	11.06	_____
-Machinery Depreciation	27.63	_____	29.25	_____
-Machinery Investment	14.05	_____	15.26	_____
-Land Charge	58.00	_____	58.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	109.86	_____	113.57	_____
SUM OF ALL LISTED COSTS	310.62	_____	322.35	_____
RETURN TO LABOR & MANAGEMENT	67.38	_____	(61.35)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.78	_____	2.40	_____
-Indirect Costs	2.62	_____	1.31	_____
-Total Costs	7.40	_____	3.71	_____

Yellow Mustard

Buckwheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	850	_____	950	_____
Market Price	0.550	_____	0.366	_____
MARKET REVENUE	467.50	_____	347.70	_____
DIRECT COSTS				
-Seed	13.72	_____	25.00	_____
-Herbicides	19.40	_____	14.30	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	6.00*	_____	0.00	_____
-Fertilizer	41.80	_____	29.04	_____
-Crop Insurance	25.00	_____	0.00*	_____
-Fuel & Lubrication	22.82	_____	26.59	_____
-Repairs	21.13	_____	23.19	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.75	_____	1.75	_____
-Operating Interest	5.69	_____	4.50	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	157.31	_____	124.37	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.61	_____	10.14	_____
-Machinery Depreciation	24.65	_____	26.76	_____
-Machinery Investment	13.18	_____	14.57	_____
-Land Charge	58.00	_____	58.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	105.44	_____	109.47	_____
SUM OF ALL LISTED COSTS	262.75	_____	233.84	_____
RETURN TO LABOR & MANAGEMENT	204.75	_____	113.86	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.185	_____	0.131	_____
-Indirect Costs	0.124	_____	0.115	_____
-Total Costs	0.309	_____	0.246	_____

Yellow Mustard notes:

*Insecticide seed treatment for flea beetles.

Buckwheat notes:

*Crop insurance is not available in this region.

Millet

Winter Wheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1600	_____	63*	_____
Market Price	0.19	_____	7.02	_____
MARKET INCOME	304.00	_____	442.26	_____
DIRECT COSTS				
-Seed	15.00	_____	16.20	_____
-Herbicides	4.10	_____	34.00	_____
-Fungicides	0.00	_____	10.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	40.50	_____	149.91	_____
-Crop Insurance	0.00	_____	9.50	_____
-Fuel & Lubrication	25.41	_____	20.42	_____
-Repairs	21.98	_____	18.79	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.75	_____	8.75	_____
-Operating Interest	4.08	_____	10.03	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	112.82	_____	277.60	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.00	_____	9.31	_____
-Machinery Depreciation	26.05	_____	22.13	_____
-Machinery Investment	13.81	_____	10.81	_____
-Land Charge	58.00	_____	58.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	107.86	_____	100.25	_____
SUM OF ALL LISTED COSTS	220.68	_____	377.85	_____
RETURN TO LABOR & MANAGEMENT	83.32	_____	64.41	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.071	_____	4.41	_____
-Indirect Costs	0.067	_____	1.59	_____
-Total Costs	0.138	_____	6.00	_____

Winter Wheat notes:

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

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