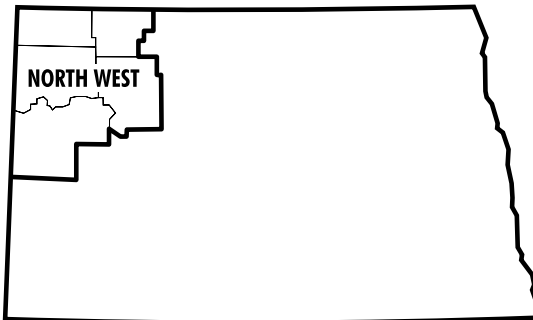




FARM MANAGEMENT PLANNING GUIDE

January 2021

Projected 2021 Crop Budgets



North West North Dakota

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

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.

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 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.
Oil Sunflower	1.55/thou.kern.
Canola	11.30/lb
Flax	18.50/bu
Field Peas	14.00/bu
Oats	6.25/bu
Lentils	.30/lb
Mustard	2.10/lb
Safflower	.45/lb
Buckwheat	.40/lb
Millet	.45/lb
Large Chickpeas	.40/lb
Winter Wheat	9.00/bu
Rye	8.00/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	39	_____	35	_____
Market Price	5.57	_____	6.27*	_____
MARKET REVENUE	217.23	_____	219.45	_____
DIRECT COSTS				
-Seed	17.25	_____	22.75	_____
-Herbicides	25.80	_____	25.80	_____
-Fungicides**	5.00	_____	5.00	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	50.18	_____	43.83	_____
-Crop Insurance	5.50	_____	6.00	_____
-Fuel & Lubrication	9.15	_____	8.98	_____
-Repairs	16.36	_____	16.24	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.25	_____	8.25	_____
-Operating Interest	3.09	_____	3.08	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	140.58	_____	139.93	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.52	_____	7.44	_____
-Machinery Depreciation	18.51	_____	18.29	_____
-Machinery Investment	10.37	_____	10.25	_____
-Land Charge	36.00	_____	36.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	72.40	_____	71.98	_____
SUM OF ALL LISTED COSTS	212.98	_____	211.91	_____
RETURN TO LABOR & MANAGEMENT	4.25	_____	7.54	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.60	_____	4.00	_____
-Indirect Costs	1.86	_____	2.06	_____
-Total Costs	5.46	_____	6.05	_____

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	60	_____	95	_____
Market Price	5.08*	_____	3.80	_____
MARKET REVENUE	304.80	_____	361.00	_____
DIRECT COSTS				
-Seed	12.83	_____	61.87*	_____
-Herbicides	24.30	_____	21.00	_____
-Fungicides	5.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	48.18	_____	66.66	_____
-Crop Insurance	5.50	_____	7.50**	_____
-Fuel & Lubrication	10.08	_____	12.89	_____
-Repairs	16.96	_____	20.29	_____
-Drying	0.00	_____	17.10	_____
-Miscellaneous	8.25	_____	8.25	_____
-Operating Interest	2.95	_____	4.85	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	134.05	_____	220.41	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.92	_____	10.01	_____
-Machinery Depreciation	19.64	_____	30.98	_____
-Machinery Investment	10.96	_____	16.92	_____
-Land Charge	36.00	_____	36.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	74.52	_____	93.91	_____
SUM OF ALL LISTED COSTS	208.57	_____	314.32	_____
RETURN TO LABOR & MANAGEMENT	96.23	_____	46.68	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.23	_____	2.32	_____
-Indirect Costs	1.24	_____	0.99	_____
-Total Costs	3.48	_____	3.31	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$2.95 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	26		1550	
Market Price	10.10		0.196	
MARKET REVENUE	262.60		303.80	
DIRECT COSTS				
-Seed	65.80*		32.55	
-Herbicides	18.00		34.00	
-Fungicides	0.00		0.00*	
-Insecticides	0.00**		5.00**	
-Fertilizer	10.15		38.10	
-Crop Insurance	6.00		10.00	
-Fuel & Lubrication	9.04		9.93	
-Repairs	16.65		17.59	
-Drying	0.00		4.56	
-Miscellaneous	5.00		16.75	
-Operating Interest	2.94		3.79	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	133.58		172.27	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.59		8.19	
-Machinery Depreciation	19.57		21.50	
-Machinery Investment	11.04		12.27	
-Land Charge	36.00		36.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	74.20		77.96	
SUM OF ALL LISTED COSTS	207.78		250.23	
RETURN TO LABOR & MANAGEMENT	54.82		53.57	
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	5.14		0.111	
-Indirect Costs	2.85		0.050	
-Total Costs	7.99		0.161	

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	1850	_____	21	_____
Market Price	0.191	_____	10.47	_____
MARKET REVENUE	353.35	_____	219.87	_____
DIRECT COSTS				
-Seed	56.50	_____	14.80	_____
-Herbicides	23.10	_____	29.20	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	77.12	_____	27.47	_____
-Crop Insurance	10.00	_____	12.00	_____
-Fuel & Lubrication	9.95	_____	9.64	_____
-Repairs	17.72	_____	18.43	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.26	_____	1.50	_____
-Operating Interest	4.56	_____	2.54	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	207.21	_____	115.58	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.83	_____	7.85	_____
-Machinery Depreciation	21.00	_____	21.09	_____
-Machinery Investment	11.55	_____	12.11	_____
-Land Charge	36.00	_____	36.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	76.38	_____	77.05	_____
SUM OF ALL LISTED COSTS	283.59	_____	192.63	_____
RETURN TO LABOR & MANAGEMENT	69.76	_____	27.24	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.112	_____	5.50	_____
-Indirect Costs	0.041	_____	3.67	_____
-Total Costs	0.153	_____	9.17	_____

Field Peas

Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	33	_____	71	_____
Market Price	6.48	_____	2.62	_____
MARKET REVENUE	213.84	_____	186.02	_____
DIRECT COSTS				
-Seed	42.00	_____	12.50	_____
-Herbicides	35.90	_____	10.60	_____
-Fungicides	1.50	_____	0.00	_____
-Insecticides	6.00*	_____	0.00	_____
-Fertilizer	11.43	_____	48.84	_____
-Crop Insurance	7.50	_____	12.00	_____
-Fuel & Lubrication	10.17	_____	11.75	_____
-Repairs	19.01	_____	18.86	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	8.25	_____
-Operating Interest	3.22	_____	2.76	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	146.23	_____	125.56	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.07	_____	8.69	_____
-Machinery Depreciation	22.39	_____	22.55	_____
-Machinery Investment	12.43	_____	13.16	_____
-Land Charge	36.00	_____	36.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	78.89	_____	80.40	_____
SUM OF ALL LISTED COSTS	225.12	_____	205.96	_____
RETURN TO LABOR & MANAGEMENT	(11.28)	_____	(19.94)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.43	_____	1.77	_____
-Indirect Costs	2.39	_____	1.13	_____
-Total Costs	6.82	_____	2.90	_____

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		850	
Market Price	0.18		0.27	
MARKET REVENUE	221.40		229.50	
DIRECT COSTS				
-Seed	21.00		21.00	
-Herbicides	35.50*		20.20	
-Fungicides	16.00**		0.00	
-Insecticides	0.00***		0.00	
-Fertilizer	7.10		25.89	
-Crop Insurance	9.00		13.00*	
-Fuel & Lubrication	11.31		9.53	
-Repairs	21.61		17.97	
-Drying	0.00		0.00	
-Miscellaneous	9.50		8.25	
-Operating Interest	2.95		2.61	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	133.97		118.45	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.41		7.86	
-Machinery Depreciation	25.52		20.14	
-Machinery Investment	13.99		12.32	
-Land Charge	36.00		36.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	83.92		76.32	
SUM OF ALL LISTED COSTS	217.89		194.77	
RETURN TO LABOR & MANAGEMENT	3.51		34.73	
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.109		0.139	
-Indirect Costs	0.068		0.090	
-Total Costs	0.177		0.229	

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	0.20	_____	0.221	_____
MARKET REVENUE	210.00	_____	187.85	_____
DIRECT COSTS				
-Seed	8.10	_____	20.00	_____
-Herbicides	22.10	_____	18.00	_____
-Fungicides	18.00*	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	23.60	_____	15.30	_____
-Crop Insurance	17.00	_____	6.50*	_____
-Fuel & Lubrication	8.58	_____	9.18	_____
-Repairs	16.69	_____	17.22	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.25	_____	1.50	_____
-Operating Interest	2.75	_____	1.97	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	125.07	_____	89.67	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.39	_____	7.66	_____
-Machinery Depreciation	18.25	_____	19.50	_____
-Machinery Investment	10.35	_____	11.54	_____
-Land Charge	36.00	_____	36.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	71.99	_____	74.70	_____
SUM OF ALL LISTED COSTS	197.06	_____	164.37	_____
RETURN TO LABOR & MANAGEMENT	12.94	_____	23.48	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.119	_____	0.105	_____
-Indirect Costs	0.069	_____	0.088	_____
-Total Costs	0.188	_____	0.193	_____

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	0.14	_____	0.20	_____
MARKET REVENUE	182.00	_____	280.00	_____
DIRECT COSTS				
-Seed	11.25	_____	56.00	_____
-Herbicides	9.60	_____	36.30	_____
-Fungicides	0.00	_____	36.00*	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	17.99	_____	16.81	_____
-Crop Insurance	0.00	_____	9.50	_____
-Fuel & Lubrication	9.77	_____	11.73	_____
-Repairs	17.56	_____	22.53	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.25	_____	8.50	_____
-Operating Interest	1.67	_____	4.44	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	76.09	_____	201.81	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.84	_____	8.62	_____
-Machinery Depreciation	20.12	_____	26.33	_____
-Machinery Investment	11.89	_____	14.57	_____
-Land Charge	36.00	_____	36.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	75.85	_____	85.52	_____
SUM OF ALL LISTED COSTS	151.94	_____	287.33	_____
RETURN TO LABOR & MANAGEMENT	30.06	_____	(7.33)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.059	_____	0.144	_____
-Indirect Costs	0.058	_____	0.061	_____
-Total Costs	0.117	_____	0.205	_____

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	42*	_____	40	_____
Market Price	4.74	_____	3.79	_____
MARKET REVENUE	199.08	_____	151.60	_____
DIRECT COSTS				
-Seed	9.00	_____	9.60	_____
-Herbicides	23.00	_____	6.50	_____
-Fungicides	9.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	54.94	_____	51.77	_____
-Crop Insurance	5.50	_____	8.00	_____
-Fuel & Lubrication	9.13	_____	8.86	_____
-Repairs	16.46	_____	15.53	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.25	_____	8.25	_____
-Operating Interest	3.04	_____	2.44	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	138.32	_____	110.95	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.48	_____	7.38	_____
-Machinery Depreciation	18.41	_____	17.86	_____
-Machinery Investment	10.14	_____	9.87	_____
-Land Charge	36.00	_____	36.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	72.03	_____	71.11	_____
SUM OF ALL LISTED COSTS	210.35	_____	182.06	_____
RETURN TO LABOR & MANAGEMENT	(11.27)	_____	(30.46)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.29	_____	2.77	_____
-Indirect Costs	1.72	_____	1.78	_____
-Total Costs	5.01	_____	4.55	_____

Winter Wheat notes:

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

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