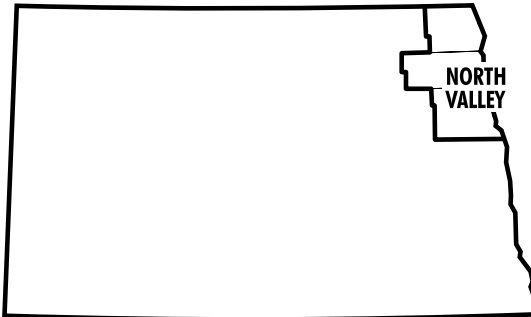




FARM MANAGEMENT PLANNING GUIDE

January 2021

Projected 2021 Crop Budgets



North Valley North Dakota

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

The 2021 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 2021 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 2013-2019, 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	- .39/lb
Phosphorus	- .44/lb
Potassium	- .27/lb

Seed Prices:

Spring Wheat	11.50/bu
Durum	13.00/bu
Barley	9.50/bu
Corn GM	2.69/thou.kern.
Soybean GM	.34/thou.kern.
Dry Beans	.75/thou.kern.
Oil Sunflower	1.55/thou.kern.
Conf. Sunflower	2.75/thou.kern.
Canola	11.30/lb
Flax	18.50/bu
Field Peas	14.00/bu
Oats	6.25/bu
Mustard	2.10/lb
Winter Wheat	9.00/bu

Fuel prices:

Diesel	2.00/gal
Gas	2.10/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 4.5% 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, \$4.00 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	62	_____	62	_____
Market Price	5.71	_____	6.41*	_____
MARKET REVENUE	354.02	_____	397.42	_____
DIRECT COSTS				
-Seed	23.00	_____	23.50	_____
-Herbicides	22.50	_____	22.50	_____
-Fungicides**	17.00	_____	17.00	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	77.15	_____	77.15	_____
-Crop Insurance	7.50	_____	12.00	_____
-Fuel & Lubrication	14.69	_____	14.69	_____
-Repairs	21.66	_____	21.66	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.25	_____	8.25	_____
-Operating Interest	4.31	_____	4.43	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	196.06	_____	201.18	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.86	_____	8.86	_____
-Machinery Depreciation	22.62	_____	22.62	_____
-Machinery Investment	14.05	_____	14.05	_____
-Land Charge	88.00	_____	88.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	133.53	_____	133.53	_____
SUM OF ALL LISTED COSTS	329.59	_____	334.71	_____
RETURN TO LABOR & MANAGEMENT	24.43	_____	62.71	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.16	_____	3.24	_____
-Indirect Costs	2.15	_____	2.15	_____
-Total Costs	5.32	_____	5.40	_____

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	74	_____	136	_____
Market Price	4.97*	_____	3.80	_____
MARKET REVENUE	367.78	_____	516.80	_____
DIRECT COSTS				
-Seed	19.00	_____	84.74*	_____
-Herbicides	19.70	_____	27.00	_____
-Fungicides	17.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	53.62	_____	86.92	_____
-Crop Insurance	6.50	_____	14.00	_____
-Fuel & Lubrication	15.12	_____	19.80	_____
-Repairs	21.75	_____	28.86	_____
-Drying	0.00	_____	24.84	_____
-Miscellaneous	8.25	_____	8.25	_____
-Operating Interest	3.62	_____	6.62	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	164.56	_____	301.03	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.93	_____	11.78	_____
-Machinery Depreciation	22.53	_____	36.48	_____
-Machinery Investment	13.86	_____	21.49	_____
-Land Charge	88.00	_____	88.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	133.32	_____	157.75	_____
SUM OF ALL LISTED COSTS	297.88	_____	458.78	_____
RETURN TO LABOR & MANAGEMENT	69.90	_____	58.02	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.22	_____	2.21	_____
-Indirect Costs	1.80	_____	1.16	_____
-Total Costs	4.03	_____	3.37	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$2.88 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	_____	1710	_____
Market Price	10.27	_____	0.3	_____
MARKET REVENUE	349.18	_____	513.00	_____
DIRECT COSTS				
-Seed	65.80*	_____	61.88	_____
-Herbicides	28.00	_____	46.90*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	4.00**	_____	0.00	_____
-Fertilizer	2.80	_____	35.68	_____
-Crop Insurance	7.00	_____	20.00	_____
-Fuel & Lubrication	11.93	_____	13.77	_____
-Repairs	19.83	_____	22.96	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	16.75	_____
-Operating Interest	3.17	_____	5.35	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	144.03	_____	243.29	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.23	_____	9.02	_____
-Machinery Depreciation	21.33	_____	25.87	_____
-Machinery Investment	12.91	_____	15.59	_____
-Land Charge	88.00	_____	88.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	130.47	_____	138.48	_____
SUM OF ALL LISTED COSTS	274.50	_____	381.77	_____
RETURN TO LABOR & MANAGEMENT	74.68	_____	131.23	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	4.24	_____	0.142	_____
-Indirect Costs	3.84	_____	0.081	_____
-Total Costs	8.07	_____	0.223	_____

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	1690		1230	
Market Price	0.202		0.268	
MARKET REVENUE	341.38		329.64	
DIRECT COSTS				
-Seed	37.20		55.00	
-Herbicides	27.70		29.90	
-Fungicides	0.00*		0.00*	
-Insecticides	5.00**		10.00**	
-Fertilizer	37.00		23.64	
-Crop Insurance	12.00		17.50	
-Fuel & Lubrication	13.76		13.12	
-Repairs	20.38		19.96	
-Drying	5.16		3.60	
-Miscellaneous	16.75		25.25	
-Operating Interest	3.94		4.45	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	178.89		202.42	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.23		8.96	
-Machinery Depreciation	24.66		23.86	
-Machinery Investment	15.59		15.18	
-Land Charge	88.00		88.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	137.48		136.00	
SUM OF ALL LISTED COSTS	316.37		338.42	
RETURN TO LABOR & MANAGEMENT	25.01		(8.78)	
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.106		0.165	
-Indirect Costs	0.081		0.111	
-Total Costs	0.187		0.275	

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	1970	_____	23	_____
Market Price	0.187	_____	10.82	_____
MARKET REVENUE	368.39	_____	248.86	_____
DIRECT COSTS				
-Seed	56.50	_____	18.50	_____
-Herbicides	23.10	_____	24.70	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	72.50	_____	27.11	_____
-Crop Insurance	10.50	_____	15.00	_____
-Fuel & Lubrication	12.38	_____	13.79	_____
-Repairs	19.49	_____	22.00	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.25	_____	1.50	_____
-Operating Interest	4.56	_____	2.76	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	207.28	_____	125.36	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.13	_____	8.48	_____
-Machinery Depreciation	21.50	_____	22.61	_____
-Machinery Investment	12.48	_____	14.14	_____
-Land Charge	88.00	_____	88.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	130.11	_____	133.23	_____
SUM OF ALL LISTED COSTS	337.39	_____	258.59	_____
RETURN TO LABOR & MANAGEMENT	31.00	_____	(9.73)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.105	_____	5.45	_____
-Indirect Costs	0.066	_____	5.79	_____
-Total Costs	0.171	_____	11.24	_____

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	41	_____	107	_____
Market Price	6.48	_____	2.63	_____
MARKET REVENUE	265.68	_____	281.41	_____
DIRECT COSTS				
-Seed	42.00	_____	12.50	_____
-Herbicides	32.30	_____	5.40	_____
-Fungicides	1.50	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	8.29	_____	69.49	_____
-Crop Insurance	10.00	_____	18.00	_____
-Fuel & Lubrication	13.67	_____	17.43	_____
-Repairs	22.00	_____	23.43	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	6.00	_____	8.25	_____
-Operating Interest	3.05	_____	3.48	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	138.81	_____	157.98	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.71	_____	9.97	_____
-Machinery Depreciation	23.65	_____	25.93	_____
-Machinery Investment	14.28	_____	16.16	_____
-Land Charge	88.00	_____	88.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	134.64	_____	140.06	_____
SUM OF ALL LISTED COSTS	273.45	_____	298.04	_____
RETURN TO LABOR & MANAGEMENT	(7.77)	_____	(16.63)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.39	_____	1.48	_____
-Indirect Costs	3.28	_____	1.31	_____
-Total Costs	6.67	_____	2.79	_____

Yellow Mustard

Winter Wheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	900	_____	55*	_____
Market Price	0.27	_____	4.97	_____
MARKET REVENUE	243.00	_____	273.35	_____
DIRECT COSTS				
-Seed	25.20	_____	11.70	_____
-Herbicides	14.00	_____	24.50	_____
-Fungicides	0.00	_____	9.00	_____
-Insecticides	6.00*	_____	0.00	_____
-Fertilizer	23.36	_____	67.07	_____
-Crop Insurance	0.00**	_____	7.00	_____
-Fuel & Lubrication	11.43	_____	12.99	_____
-Repairs	18.86	_____	19.89	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	8.25	_____
-Operating Interest	2.26	_____	3.61	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	102.61	_____	164.01	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.87	_____	8.40	_____
-Machinery Depreciation	19.77	_____	21.25	_____
-Machinery Investment	12.34	_____	12.75	_____
-Land Charge	88.00	_____	88.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	127.98	_____	130.40	_____
SUM OF ALL LISTED COSTS	230.59	_____	294.41	_____
RETURN TO LABOR & MANAGEMENT	12.41	_____	(21.06)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.114	_____	2.982	_____
-Indirect Costs	0.142	_____	2.371	_____
-Total Costs	0.256	_____	5.353	_____

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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