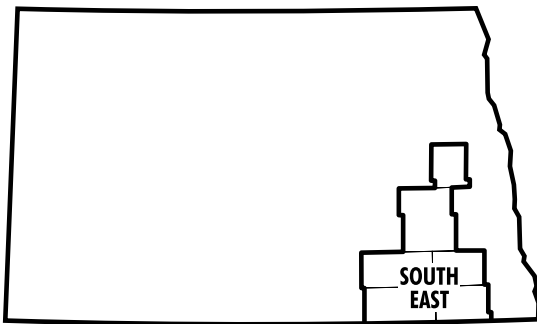




FARM MANAGEMENT PLANNING GUIDE

January 2021

Projected 2021 Crop Budgets



South East North Dakota

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Note: This region consists of six counties:
Barnes, Dickey, LaMoure, Ransom, Sargent and Steele.

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	3.00/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
Buckwheat	.40/lb
Millet	.45/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	60	_____	53	_____
Market Price	5.76	_____	6.43*	_____
MARKET REVENUE	345.60	_____	340.79	_____
DIRECT COSTS				
-Seed	20.13	_____	26.00	_____
-Herbicides	21.00	_____	21.00	_____
-Fungicides**	17.00	_____	17.00	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	75.05	_____	64.97	_____
-Crop Insurance	5.00	_____	6.50	_____
-Fuel & Lubrication	13.33	_____	13.02	_____
-Repairs	20.62	_____	20.42	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	3.91	_____	3.83	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	177.54	_____	174.24	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.63	_____	8.50	_____
-Machinery Depreciation	21.89	_____	21.52	_____
-Machinery Investment	13.33	_____	13.14	_____
-Land Charge	96.00	_____	96.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	139.85	_____	139.16	_____
SUM OF ALL LISTED COSTS	317.39	_____	313.40	_____
RETURN TO LABOR & MANAGEMENT	28.21	_____	27.39	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.96	_____	3.29	_____
-Indirect Costs	2.33	_____	2.63	_____
-Total Costs	5.29	_____	5.91	_____

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	76	_____	159	_____
Market Price	4.99*	_____	3.80	_____
MARKET REVENUE	379.24	_____	604.20	_____
DIRECT COSTS				
-Seed	19.00	_____	100.50*	_____
-Herbicides	19.70	_____	28.00	_____
-Fungicides	17.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	56.18	_____	104.44	_____
-Crop Insurance	5.00	_____	11.00	_____
-Fuel & Lubrication	13.93	_____	19.49	_____
-Repairs	20.82	_____	28.50	_____
-Drying	0.00	_____	28.44	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	3.45	_____	7.24	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	156.58	_____	329.11	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.99	_____	12.11	_____
-Machinery Depreciation	23.07	_____	37.57	_____
-Machinery Investment	13.99	_____	21.81	_____
-Land Charge	96.00	_____	96.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	142.05	_____	167.49	_____
SUM OF ALL LISTED COSTS	298.63	_____	496.60	_____
RETURN TO LABOR & MANAGEMENT	80.61	_____	107.60	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.06	_____	2.07	_____
-Indirect Costs	1.87	_____	1.05	_____
-Total Costs	3.93	_____	3.12	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$2.89 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 and below ground insect control traits.

Soybeans

Drybeans

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	40	_____	1940	_____
Market Price	10.33	_____	0.30	_____
MARKET REVENUE	413.20	_____	582.00	_____
DIRECT COSTS				
-Seed	65.80*	_____	61.88	_____
-Herbicides	35.00	_____	46.90*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	4.00**	_____	0.00	_____
-Fertilizer	3.30	_____	45.08	_____
-Crop Insurance	5.00	_____	12.00	_____
-Fuel & Lubrication	10.52	_____	14.53	_____
-Repairs	18.66	_____	24.20	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.00	_____	13.50	_____
-Operating Interest	3.31	_____	5.36	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	150.59	_____	243.45	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.41	_____	9.32	_____
-Machinery Depreciation	22.10	_____	27.46	_____
-Machinery Investment	13.29	_____	16.60	_____
-Land Charge	96.00	_____	96.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	139.80	_____	149.38	_____
SUM OF ALL LISTED COSTS	290.39	_____	392.83	_____
RETURN TO LABOR & MANAGEMENT	122.81	_____	189.17	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	3.76	_____	0.125	_____
-Indirect Costs	3.50	_____	0.077	_____
-Total Costs	7.26	_____	0.202	_____

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	1500	_____	1550	_____
Market Price	0.203	_____	0.27	_____
MARKET REVENUE	304.50	_____	418.50	_____
DIRECT COSTS				
-Seed	34.10	_____	52.25	_____
-Herbicides	27.70	_____	29.90	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	32.27	_____	33.72	_____
-Crop Insurance	8.50	_____	16.50	_____
-Fuel & Lubrication	13.99	_____	14.06	_____
-Repairs	21.05	_____	21.09	_____
-Drying	4.92	_____	4.92	_____
-Miscellaneous	10.00	_____	18.50	_____
-Operating Interest	3.54	_____	4.52	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	161.07	_____	205.46	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.37	_____	9.40	_____
-Machinery Depreciation	25.29	_____	25.37	_____
-Machinery Investment	16.25	_____	16.29	_____
-Land Charge	96.00	_____	96.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	146.91	_____	147.06	_____
SUM OF ALL LISTED COSTS	307.98	_____	352.52	_____
RETURN TO LABOR & MANAGEMENT	(3.48)	_____	65.98	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.107	_____	0.133	_____
-Indirect Costs	0.098	_____	0.095	_____
-Total Costs	0.205	_____	0.227	_____

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	1780	_____	24	_____
Market Price	0.187	_____	10.90	_____
MARKET REVENUE	332.86	_____	261.60	_____
DIRECT COSTS				
-Seed	56.50	_____	18.50	_____
-Herbicides	23.10	_____	24.70	_____
-Fungicides	0.00*	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	65.80	_____	29.60	_____
-Crop Insurance	8.00	_____	12.50	_____
-Fuel & Lubrication	12.71	_____	12.55	_____
-Repairs	20.22	_____	21.03	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	4.23	_____	2.71	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	192.06	_____	123.09	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.31	_____	8.41	_____
-Machinery Depreciation	22.27	_____	22.56	_____
-Machinery Investment	13.21	_____	13.86	_____
-Land Charge	96.00	_____	96.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	139.79	_____	140.83	_____
SUM OF ALL LISTED COSTS	331.85	_____	263.92	_____
RETURN TO LABOR & MANAGEMENT	1.01	_____	(2.32)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.108	_____	5.13	_____
-Indirect Costs	0.079	_____	5.87	_____
-Total Costs	0.186	_____	11.00	_____

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	37	_____	81	_____
Market Price	6.48	_____	2.66	_____
MARKET REVENUE	239.76	_____	215.46	_____
DIRECT COSTS				
-Seed	42.00	_____	12.50	_____
-Herbicides	32.30	_____	5.40	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	7.41	_____	50.45	_____
-Crop Insurance	7.00	_____	9.00	_____
-Fuel & Lubrication	13.10	_____	15.01	_____
-Repairs	21.64	_____	21.69	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	1.50	_____
-Operating Interest	2.99	_____	2.60	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	135.94	_____	118.15	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.65	_____	9.39	_____
-Machinery Depreciation	23.89	_____	24.43	_____
-Machinery Investment	14.20	_____	15.13	_____
-Land Charge	96.00	_____	96.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	142.74	_____	144.95	_____
SUM OF ALL LISTED COSTS	278.68	_____	263.10	_____
RETURN TO LABOR & MANAGEMENT	(38.92)	_____	(47.64)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.67	_____	1.46	_____
-Indirect Costs	3.86	_____	1.79	_____
-Total Costs	7.53	_____	3.25	_____

Buckwheat

Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	950	_____	1800	_____
Market Price	0.225	_____	0.14	_____
MARKET REVENUE	213.75	_____	252.00	_____
DIRECT COSTS				
-Seed	20.00	_____	11.25	_____
-Herbicides	11.80	_____	3.40	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	15.25	_____	25.44	_____
-Crop Insurance	9.50*	_____	6.00	_____
-Fuel & Lubrication	10.95	_____	13.03	_____
-Repairs	18.83	_____	20.39	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	1.98	_____	1.82	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	89.81	_____	82.83	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.85	_____	8.54	_____
-Machinery Depreciation	19.43	_____	22.00	_____
-Machinery Investment	12.08	_____	13.86	_____
-Land Charge	96.00	_____	96.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	135.36	_____	140.40	_____
SUM OF ALL LISTED COSTS	225.17	_____	223.23	_____
RETURN TO LABOR & MANAGEMENT	(11.42)	_____	28.77	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.095	_____	0.046	_____
-Indirect Costs	0.142	_____	0.078	_____
-Total Costs	0.237	_____	0.124	_____

Buckwheat notes:

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

Winter Wheat

	Per Acre	Your Figures
Market Yield	58*	_____
Market Price	5.00	_____
MARKET INCOME	290.00	_____
DIRECT COSTS		
-Seed	10.80	_____
-Herbicides	24.50	_____
-Fungicides	9.00	_____
-Insecticides	0.00	_____
-Fertilizer	72.17	_____
-Crop Insurance	5.00	_____
-Fuel & Lubrication	11.36	_____
-Repairs	18.15	_____
-Drying	0.00	_____
-Miscellaneous	8.25	_____
-Operating Interest	3.58	_____
	=====	=====
SUM OF LISTED DIRECT COSTS	162.81	_____
INDIRECT (FIXED) COSTS		
-Misc. Overhead	8.01	_____
-Machinery Depreciation	19.83	_____
-Machinery Investment	11.35	_____
-Land Charge	96.00	_____
	=====	=====
SUM OF LISTED INDIRECT COSTS	135.19	_____
SUM OF ALL LISTED COSTS	298.00	_____
RETURN TO LABOR & MANAGEMENT	(8.00)	_____
LISTED COSTS PER BUDGET UNIT	(bu):	
-Direct Costs	2.81	_____
-Indirect Costs	2.33	_____
-Total Costs	5.14	_____

Winter Wheat notes:

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

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