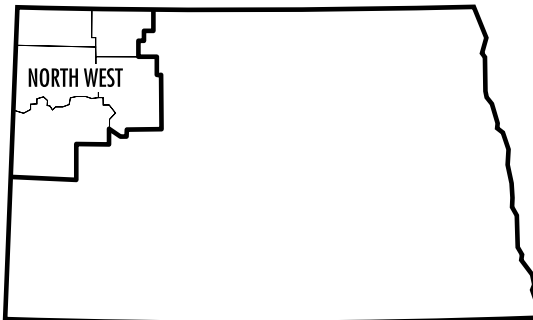




FARM MANAGEMENT PLANNING GUIDE

February 2023

Projected 2023 Crop Budgets



North West North Dakota

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This region consists of five counties:
Burke, Divide, McKenzie, Mountrail and Williams.

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.

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 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.
Oil Sunflower	1.71/thou.kern.
Canola	14.80/lb
Flax	30.00/bu
Field Peas	20.00/bu
Oats	10.00/bu
Lentils	.30/lb
Mustard	.98/lb
Safflower	.47/lb
Buckwheat	.50/lb
Millet	.60/lb
Large Chickpeas	.60/lb
Winter Wheat	13.50/bu
Rye	11.00/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	39	_____	36	_____
Market Price	7.89	_____	8.89*	_____
MARKET REVENUE	307.71	_____	320.04	_____
DIRECT COSTS				
-Seed	24.00	_____	31.50	_____
-Herbicides	36.00	_____	36.00	_____
-Fungicides**	6.50	_____	6.50	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	89.39	_____	81.20	_____
-Crop Insurance	6.00	_____	6.50	_____
-Fuel & Lubrication	17.47	_____	17.22	_____
-Repairs	17.23	_____	17.14	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.75	_____	8.75	_____
-Operating Interest	7.70	_____	7.68	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	213.04	_____	212.49	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.79	_____	8.73	_____
-Machinery Depreciation	20.53	_____	20.35	_____
-Machinery Investment	10.01	_____	9.93	_____
-Land Charge	37.00	_____	37.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	76.33	_____	76.01	_____
SUM OF ALL LISTED COSTS	289.37	_____	288.50	_____
RETURN TO LABOR & MANAGEMENT	18.34	_____	31.54	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	5.46	_____	5.90	_____
-Indirect Costs	1.96	_____	2.11	_____
-Total Costs	7.42	_____	8.01	_____

Wheat notes:

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

**Includes seed treatment and early season foliar fungicide. Although late season fungicides are often not common in this region, prothioconazole, metconazole, or pydiflumetofen containing products are recommended for fusarium head blight (scab) control when conditions are favorable for infection.

***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	59	_____	98	_____
Market Price	6.60*	_____	5.25	_____
MARKET REVENUE	389.4	_____	514.50	_____
DIRECT COSTS				
-Seed	20.93	_____	68.08*	_____
-Herbicides	29.40	_____	36.40	_____
-Fungicides	6.50**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	83.32	_____	119.91	_____
-Crop Insurance	5.50	_____	8.00**	_____
-Fuel & Lubrication	19.19	_____	25.01	_____
-Repairs	17.80	_____	21.40	_____
-Drying	0.00	_____	19.60	_____
-Miscellaneous	8.75	_____	8.75	_____
-Operating Interest	7.18	_____	11.52	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	198.57	_____	318.67	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.17	_____	11.36	_____
-Machinery Depreciation	21.69	_____	33.14	_____
-Machinery Investment	10.53	_____	15.99	_____
-Land Charge	37.00	_____	37.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	78.39	_____	97.49	_____
SUM OF ALL LISTED COSTS	276.96	_____	416.16	_____
RETURN TO LABOR & MANAGEMENT	112.44	_____	98.34	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.37	_____	3.25	_____
-Indirect Costs	1.33	_____	0.99	_____
-Total Costs	4.69	_____	4.25	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$4.50 for feed barley.

**Includes seed treatment and early season foliar fungicide. Although late season fungicides are often not common in this region, prothioconazole or metconazole containing products are recommended for fusarium head blight (scab) control when conditions are favorable for infection.

Corn notes:

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

**Crop insurance is only available by written agreement in most counties of region.

Soybeans

Oil Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	23	_____	1570	_____
Market Price	12.10	_____	0.245	_____
MARKET REVENUE	278.30	_____	384.65	_____
DIRECT COSTS				
-Seed	65.80*	_____	35.91	_____
-Herbicides	28.40	_____	44.90	_____
-Fungicides	0.00	_____	0.00*	_____
-Insecticides	0.00	_____	5.00**	_____
-Fertilizer	12.45	_____	69.51	_____
-Crop Insurance	6.50**	_____	10.50	_____
-Fuel & Lubrication	17.00	_____	19.05	_____
-Repairs	17.47	_____	18.54	_____
-Drying	0.00	_____	4.56	_____
-Miscellaneous	5.25	_____	17.75	_____
-Operating Interest	5.73	_____	8.46	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	158.60	_____	234.18	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.81	_____	9.50	_____
-Machinery Depreciation	21.47	_____	23.74	_____
-Machinery Investment	10.57	_____	11.81	_____
-Land Charge	37.00	_____	37.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	77.85	_____	82.05	_____
SUM OF ALL LISTED COSTS	236.45	_____	316.23	_____
RETURN TO LABOR & MANAGEMENT	41.85	_____	68.42	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	6.90	_____	0.149	_____
-Indirect Costs	3.38	_____	0.052	_____
-Total Costs	10.28	_____	0.201	_____

Soybean notes:

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

**Crop insurance is only available in McKenzie county by written agreement.

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).

Canola

Flax

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1750	_____	19	_____
Market Price	0.261	_____	13.70	_____
MARKET REVENUE	456.75	_____	260.30	_____
DIRECT COSTS				
-Seed	74.00	_____	24.00	_____
-Herbicides	28.00	_____	41.20	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	127.34	_____	44.15	_____
-Crop Insurance	10.00	_____	12.00	_____
-Fuel & Lubrication	18.86	_____	18.32	_____
-Repairs	18.59	_____	19.39	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.75	_____	1.75	_____
-Operating Interest	10.71	_____	6.03	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	296.25	_____	166.84	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.07	_____	9.10	_____
-Machinery Depreciation	22.95	_____	23.06	_____
-Machinery Investment	11.03	_____	11.57	_____
-Land Charge	37.00	_____	37.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	80.05	_____	80.73	_____
SUM OF ALL LISTED COSTS	376.30	_____	247.57	_____
RETURN TO LABOR & MANAGEMENT	80.45	_____	12.73	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.169	_____	8.78	_____
-Indirect Costs	0.046	_____	4.25	_____
-Total Costs	0.215	_____	13.03	_____

Field Peas

Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	31		70	
Market Price	9.00		3.02	
MARKET REVENUE	279.00		211.40	
DIRECT COSTS				
-Seed	60.00		20.00	
-Herbicides	47.60		12.90	
-Fungicides	3.00		0.00	
-Insecticides	6.00*		0.00	
-Fertilizer	14.97		84.97	
-Crop Insurance	7.50		12.00	
-Fuel & Lubrication	19.35		22.46	
-Repairs	19.98		19.54	
-Drying	0.00		0.00	
-Miscellaneous	9.75		8.75	
-Operating Interest	7.06		6.77	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	195.21		187.39	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.33		9.81	
-Machinery Depreciation	24.41		23.74	
-Machinery Investment	11.85		12.09	
-Land Charge	37.00		37.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	82.59		82.64	
SUM OF ALL LISTED COSTS	277.80		270.03	
RETURN TO LABOR & MANAGEMENT	1.20		(58.63)	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	6.30		2.68	
-Indirect Costs	2.66		1.18	
-Total Costs	8.96		3.86	

Field Pea notes:

*Seed treatment for pea leaf weevil. 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	1230	_____	800	_____
Market Price	0.23	_____	0.55	_____
MARKET REVENUE	282.90	_____	440.00	_____
DIRECT COSTS				
-Seed	21.00	_____	11.27	_____
-Herbicides	47.10*	_____	29.60	_____
-Fungicides	16.00**	_____	0.00	_____
-Insecticides	0.00***	_____	0.00	_____
-Fertilizer	9.85	_____	43.02	_____
-Crop Insurance	9.00	_____	13.00*	_____
-Fuel & Lubrication	21.68	_____	18.16	_____
-Repairs	22.77	_____	18.72	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.75	_____	8.75	_____
-Operating Interest	5.89	_____	5.34	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	163.04	_____	147.86	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.72	_____	8.97	_____
-Machinery Depreciation	27.78	_____	21.15	_____
-Machinery Investment	13.35	_____	11.33	_____
-Land Charge	37.00	_____	37.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	87.85	_____	78.45	_____
SUM OF ALL LISTED COSTS	250.89	_____	226.31	_____
RETURN TO LABOR & MANAGEMENT	32.01	_____	213.69	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.133	_____	0.185	_____
-Indirect Costs	0.071	_____	0.098	_____
-Total Costs	0.204	_____	0.283	_____

Lentil notes:

*Includes pre-harvest dessicant.

**Fungicide treatment for ascochyta/anthracnose.

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

Yellow Mustard notes:

**Crop insurance is only available in McKenzie county by written agreement.

Safflower

Buckwheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1050	_____	850	_____
Market Price	0.37	_____	0.361	_____
MARKET REVENUE	388.50	_____	306.85	_____
DIRECT COSTS				
-Seed	11.75	_____	25.00	_____
-Herbicides	23.00	_____	21.80	_____
-Fungicides	18.00*	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	43.00	_____	28.63	_____
-Crop Insurance	17.00	_____	6.50*	_____
-Fuel & Lubrication	16.36	_____	17.53	_____
-Repairs	17.61	_____	17.93	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.75	_____	1.75	_____
-Operating Interest	5.83	_____	4.47	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	161.30	_____	123.61	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.66	_____	8.78	_____
-Machinery Depreciation	20.24	_____	20.51	_____
-Machinery Investment	9.99	_____	10.60	_____
-Land Charge	37.00	_____	37.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	75.89	_____	76.89	_____
SUM OF ALL LISTED COSTS	237.19	_____	200.50	_____
RETURN TO LABOR & MANAGEMENT	151.31	_____	106.35	_____
LISTED COSTS PER BUDGET UNIT				
	(lb):		(lb):	
-Direct Costs	0.154	_____	0.145	_____
-Indirect Costs	0.072	_____	0.090	_____
-Total Costs	0.226	_____	0.236	_____

Safflower notes:

*Fungicide for alternaria leaf spot.

Buckwheat notes:

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

Millet

Large Chickpea

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1300	_____	1400	_____
Market Price	0.19	_____	0.30	_____
MARKET REVENUE	247.00	_____	420.00	_____
DIRECT COSTS				
-Seed	15.00	_____	84.00	_____
-Herbicides	11.70	_____	56.20	_____
-Fungicides	0.00	_____	36.00*	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	33.75	_____	30.15	_____
-Crop Insurance	0.00	_____	9.50	_____
-Fuel & Lubrication	18.67	_____	22.49	_____
-Repairs	18.27	_____	23.74	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.75	_____	8.75	_____
-Operating Interest	3.98	_____	10.16	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	110.12	_____	280.99	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.96	_____	9.94	_____
-Machinery Depreciation	21.18	_____	28.65	_____
-Machinery Investment	10.93	_____	13.90	_____
-Land Charge	37.00	_____	37.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	78.07	_____	89.49	_____
SUM OF ALL LISTED COSTS	188.19	_____	370.48	_____
RETURN TO LABOR & MANAGEMENT	58.81	_____	49.52	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.085	_____	0.201	_____
-Indirect Costs	0.060	_____	0.064	_____
-Total Costs	0.145	_____	0.265	_____

Large Chickpea notes:

*Two fungicide treatments for ascochyta blight. Additional treatments may be necessary.

Winter Wheat

Rye

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	43*	_____	40	_____
Market Price	6.84	_____	6.47	_____
MARKET REVENUE	294.12	_____	258.80	_____
DIRECT COSTS				
-Seed	13.50	_____	13.20	_____
-Herbicides	31.70	_____	10.00	_____
-Fungicides	10.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	100.30	_____	92.11	_____
-Crop Insurance	8.00	_____	8.00	_____
-Fuel & Lubrication	17.52	_____	16.91	_____
-Repairs	17.37	_____	16.35	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.75	_____	8.75	_____
-Operating Interest	7.77	_____	6.20	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	214.91	_____	171.52	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.77	_____	8.64	_____
-Machinery Depreciation	20.49	_____	19.84	_____
-Machinery Investment	9.82	_____	9.54	_____
-Land Charge	37.00	_____	37.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	76.08	_____	75.02	_____
SUM OF ALL LISTED COSTS	290.99	_____	246.54	_____
RETURN TO LABOR & MANAGEMENT	3.13	_____	12.26	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	5.00	_____	4.29	_____
-Indirect Costs	1.77	_____	1.88	_____
-Total Costs	6.77	_____	6.16	_____

Winter Wheat notes:

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

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