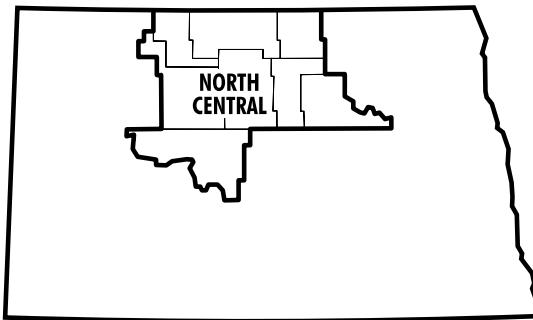




FARM MANAGEMENT PLANNING GUIDE

February 2022

Projected 2022 Crop Budgets



North Central North Dakota

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This region consists of eight counties: Benson, Bottineau, McHenry, McLean, Pierce, Renville, Rolette and Ward.

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 2022 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 2014-2020, 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	- .94/lb
Phosphorus	- .65/lb
Potassium	- .53/lb

Seed Prices:

Spring Wheat	17.00/bu
Durum	19.00/bu
Barley	13.00/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	12.40/lb
Flax	27.00/bu
Field Peas	20.00/bu
Oats	10.00/bu
Lentils	.30/lb
Mustard	1.00/lb
Buckwheat	.40/lb
Millet	.60/lb
Winter Wheat	12.00/bu
Rye	11.00/bu

Fuel prices:

Diesel	2.90/gal
Gas	3.10/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	51		49	
Market Price	7.44		8.94*	
MARKET REVENUE	379.44		438.06	
DIRECT COSTS				
-Seed	28.90		38.00	
-Herbicides	36.70		36.70	
-Fungicides**	9.00		17.00	
-Insecticides***	0.00		0.00	
-Fertilizer	102.42		95.68	
-Crop Insurance	7.50		9.50	
-Fuel & Lubrication	17.33		17.21	
-Repairs	20.31		20.26	
-Drying	0.00		0.00	
-Miscellaneous	1.50		1.50	
-Operating Interest	5.03		5.31	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	228.69		241.16	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.69		8.66	
-Machinery Depreciation	23.34		23.23	
-Machinery Investment	13.87		13.81	
-Land Charge	50.00		50.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	95.90		95.70	
SUM OF ALL LISTED COSTS	324.59		336.86	
RETURN TO LABOR & MANAGEMENT	54.85		101.20	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.48		4.92	
-Indirect Costs	1.88		1.95	
-Total Costs	6.36		6.87	

Wheat notes:

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

**Includes seed treatment, an early season foliar fungicide, and a late season fungicide. Prothioconazole, metconazole or pydiflumetofen containing products are highly 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	_____	110	_____
Market Price	5.95*	_____	4.45	_____
MARKET REVENUE	440.30	_____	489.50	_____
DIRECT COSTS				
-Seed	20.80	_____	78.01*	_____
-Herbicides	26.70	_____	47.50	_____
-Fungicides	17.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	84.01	_____	116.64	_____
-Crop Insurance	5.50	_____	10.00	_____
-Fuel & Lubrication	18.71	_____	25.26	_____
-Repairs	20.80	_____	25.50	_____
-Drying	0.00	_____	19.80	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	4.39	_____	7.29	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	199.41	_____	331.50	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.10	_____	11.40	_____
-Machinery Depreciation	24.45	_____	37.63	_____
-Machinery Investment	14.41	_____	21.06	_____
-Land Charge	50.00	_____	50.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	97.96	_____	120.09	_____
SUM OF ALL LISTED COSTS	297.37	_____	451.59	_____
RETURN TO LABOR & MANAGEMENT	142.93	_____	37.91	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.69	_____	3.01	_____
-Indirect Costs	1.32	_____	1.09	_____
-Total Costs	4.02	_____	4.11	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$4.00 for feed barley.

**Includes seed treatment, an early season foliar fungicide, and a late season fungicide fungicide 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	32	_____	1560	_____
Market Price	11.35	_____	0.33	_____
MARKET REVENUE	363.20	_____	514.80	_____
DIRECT COSTS				
-Seed	65.80*	_____	61.88	_____
-Herbicides	52.00	_____	46.90*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	0.00**	_____	0.00	_____
-Fertilizer	11.18	_____	29.51	_____
-Crop Insurance	5.00	_____	13.00	_____
-Fuel & Lubrication	13.53	_____	19.01	_____
-Repairs	16.97	_____	22.28	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.00	_____	13.50	_____
-Operating Interest	3.81	_____	5.09	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	173.29	_____	231.17	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.81	_____	9.07	_____
-Machinery Depreciation	20.90	_____	27.76	_____
-Machinery Investment	11.59	_____	15.99	_____
-Land Charge	50.00	_____	50.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	90.30	_____	102.82	_____
SUM OF ALL LISTED COSTS	263.59	_____	333.99	_____
RETURN TO LABOR & MANAGEMENT	99.61	_____	180.81	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	5.42	_____	0.148	_____
-Indirect Costs	2.82	_____	0.066	_____
-Total Costs	8.24	_____	0.214	_____

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 would cost about \$4 per acre plus application.

Drybean notes:

*Includes dessicant prior to straight cutting.

**Fungicide for white mold. 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	_____	1320	_____
Market Price	0.249	_____	0.349	_____
MARKET REVENUE	420.81	_____	460.68	_____
DIRECT COSTS				
-Seed	32.55	_____	49.50	_____
-Herbicides	44.20	_____	47.10	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	45.24	_____	20.11	_____
-Crop Insurance	8.50	_____	13.50	_____
-Fuel & Lubrication	18.20	_____	17.45	_____
-Repairs	20.14	_____	19.80	_____
-Drying	5.01	_____	3.90	_____
-Miscellaneous	10.00	_____	18.50	_____
-Operating Interest	4.25	_____	4.50	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	193.09	_____	204.36	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.16	_____	8.94	_____
-Machinery Depreciation	25.31	_____	24.66	_____
-Machinery Investment	15.34	_____	15.01	_____
-Land Charge	50.00	_____	50.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	99.81	_____	98.61	_____
SUM OF ALL LISTED COSTS	292.90	_____	302.97	_____
RETURN TO LABOR & MANAGEMENT	127.91	_____	157.71	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.114	_____	0.155	_____
-Indirect Costs	0.059	_____	0.075	_____
-Total Costs	0.173	_____	0.230	_____

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).

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." 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	1920		22	
Market Price	0.261		13.93	
MARKET REVENUE	501.12		306.46	
DIRECT COSTS				
-Seed	62.00		24.30	
-Herbicides	32.30		40.90	
-Fungicides	0.00*		0.00*	
-Insecticides	0.00		0.00	
-Fertilizer	113.78		18.46	
-Crop Insurance	8.00		11.00	
-Fuel & Lubrication	16.56		16.54	
-Repairs	19.50		20.36	
-Drying	0.00		0.00	
-Miscellaneous	1.50		1.50	
-Operating Interest	5.71		2.99	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	259.35		136.05	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.35		8.42	
-Machinery Depreciation	23.62		23.96	
-Machinery Investment	13.26		13.98	
-Land Charge	50.00		50.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	95.23		96.36	
SUM OF ALL LISTED COSTS	354.58		232.41	
RETURN TO LABOR & MANAGEMENT	146.54		74.05	
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.135		6.18	
-Indirect Costs	0.050		4.38	
-Total Costs	0.185		10.56	

Canola notes:

*Fungicide for white mold would cost about \$18 plus application.

Field Peas

Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	38	_____	88	_____
Market Price	9.00	_____	3.49	_____
MARKET REVENUE	342.00	_____	307.12	_____
DIRECT COSTS				
-Seed	60.00	_____	20.00	_____
-Herbicides	46.70	_____	11.70	_____
-Fungicides	1.50	_____	0.00	_____
-Insecticides	0.00*	_____	0.00	_____
-Fertilizer	15.51	_____	87.45	_____
-Crop Insurance	8.50	_____	13.50	_____
-Fuel & Lubrication	15.82	_____	20.84	_____
-Repairs	19.57	_____	21.94	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	1.50	_____
-Operating Interest	3.98	_____	3.98	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	181.08	_____	180.91	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.37	_____	9.78	_____
-Machinery Depreciation	24.10	_____	26.86	_____
-Machinery Investment	13.22	_____	16.19	_____
-Land Charge	50.00	_____	50.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	95.69	_____	102.83	_____
SUM OF ALL LISTED COSTS	276.77	_____	283.74	_____
RETURN TO LABOR & MANAGEMENT	65.23	_____	23.38	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.77	_____	2.06	_____
-Indirect Costs	2.52	_____	1.17	_____
-Total Costs	7.28	_____	3.22	_____

Field Pea notes:

*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	1500	_____	900	_____
Market Price	0.22	_____	0.450	_____
MARKET REVENUE	330.00	_____	405.00	_____
DIRECT COSTS				
-Seed	21.00	_____	12.60	_____
-Herbicides	46.20*	_____	30.30	_____
-Fungicides	16.00**	_____	0.00	_____
-Insecticides	0.00***	_____	6.00*	_____
-Fertilizer	10.12	_____	13.46	_____
-Crop Insurance	9.00	_____	16.50**	_____
-Fuel & Lubrication	17.36	_____	16.24	_____
-Repairs	22.46	_____	19.87	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	1.50	_____
-Operating Interest	3.41	_____	2.62	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	155.05	_____	119.09	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.88	_____	8.41	_____
-Machinery Depreciation	27.39	_____	22.93	_____
-Machinery Investment	14.92	_____	14.15	_____
-Land Charge	50.00	_____	50.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	101.19	_____	95.49	_____
SUM OF ALL LISTED COSTS	256.24	_____	214.58	_____
RETURN TO LABOR & MANAGEMENT	73.76	_____	190.42	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.103	_____	0.132	_____
-Indirect Costs	0.067	_____	0.106	_____
-Total Costs	0.171	_____	0.238	_____

Lentil notes:

*Includes pre-harvest dessicant.

**Fungicide treatment for ascochyta/anthracnose.

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

Yellow Mustard notes:

*Insecticide seed treatment for flea beetles.

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

Buckwheat

Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	950	_____	1300	_____
Market Price	0.313	_____	0.21	_____
MARKET REVENUE	297.35	_____	273.00	_____
DIRECT COSTS				
-Seed	20.50	_____	17.50	_____
-Herbicides	19.80	_____	10.60	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	10.55	_____	8.77	_____
-Crop Insurance	8.00*	_____	0.00	_____
-Fuel & Lubrication	15.90	_____	16.88	_____
-Repairs	19.17	_____	20.15	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	2.15	_____	1.70	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	97.57	_____	77.10	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.25	_____	8.60	_____
-Machinery Depreciation	22.40	_____	23.47	_____
-Machinery Investment	13.42	_____	14.43	_____
-Land Charge	50.00	_____	50.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	94.07	_____	96.50	_____
SUM OF ALL LISTED COSTS	191.64	_____	173.60	_____
RETURN TO LABOR & MANAGEMENT	105.71	_____	99.40	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.103	_____	0.059	_____
-Indirect Costs	0.099	_____	0.074	_____
-Total Costs	0.202	_____	0.134	_____

Buckwheat notes:

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

Winter Wheat

Rye

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	56*	_____	46	_____
Market Price	6.39	_____	6.73	_____
MARKET REVENUE	357.84	_____	309.58	_____
DIRECT COSTS				
-Seed	13.20	_____	13.20	_____
-Herbicides	34.30	_____	7.20	_____
-Fungicides	9.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	119.28	_____	85.56	_____
-Crop Insurance	7.50	_____	16.00	_____
-Fuel & Lubrication	16.38	_____	15.82	_____
-Repairs	18.25	_____	17.67	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.25	_____	8.25	_____
-Operating Interest	5.09	_____	3.68	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	231.25	_____	167.38	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.16	_____	8.01	_____
-Machinery Depreciation	21.41	_____	20.91	_____
-Machinery Investment	11.90	_____	11.77	_____
-Land Charge	50.00	_____	50.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	91.47	_____	90.69	_____
SUM OF ALL LISTED COSTS	322.72	_____	258.07	_____
RETURN TO LABOR & MANAGEMENT	35.12	_____	51.51	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.13	_____	3.64	_____
-Indirect Costs	1.63	_____	1.97	_____
-Total Costs	5.76	_____	5.61	_____

Winter Wheat notes:

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

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