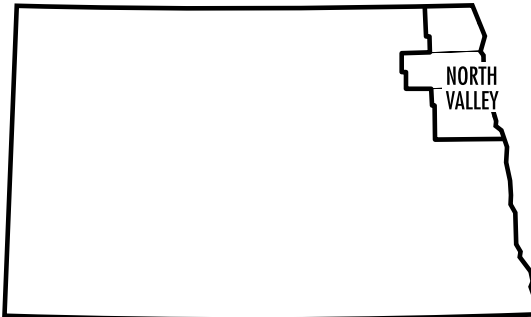




FARM MANAGEMENT PLANNING GUIDE

February 2023

Projected 2023 Crop Budgets



North Valley North Dakota

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This region consists of three counties: Grand Forks, Pembina and Walsh.

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
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	59		57	
Market Price	8.09		9.09*	
MARKET REVENUE	477.31		518.13	
DIRECT COSTS				
-Seed	32.00		36.00	
-Herbicides	30.90		30.90	
-Fungicides**	18.50		18.50	
-Insecticides***	0.00		0.00	
-Fertilizer	126.23		121.18	
-Crop Insurance	8.00		12.50	
-Fuel & Lubrication	28.01		27.83	
-Repairs	22.73		22.67	
-Drying	0.00		0.00	
-Miscellaneous	8.75		8.75	
-Operating Interest	10.32		10.44	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	285.44		288.77	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.34		10.30	
-Machinery Depreciation	26.76		26.64	
-Machinery Investment	14.00		13.94	
-Land Charge	92.00		92.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	143.10		142.88	
SUM OF ALL LISTED COSTS	428.54		431.65	
RETURN TO LABOR & MANAGEMENT	48.77		86.48	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.84		5.07	
-Indirect Costs	2.43		2.51	
-Total Costs	7.26		7.57	

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	_____	139	_____
Market Price	6.46*	_____	5.25	_____
MARKET REVENUE	458.66	_____	729.75	_____
DIRECT COSTS				
-Seed	31.00	_____	93.24*	_____
-Herbicides	23.90	_____	48.90	_____
-Fungicides	18.50**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	87.23	_____	152.87	_____
-Crop Insurance	6.50	_____	15.50	_____
-Fuel & Lubrication	28.84	_____	38.47	_____
-Repairs	22.80	_____	30.41	_____
-Drying	0.00	_____	27.80	_____
-Miscellaneous	8.75	_____	8.75	_____
-Operating Interest	8.53	_____	15.60	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	236.05	_____	431.54	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.41	_____	13.48	_____
-Machinery Depreciation	26.68	_____	41.61	_____
-Machinery Investment	13.82	_____	21.08	_____
-Land Charge	92.00	_____	92.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	142.91	_____	168.17	_____
SUM OF ALL LISTED COSTS	378.96	_____	599.71	_____
RETURN TO LABOR & MANAGEMENT	79.70	_____	130.04	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.32	_____	3.10	_____
-Indirect Costs	2.01	_____	1.21	_____
-Total Costs	5.34	_____	4.31	_____

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	34	_____	1640	_____
Market Price	12.27	_____	0.36	_____
MARKET REVENUE	417.18	_____	590.40	_____
DIRECT COSTS				
-Seed	65.80*	_____	61.88	_____
-Herbicides	50.40	_____	63.40*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	4.00**	_____	0.00	_____
-Fertilizer	3.89	_____	45.42	_____
-Crop Insurance	7.50	_____	20.50	_____
-Fuel & Lubrication	22.88	_____	31.55	_____
-Repairs	20.92	_____	27.31	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.75	_____	17.75	_____
-Operating Interest	6.64	_____	10.79	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	183.78	_____	298.60	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.67	_____	11.65	_____
-Machinery Depreciation	24.83	_____	32.49	_____
-Machinery Investment	12.79	_____	18.74	_____
-Land Charge	92.00	_____	92.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	139.29	_____	154.88	_____
SUM OF ALL LISTED COSTS	323.07	_____	453.48	_____
RETURN TO LABOR & MANAGEMENT	94.11	_____	136.92	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	5.41	_____	0.182	_____
-Indirect Costs	4.10	_____	0.094	_____
-Total Costs	9.50	_____	0.277	_____

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 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	1730	_____	1380	_____
Market Price	0.252	_____	0.353	_____
MARKET REVENUE	435.96	_____	487.14	_____
DIRECT COSTS				
-Seed	41.04	_____	60.40	_____
-Herbicides	35.90	_____	39.00	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	65.26	_____	47.46	_____
-Crop Insurance	12.50	_____	18.00	_____
-Fuel & Lubrication	26.58	_____	25.62	_____
-Repairs	21.51	_____	21.20	_____
-Drying	5.16	_____	3.60	_____
-Miscellaneous	17.75	_____	26.75	_____
-Operating Interest	8.65	_____	9.45	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	239.35	_____	261.48	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.75	_____	10.54	_____
-Machinery Depreciation	28.49	_____	27.84	_____
-Machinery Investment	15.36	_____	15.07	_____
-Land Charge	92.00	_____	92.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	146.60	_____	145.45	_____
SUM OF ALL LISTED COSTS	385.95	_____	406.93	_____
RETURN TO LABOR & MANAGEMENT	50.01	_____	80.21	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.138	_____	0.189	_____
-Indirect Costs	0.085	_____	0.105	_____
-Total Costs	0.223	_____	0.295	_____

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	1910	_____	23	_____
Market Price	0.257	_____	14.15	_____
MARKET REVENUE	490.87	_____	325.45	_____
DIRECT COSTS				
-Seed	74.00	_____	30.00	_____
-Herbicides	28.00	_____	34.30	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	120.85	_____	46.23	_____
-Crop Insurance	10.50	_____	15.00	_____
-Fuel & Lubrication	23.67	_____	26.52	_____
-Repairs	20.49	_____	23.22	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.75	_____	1.75	_____
-Operating Interest	10.73	_____	6.64	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	296.99	_____	183.66	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.53	_____	10.01	_____
-Machinery Depreciation	24.84	_____	26.79	_____
-Machinery Investment	12.32	_____	14.13	_____
-Land Charge	92.00	_____	92.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	138.69	_____	142.93	_____
SUM OF ALL LISTED COSTS	435.68	_____	326.59	_____
RETURN TO LABOR & MANAGEMENT	55.19	_____	(1.14)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.155	_____	7.99	_____
-Indirect Costs	0.073	_____	6.21	_____
-Total Costs	0.228	_____	14.20	_____

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		107	
Market Price	9.00		3.03	
MARKET REVENUE	378.00		324.21	
DIRECT COSTS				
-Seed	60.00		20.00	
-Herbicides	42.50		6.50	
-Fungicides	3.00		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	11.81		119.82	
-Crop Insurance	10.00		18.00	
-Fuel & Lubrication	26.34		33.61	
-Repairs	23.20		24.35	
-Drying	0.00		0.00	
-Miscellaneous	6.25		8.75	
-Operating Interest	6.87		8.66	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	189.97		239.69	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.24		11.37	
-Machinery Depreciation	27.76		29.44	
-Machinery Investment	14.21		15.54	
-Land Charge	92.00		92.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	144.21		148.35	
SUM OF ALL LISTED COSTS	334.18		388.04	
RETURN TO LABOR & MANAGEMENT	43.82		(63.83)	
LISTED COSTS PER BUDGET UNIT				
	(bu):		(bu):	
-Direct Costs	4.52		2.24	
-Indirect Costs	3.43		1.39	
-Total Costs	7.96		3.63	

Yellow Mustard

Winter Wheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	850	_____	65*	_____
Market Price	0.55	_____	7.17	_____
MARKET REVENUE	467.50	_____	466.05	_____
DIRECT COSTS				
-Seed	11.76	_____	17.55	_____
-Herbicides	19.40	_____	34.00	_____
-Fungicides	0.00	_____	10.00	_____
-Insecticides	6.00*	_____	0.00	_____
-Fertilizer	35.39	_____	141.37	_____
-Crop Insurance	0.00**	_____	8.00	_____
-Fuel & Lubrication	21.85	_____	25.81	_____
-Repairs	19.66	_____	21.24	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.75	_____	8.75	_____
-Operating Interest	4.34	_____	10.00	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	120.15	_____	276.72	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.12	_____	10.05	_____
-Machinery Depreciation	22.05	_____	25.48	_____
-Machinery Investment	11.74	_____	12.95	_____
-Land Charge	92.00	_____	92.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	134.91	_____	140.48	_____
SUM OF ALL LISTED COSTS	255.06	_____	417.20	_____
RETURN TO LABOR & MANAGEMENT	212.44	_____	48.85	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.141	_____	4.257	_____
-Indirect Costs	0.159	_____	2.161	_____
-Total Costs	0.300	_____	6.418	_____

Yellow Mustard notes:

*Insecticide seed treatment for flea beetles.

**Crop insurance is not available in this region.

Winter Wheat notes:

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

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