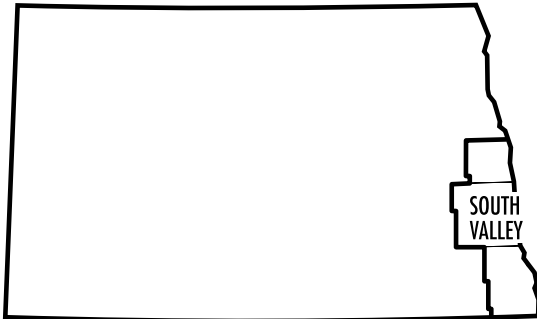




FARM MANAGEMENT PLANNING GUIDE

February 2023

Projected 2023 Crop Budgets



South Valley North Dakota

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Note: This region consists of three counties: Cass, Richland and Traill.

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
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.
Oats	10.00/bu
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

Malting Barley

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	63	_____	84	_____
Market Price	8.17	_____	6.48*	_____
MARKET REVENUE	514.71	_____	544.32	_____
DIRECT COSTS				
-Seed	32.00	_____	31.00	_____
-Herbicides	28.60	_____	23.90	_____
-Fungicides**	18.50*	_____	18.50**	_____
-Insecticides***	0.00**	_____	0.00	_____
-Fertilizer	139.16	_____	110.20	_____
-Crop Insurance	5.50	_____	4.00	_____
-Fuel & Lubrication	28.35	_____	29.96	_____
-Repairs	22.85	_____	23.18	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.75	_____	8.75	_____
-Operating Interest	10.64	_____	9.36	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	294.35	_____	258.85	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.42	_____	10.78	_____
-Machinery Depreciation	26.99	_____	27.99	_____
-Machinery Investment	14.10	_____	14.51	_____
-Land Charge	132.00	_____	132.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	183.51	_____	185.28	_____
SUM OF ALL LISTED COSTS	477.86	_____	444.13	_____
RETURN TO LABOR & MANAGEMENT	36.85	_____	100.19	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.67	_____	3.08	_____
-Indirect Costs	2.91	_____	2.21	_____
-Total Costs	7.59	_____	5.29	_____

Spring Wheat notes:

*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.

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 Grain

Soybeans

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	168	_____	40	_____
Market Price	5.25	_____	12.37	_____
MARKET REVENUE	882.00	_____	494.80	_____
DIRECT COSTS				
-Seed	100.50*	_____	65.80*	_____
-Herbicides	51.00	_____	65.80	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	4.00**	_____
-Fertilizer	192.35	_____	4.57	_____
-Crop Insurance	12.00	_____	6.50	_____
-Fuel & Lubrication	40.84	_____	23.40	_____
-Repairs	31.21	_____	21.10	_____
-Drying	33.60	_____	0.00	_____
-Miscellaneous	8.75	_____	1.75	_____
-Operating Interest	17.63	_____	7.23	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	487.88	_____	200.15	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	14.01	_____	9.79	_____
-Machinery Depreciation	43.23	_____	25.18	_____
-Machinery Investment	21.80	_____	12.95	_____
-Land Charge	132.00	_____	132.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	211.04	_____	179.92	_____
SUM OF ALL LISTED COSTS	698.92	_____	380.07	_____
RETURN TO LABOR & MANAGEMENT	183.08	_____	114.73	_____
LISTED COSTS PER BUDGET UNIT	(bu):	_____	(bu):	_____
-Direct Costs	2.90	_____	5.00	_____
-Indirect Costs	1.26	_____	4.50	_____
-Total Costs	4.16	_____	9.50	_____

Corn notes:

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

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.

Drybeans

Oil Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	2010	_____	2130	_____
Market Price	0.36	_____	0.256	_____
MARKET REVENUE	723.60	_____	545.28	_____
DIRECT COSTS				
-Seed	61.88	_____	41.04	_____
-Herbicides	46.90*	_____	35.90	_____
-Fungicides	20.00**	_____	0.00*	_____
-Insecticides	0.00	_____	5.00**	_____
-Fertilizer	73.71	_____	88.44	_____
-Crop Insurance	15.50	_____	10.50	_____
-Fuel & Lubrication	26.18	_____	27.67	_____
-Repairs	24.15	_____	21.88	_____
-Drying	0.00	_____	6.39	_____
-Miscellaneous	17.75	_____	17.75	_____
-Operating Interest	10.73	_____	9.55	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	296.80	_____	264.12	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.45	_____	11.00	_____
-Machinery Depreciation	29.44	_____	29.24	_____
-Machinery Investment	15.10	_____	15.70	_____
-Land Charge	132.00	_____	132.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	186.99	_____	187.94	_____
SUM OF ALL LISTED COSTS	483.79	_____	452.06	_____
RETURN TO LABOR & MANAGEMENT	239.81	_____	93.22	_____
LISTED COSTS PER BUDGET UNIT	(lb):	_____	(lb):	_____
-Direct Costs	0.148	_____	0.124	_____
-Indirect Costs	0.093	_____	0.088	_____
-Total Costs	0.241	_____	0.212	_____

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 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

Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1680	_____	100	_____
Market Price	0.358	_____	3.17	_____
MARKET REVENUE	601.44	_____	317.00	_____
DIRECT COSTS				
-Seed	60.40	_____	20.00	_____
-Herbicides	39.00	_____	6.50	_____
-Fungicides	0.00*	_____	0.00	_____
-Insecticides	10.00**	_____	0.00	_____
-Fertilizer	65.56	_____	113.34	_____
-Crop Insurance	15.50	_____	9.50	_____
-Fuel & Lubrication	26.44	_____	33.01	_____
-Repairs	21.47	_____	24.15	_____
-Drying	5.22	_____	0.00	_____
-Miscellaneous	26.75	_____	8.75	_____
-Operating Interest	10.14	_____	8.07	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	280.48	_____	223.32	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.72	_____	11.23	_____
-Machinery Depreciation	28.40	_____	29.04	_____
-Machinery Investment	15.32	_____	15.36	_____
-Land Charge	132.00	_____	132.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	186.44	_____	187.63	_____
SUM OF ALL LISTED COSTS	466.92	_____	410.95	_____
RETURN TO LABOR & MANAGEMENT	134.52	_____	(93.95)	_____
LISTED COSTS PER BUDGET UNIT	(lb):	_____	(bu):	_____
-Direct Costs	0.167	_____	2.23	_____
-Indirect Costs	0.111	_____	1.88	_____
-Total Costs	0.278	_____	4.11	_____

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."

Winter Wheat

	Per Acre	Your Figures
Market Yield	70*	_____
Market Price	7.26	_____
MARKET REVENUE	508.20	_____
DIRECT COSTS		
-Seed	17.55	_____
-Herbicides	34.00	_____
-Fungicides	10.00	_____
-Insecticides	0.00	_____
-Fertilizer	156.84	_____
-Crop Insurance	5.50	_____
-Fuel & Lubrication	26.24	_____
-Repairs	21.38	_____
-Drying	0.00	_____
-Miscellaneous	8.75	_____
-Operating Interest	10.51	_____
	=====	=====
SUM OF LISTED DIRECT COSTS	290.77	_____
INDIRECT (FIXED) COSTS		
-Misc. Overhead	10.15	_____
-Machinery Depreciation	25.77	_____
-Machinery Investment	13.08	_____
-Land Charge	132.00	_____
	=====	=====
SUM OF LISTED INDIRECT COSTS	181.00	_____
SUM OF ALL LISTED COSTS	471.77	_____
RETURN TO LABOR & MANAGEMENT	36.43	_____
LISTED COSTS PER BUDGET UNIT	(bu):	_____
-Direct Costs	4.15	_____
-Indirect Costs	2.59	_____
-Total Costs	6.74	_____

Winter Wheat notes:

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

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