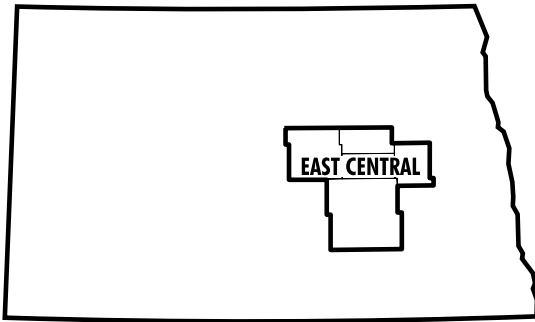




FARM MANAGEMENT PLANNING GUIDE

February 2022

Projected 2022 Crop Budgets



East Central North Dakota

Ron Haugen, Farm Management Specialist

Note: This region consists of five counties:
Eddy, Foster, Griggs, Stutsman and Wells.

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.

NDSU

EXTENSION

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 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
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	55	_____	55	_____
Market Price	7.57	_____	9.06*	_____
MARKET REVENUE	416.35	_____	498.30	_____
DIRECT COSTS				
-Seed	29.75	_____	33.25	_____
-Herbicides	31.50	_____	31.50	_____
-Fungicides**	17.00	_____	17.00	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	127.19	_____	127.19	_____
-Crop Insurance	7.50	_____	9.50	_____
-Fuel & Lubrication	19.04	_____	19.04	_____
-Repairs	20.65	_____	20.65	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	5.72	_____	5.84	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	259.85	_____	265.47	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.78	_____	8.78	_____
-Machinery Depreciation	23.87	_____	23.87	_____
-Machinery Investment	14.00	_____	14.00	_____
-Land Charge	67.00	_____	67.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	113.65	_____	113.65	_____
SUM OF ALL LISTED COSTS	373.50	_____	379.12	_____
RETURN TO LABOR & MANAGEMENT	42.85	_____	119.18	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.72	_____	4.83	_____
-Indirect Costs	2.07	_____	2.07	_____
-Total Costs	6.79	_____	6.89	_____

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.

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	72	_____	141	_____
Market Price	5.93*	_____	4.45	_____
MARKET REVENUE	426.96	_____	627.45	_____
DIRECT COSTS				
-Seed	22.75	_____	84.74*	_____
-Herbicides	21.70	_____	51.30	_____
-Fungicides	17.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	91.14	_____	180.40	_____
-Crop Insurance	5.00	_____	11.50	_____
-Fuel & Lubrication	19.98	_____	29.16	_____
-Repairs	20.88	_____	27.94	_____
-Drying	0.00	_____	24.84	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	4.50	_____	9.26	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	204.45	_____	420.64	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.16	_____	12.34	_____
-Machinery Depreciation	25.13	_____	40.80	_____
-Machinery Investment	14.70	_____	23.19	_____
-Land Charge	67.00	_____	67.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	115.99	_____	143.33	_____
SUM OF ALL LISTED COSTS	320.44	_____	563.97	_____
RETURN TO LABOR & MANAGEMENT	106.52	_____	63.48	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.84	_____	2.98	_____
-Indirect Costs	1.61	_____	1.02	_____
-Total Costs	4.45	_____	4.00	_____

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 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		1610	
Market Price	11.50		0.33	
MARKET REVENUE	391.00		531.30	
DIRECT COSTS				
-Seed	65.80*		61.88	
-Herbicides	56.00		46.90*	
-Fungicides	0.00		20.00**	
-Insecticides	4.00**		0.00	
-Fertilizer	11.88		31.17	
-Crop Insurance	5.50		10.50	
-Fuel & Lubrication	16.16		21.04	
-Repairs	19.49		23.96	
-Drying	0.00		0.00	
-Miscellaneous	5.00		13.50	
-Operating Interest	4.14		5.15	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	187.97		234.10	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.40		9.43	
-Machinery Depreciation	23.26		29.21	
-Machinery Investment	13.47		17.17	
-Land Charge	67.00		67.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	112.13		122.81	
SUM OF ALL LISTED COSTS	300.10		356.91	
RETURN TO LABOR & MANAGEMENT	90.90		174.39	
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	5.53		0.145	
-Indirect Costs	3.30		0.076	
-Total Costs	8.83		0.222	

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 foliar-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	1900	_____	1460	_____
Market Price	0.253	_____	0.354	_____
MARKET REVENUE	490.70	_____	516.84	_____
DIRECT COSTS				
-Seed	34.10	_____	52.25	_____
-Herbicides	36.00	_____	38.90	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	70.79	_____	40.90	_____
-Crop Insurance	9.50	_____	15.00	_____
-Fuel & Lubrication	20.16	_____	19.27	_____
-Repairs	21.05	_____	20.65	_____
-Drying	5.49	_____	4.05	_____
-Miscellaneous	10.00	_____	18.50	_____
-Operating Interest	4.77	_____	4.94	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	216.86	_____	224.46	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.51	_____	9.25	_____
-Machinery Depreciation	26.51	_____	25.74	_____
-Machinery Investment	16.29	_____	15.90	_____
-Land Charge	67.00	_____	67.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	119.31	_____	117.89	_____
SUM OF ALL LISTED COSTS	336.17	_____	342.35	_____
RETURN TO LABOR & MANAGEMENT	144.53	_____	174.49	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.114	_____	0.154	_____
-Indirect Costs	0.063	_____	0.081	_____
-Total Costs	0.177	_____	0.234	_____

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	1730		18	
Market Price	0.256		14.16	
MARKET REVENUE	442.88		254.88	
DIRECT COSTS				
-Seed	62.00		27.00	
-Herbicides	32.30		34.60	
-Fungicides	0.00*		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	107.71		13.74	
-Crop Insurance	8.00		12.00	
-Fuel & Lubrication	18.40		17.97	
-Repairs	20.37		21.09	
-Drying	0.00		0.00	
-Miscellaneous	1.50		1.50	
-Operating Interest	5.63		2.88	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	255.91		130.78	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.54		8.56	
-Machinery Depreciation	24.46		24.56	
-Machinery Investment	13.99		14.56	
-Land Charge	67.00		67.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	113.99		114.68	
SUM OF ALL LISTED COSTS	369.90		245.46	
RETURN TO LABOR & MANAGEMENT	72.98		9.42	
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.148		7.27	
-Indirect Costs	0.066		6.37	
-Total Costs	0.214		13.64	

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	33	_____	82	_____
Market Price	9.00	_____	3.44	_____
MARKET REVENUE	297.00	_____	282.08	_____
DIRECT COSTS				
-Seed	60.00	_____	20.00	_____
-Herbicides	42.00	_____	5.90	_____
-Fungicides	1.50	_____	0.00	_____
-Insecticides	0.00*	_____	0.00	_____
-Fertilizer	13.49	_____	88.03	_____
-Crop Insurance	6.00	_____	12.00	_____
-Fuel & Lubrication	18.87	_____	22.41	_____
-Repairs	21.75	_____	22.47	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	1.50	_____
-Operating Interest	3.90	_____	3.88	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	177.01	_____	176.19	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.83	_____	9.73	_____
-Machinery Depreciation	25.99	_____	27.48	_____
-Machinery Investment	14.94	_____	16.23	_____
-Land Charge	67.00	_____	67.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	116.76	_____	120.44	_____
SUM OF ALL LISTED COSTS	293.77	_____	296.63	_____
RETURN TO LABOR & MANAGEMENT	3.23	_____	(14.55)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	5.36	_____	2.15	_____
-Indirect Costs	3.54	_____	1.47	_____
-Total Costs	8.90	_____	3.62	_____

Field Pea notes:

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

Yellow Mustard

Buckwheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	850	_____	950	_____
Market Price	0.45	_____	0.314	_____
MARKET REVENUE	382.50	_____	298.30	_____
DIRECT COSTS				
-Seed	12.60	_____	20.50	_____
-Herbicides	21.00	_____	13.00	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	6.00*	_____	0.00	_____
-Fertilizer	19.35	_____	10.55	_____
-Crop Insurance	0.00**	_____	9.50*	_____
-Fuel & Lubrication	17.28	_____	17.53	_____
-Repairs	20.17	_____	20.30	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	2.20	_____	2.09	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	100.10	_____	94.97	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.40	_____	8.50	_____
-Machinery Depreciation	23.43	_____	23.68	_____
-Machinery Investment	14.13	_____	14.25	_____
-Land Charge	67.00	_____	67.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	112.96	_____	113.43	_____
SUM OF ALL LISTED COSTS	213.06	_____	208.40	_____
RETURN TO LABOR & MANAGEMENT	169.44	_____	89.90	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.118	_____	0.100	_____
-Indirect Costs	0.133	_____	0.119	_____
-Total Costs	0.251	_____	0.219	_____

Yellow Mustard notes:

*Insecticide seed treatment for flea beetles.

**Crop insurance is not available in this region.

Buckwheat notes:

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

Millet

Winter Wheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1700	_____	58*	_____
Market Price	0.21	_____	6.57	_____
MARKET INCOME	357.00	_____	381.06	_____
DIRECT COSTS				
-Seed	17.50	_____	14.40	_____
-Herbicides	3.70	_____	34.30	_____
-Fungicides	0.00	_____	9.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	23.10	_____	137.31	_____
-Crop Insurance	0.00	_____	7.00	_____
-Fuel & Lubrication	19.34	_____	16.51	_____
-Repairs	21.08	_____	18.30	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	8.25	_____
-Operating Interest	1.94	_____	5.51	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	88.16	_____	250.58	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.82	_____	8.20	_____
-Machinery Depreciation	24.86	_____	21.52	_____
-Machinery Investment	14.86	_____	11.96	_____
-Land Charge	67.00	_____	67.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	115.54	_____	108.68	_____
SUM OF ALL LISTED COSTS	203.70	_____	359.26	_____
RETURN TO LABOR & MANAGEMENT	153.30	_____	21.80	_____
LISTED COSTS PER BUDGET UNIT				
	(lb):		(bu):	
-Direct Costs	0.052	_____	4.32	_____
-Indirect Costs	0.068	_____	1.87	_____
-Total Costs	0.120	_____	6.19	_____

Winter Wheat notes:

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

Rye

	Per Acre	Your Figures
Market Yield	47	_____
Market Price	7.15	_____
MARKET REVENUE	336.05	_____
DIRECT COSTS		
-Seed	13.20	_____
-Herbicides	7.20	_____
-Fungicides	0.00	_____
-Insecticides	0.00	_____
-Fertilizer	100.21	_____
-Crop Insurance	14.00	_____
-Fuel & Lubrication	15.88	_____
-Repairs	17.70	_____
-Drying	0.00	_____
-Miscellaneous	8.25	_____
-Operating Interest	3.97	_____
	=====	=====
SUM OF LISTED DIRECT COSTS	180.41	_____
INDIRECT (FIXED) COSTS		
-Misc. Overhead	8.03	_____
-Machinery Depreciation	20.96	_____
-Machinery Investment	11.80	_____
-Land Charge	67.00	_____
	=====	=====
SUM OF LISTED INDIRECT COSTS	107.79	_____
SUM OF ALL LISTED COSTS	288.20	_____
RETURN TO LABOR & MANAGEMENT	47.85	_____
LISTED COSTS PER BUDGET UNIT	(bu):	
-Direct Costs	3.84	_____
-Indirect Costs	2.29	_____
-Total Costs	6.13	_____

NDSU Extension does not endorse commercial products or companies even though reference may be made to tradenames, trademarks or service names. NDSU encourages you to use and share this content, but please do so under the conditions of our Creative Commons license. You may copy, distribute, transmit and adapt this work as long as you give full attribution, don't use the work for commercial purposes and share your resulting work similarly. For more information, visit www.ag.ndsu.edu/agcomm/creative-commons.

For more information on this and other topics, see www.ndsu.edu/extension

County commissions, North Dakota State University and U.S. Department of Agriculture cooperating. NDSU does not discriminate in its programs and activities on the basis of age, color, gender expression/identity, genetic information, marital status, national origin, participation in lawful off-campus activity, physical or mental disability, pregnancy, public assistance status, race, religion, sex, sexual orientation, spousal relationship to current employee, or veteran status, as applicable. Direct inquiries to Vice Provost for Title IX/ADA Coordinator, Old Main 201, NDSU Main Campus, 701-231-7708, ndsu.eoaa@ndsu.edu. This publication will be made available in alternative formats for people with disabilities upon request, 701-231-7881. 280-2-22