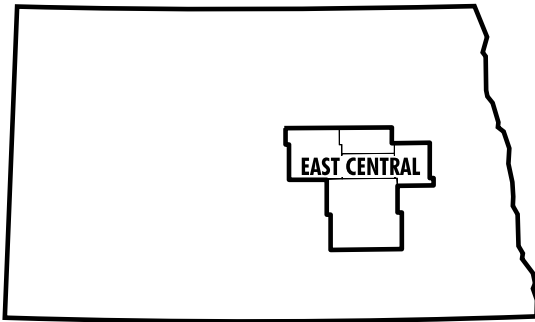




FARM MANAGEMENT PLANNING GUIDE

January 2021

Projected 2021 Crop Budgets



East Central North Dakota

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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 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
Buckwheat	.40/lb
Millet	.45/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	56	_____	53	_____
Market Price	5.71	_____	6.39*	_____
MARKET REVENUE	319.76	_____	338.67	_____
DIRECT COSTS				
-Seed	20.13	_____	22.75	_____
-Herbicides	22.50	_____	22.50	_____
-Fungicides**	17.00	_____	17.00	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	72.64	_____	68.10	_____
-Crop Insurance	7.00	_____	9.00	_____
-Fuel & Lubrication	13.15	_____	13.02	_____
-Repairs	20.50	_____	20.42	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	3.92	_____	3.92	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	178.34	_____	178.21	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.55	_____	8.50	_____
-Machinery Depreciation	21.68	_____	21.52	_____
-Machinery Investment	13.22	_____	13.14	_____
-Land Charge	68.00	_____	68.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	111.45	_____	111.16	_____
SUM OF ALL LISTED COSTS	289.79	_____	289.37	_____
RETURN TO LABOR & MANAGEMENT	29.97	_____	49.30	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.18	_____	3.36	_____
-Indirect Costs	1.99	_____	2.10	_____
-Total Costs	5.17	_____	5.46	_____

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	71	_____	138	_____
Market Price	4.95*	_____	3.8	_____
MARKET REVENUE	351.45	_____	524.40	_____
DIRECT COSTS				
-Seed	16.63	_____	84.74*	_____
-Herbicides	19.70	_____	27.00	_____
-Fungicides	17.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	54.86	_____	95.05	_____
-Crop Insurance	5.00	_____	11.50	_____
-Fuel & Lubrication	13.71	_____	19.96	_____
-Repairs	20.68	_____	27.63	_____
-Drying	0.00	_____	24.84	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	3.35	_____	6.57	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	152.43	_____	298.79	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.90	_____	12.01	_____
-Machinery Depreciation	22.80	_____	38.14	_____
-Machinery Investment	13.85	_____	22.19	_____
-Land Charge	68.00	_____	68.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	113.55	_____	140.34	_____
SUM OF ALL LISTED COSTS	265.98	_____	439.13	_____
RETURN TO LABOR & MANAGEMENT	85.47	_____	85.27	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.15	_____	2.17	_____
-Indirect Costs	1.60	_____	1.02	_____
-Total Costs	3.75	_____	3.18	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$2.87 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	_____	1680	_____
Market Price	10.25	_____	0.30	_____
MARKET REVENUE	348.50	_____	504.00	_____
DIRECT COSTS				
-Seed	65.80*	_____	61.88	_____
-Herbicides	28.00	_____	46.90*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	4.00**	_____	0.00	_____
-Fertilizer	8.04	_____	38.39	_____
-Crop Insurance	5.50	_____	10.50	_____
-Fuel & Lubrication	11.12	_____	14.52	_____
-Repairs	19.31	_____	23.77	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.00	_____	13.50	_____
-Operating Interest	3.30	_____	5.16	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	150.07	_____	234.62	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.22	_____	9.23	_____
-Machinery Depreciation	21.69	_____	27.23	_____
-Machinery Investment	12.89	_____	16.44	_____
-Land Charge	68.00	_____	68.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	110.80	_____	120.90	_____
SUM OF ALL LISTED COSTS	260.87	_____	355.52	_____
RETURN TO LABOR & MANAGEMENT	87.63	_____	148.48	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	4.41	_____	0.140	_____
-Indirect Costs	3.26	_____	0.072	_____
-Total Costs	7.67	_____	0.212	_____

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	1820	_____	1350	_____
Market Price	0.20	_____	0.268	_____
MARKET REVENUE	364.00	_____	361.80	_____
DIRECT COSTS				
-Seed	34.10	_____	52.25	_____
-Herbicides	27.70	_____	29.90	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	43.58	_____	29.21	_____
-Crop Insurance	9.50	_____	15.00	_____
-Fuel & Lubrication	13.77	_____	13.12	_____
-Repairs	20.80	_____	20.37	_____
-Drying	5.49	_____	4.05	_____
-Miscellaneous	10.00	_____	18.50	_____
-Operating Interest	3.82	_____	4.33	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	173.76	_____	196.73	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.24	_____	8.96	_____
-Machinery Depreciation	24.33	_____	23.52	_____
-Machinery Investment	15.47	_____	15.05	_____
-Land Charge	68.00	_____	68.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	117.04	_____	115.53	_____
SUM OF ALL LISTED COSTS	290.80	_____	312.26	_____
RETURN TO LABOR & MANAGEMENT	73.20	_____	49.54	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.095	_____	0.146	_____
-Indirect Costs	0.064	_____	0.086	_____
-Total Costs	0.160	_____	0.231	_____

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	1690	_____	18	_____
Market Price	0.191	_____	10.82	_____
MARKET REVENUE	322.79	_____	194.76	_____
DIRECT COSTS				
-Seed	56.50	_____	18.50	_____
-Herbicides	23.10	_____	24.70	_____
-Fungicides	0.00*	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	65.56	_____	20.04	_____
-Crop Insurance	8.00	_____	12.00	_____
-Fuel & Lubrication	12.63	_____	12.37	_____
-Repairs	20.17	_____	20.90	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	4.22	_____	2.48	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	191.68	_____	112.49	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.28	_____	8.31	_____
-Machinery Depreciation	22.17	_____	22.31	_____
-Machinery Investment	13.16	_____	13.74	_____
-Land Charge	68.00	_____	68.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	111.61	_____	112.36	_____
SUM OF ALL LISTED COSTS	303.29	_____	224.85	_____
RETURN TO LABOR & MANAGEMENT	19.50	_____	(30.09)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.113	_____	6.25	_____
-Indirect Costs	0.066	_____	6.24	_____
-Total Costs	0.179	_____	12.49	_____

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	34	_____	81	_____
Market Price	6.48	_____	2.56	_____
MARKET REVENUE	220.32	_____	207.36	_____
DIRECT COSTS				
-Seed	42.00	_____	12.50	_____
-Herbicides	32.30	_____	5.40	_____
-Fungicides	1.50	_____	0.00	_____
-Insecticides	0.00*	_____	0.00	_____
-Fertilizer	9.36	_____	53.32	_____
-Crop Insurance	6.00	_____	12.00	_____
-Fuel & Lubrication	13.02	_____	15.39	_____
-Repairs	21.58	_____	22.24	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	1.50	_____
-Operating Interest	3.04	_____	2.75	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	138.30	_____	125.10	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.60	_____	9.44	_____
-Machinery Depreciation	23.78	_____	24.93	_____
-Machinery Investment	14.15	_____	15.31	_____
-Land Charge	68.00	_____	68.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	114.53	_____	117.68	_____
SUM OF ALL LISTED COSTS	252.83	_____	242.78	_____
RETURN TO LABOR & MANAGEMENT	(32.51)	_____	(35.42)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.07	_____	1.54	_____
-Indirect Costs	3.37	_____	1.45	_____
-Total Costs	7.44	_____	3.00	_____

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	0.27	_____	0.224	_____
MARKET REVENUE	229.50	_____	212.80	_____
DIRECT COSTS				
-Seed	25.20	_____	20.00	_____
-Herbicides	14.00	_____	11.80	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	6.00*	_____	0.00	_____
-Fertilizer	23.45	_____	16.28	_____
-Crop Insurance	0.00**	_____	9.50*	_____
-Fuel & Lubrication	11.90	_____	12.07	_____
-Repairs	19.99	_____	20.11	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	2.30	_____	2.05	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	104.34	_____	93.31	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.15	_____	8.25	_____
-Machinery Depreciation	21.13	_____	21.37	_____
-Machinery Investment	13.31	_____	13.43	_____
-Land Charge	68.00	_____	68.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	110.59	_____	111.05	_____
SUM OF ALL LISTED COSTS	214.93	_____	204.36	_____
RETURN TO LABOR & MANAGEMENT	14.57	_____	8.44	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.123	_____	0.098	_____
-Indirect Costs	0.130	_____	0.117	_____
-Total Costs	0.253	_____	0.215	_____

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	_____	53*	_____
Market Price	0.14	_____	4.90	_____
MARKET INCOME	238.00	_____	259.70	_____
DIRECT COSTS				
-Seed	11.25	_____	10.80	_____
-Herbicides	3.40	_____	24.50	_____
-Fungicides	0.00	_____	9.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	24.68	_____	68.10	_____
-Crop Insurance	0.00	_____	6.50	_____
-Fuel & Lubrication	13.31	_____	11.14	_____
-Repairs	20.89	_____	18.01	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	8.25	_____
-Operating Interest	1.69	_____	3.52	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	76.72	_____	159.82	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.55	_____	7.92	_____
-Machinery Depreciation	22.39	_____	19.56	_____
-Machinery Investment	13.99	_____	11.21	_____
-Land Charge	68.00	_____	68.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	112.93	_____	106.69	_____
SUM OF ALL LISTED COSTS	189.65	_____	266.51	_____
RETURN TO LABOR & MANAGEMENT	48.35	_____	(6.81)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.045	_____	3.02	_____
-Indirect Costs	0.066	_____	2.01	_____
-Total Costs	0.112	_____	5.03	_____

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	4.19	_____
MARKET REVENUE	196.93	_____
DIRECT COSTS		
-Seed	9.60	_____
-Herbicides	6.50	_____
-Fungicides	0.00	_____
-Insecticides	0.00	_____
-Fertilizer	59.02	_____
-Crop Insurance	14.00	_____
-Fuel & Lubrication	10.93	_____
-Repairs	17.55	_____
-Drying	0.00	_____
-Miscellaneous	8.25	_____
-Operating Interest	2.83	_____
	=====	=====
SUM OF LISTED DIRECT COSTS	128.68	_____
INDIRECT (FIXED) COSTS		
-Misc. Overhead	7.85	_____
-Machinery Depreciation	19.29	_____
-Machinery Investment	11.19	_____
-Land Charge	68.00	_____
	=====	=====
SUM OF LISTED INDIRECT COSTS	106.33	_____
SUM OF ALL LISTED COSTS	235.01	_____
RETURN TO LABOR & MANAGEMENT	(38.08)	_____
LISTED COSTS PER BUDGET UNIT		
	(bu):	
-Direct Costs	2.74	_____
-Indirect Costs	2.26	_____
-Total Costs	5.00	_____

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