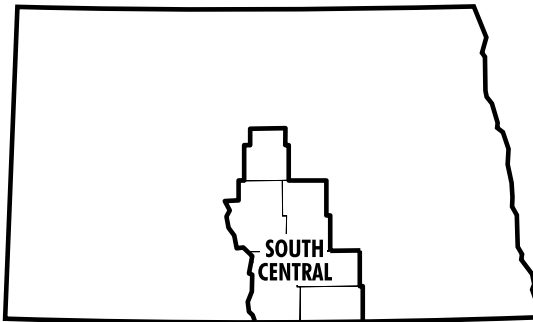




FARM MANAGEMENT PLANNING GUIDE

January 2021

Projected 2021 Crop Budgets



South Central North Dakota

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Note: This region consists of six counties:
Burleigh, Emmons, Kidder, Logan, McIntosh and Sheridan.

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.
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
Lentils	.30/lb
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	47	_____	49	_____
Market Price	5.67	_____	6.37*	_____
MARKET REVENUE	266.49	_____	312.13	_____
DIRECT COSTS				
-Seed	19.55	_____	23.40	_____
-Herbicides	25.80	_____	25.80	_____
-Fungicides**	9.00	_____	9.00	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	56.90	_____	59.85	_____
-Crop Insurance	7.00	_____	7.50	_____
-Fuel & Lubrication	10.30	_____	10.39	_____
-Repairs	18.28	_____	18.34	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.25	_____	8.25	_____
-Operating Interest	3.49	_____	3.66	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	158.57	_____	166.19	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.08	_____	8.12	_____
-Machinery Depreciation	20.43	_____	20.54	_____
-Machinery Investment	11.97	_____	12.03	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	95.48	_____	95.69	_____
SUM OF ALL LISTED COSTS	254.05	_____	261.88	_____
RETURN TO LABOR & MANAGEMENT	12.44	_____	50.25	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.37	_____	3.39	_____
-Indirect Costs	2.03	_____	1.95	_____
-Total Costs	5.41	_____	5.34	_____

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.

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	66	_____	111	_____
Market Price	4.99*	_____	3.80	_____
MARKET REVENUE	329.34	_____	421.80	_____
DIRECT COSTS				
-Seed	15.20	_____	78.01*	_____
-Herbicides	24.30	_____	25.00	_____
-Fungicides	9.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	47.94	_____	71.01	_____
-Crop Insurance	6.00	_____	10.50	_____
-Fuel & Lubrication	11.14	_____	16.05	_____
-Repairs	18.83	_____	23.74	_____
-Drying	0.00	_____	18.90	_____
-Miscellaneous	8.25	_____	8.25	_____
-Operating Interest	3.16	_____	5.66	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	143.82	_____	257.12	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.44	_____	10.87	_____
-Machinery Depreciation	21.45	_____	34.75	_____
-Machinery Investment	12.51	_____	19.27	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	97.40	_____	119.89	_____
SUM OF ALL LISTED COSTS	241.22	_____	377.01	_____
RETURN TO LABOR & MANAGEMENT	88.12	_____	44.79	_____
LISTED COSTS PER BUDGET UNIT				
	(bu):		(bu):	
-Direct Costs	2.18	_____	2.32	_____
-Indirect Costs	1.48	_____	1.08	_____
-Total Costs	3.65	_____	3.40	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$2.90 for feed barley.

**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).

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	_____	1620	_____
Market Price	10.20	_____	0.3	_____
MARKET REVENUE	326.40	_____	486.00	_____
DIRECT COSTS				
-Seed	65.80*	_____	61.88	_____
-Herbicides	26.00	_____	46.90*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	4.00**	_____	0.00	_____
-Fertilizer	5.10	_____	35.36	_____
-Crop Insurance	8.00	_____	12.00	_____
-Fuel & Lubrication	9.64	_____	13.13	_____
-Repairs	17.68	_____	22.12	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.00	_____	13.50	_____
-Operating Interest	3.18	_____	5.06	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	144.40	_____	229.95	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.86	_____	8.94	_____
-Machinery Depreciation	20.59	_____	26.47	_____
-Machinery Investment	11.74	_____	15.51	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	95.19	_____	105.92	_____
SUM OF ALL LISTED COSTS	239.59	_____	335.87	_____
RETURN TO LABOR & MANAGEMENT	86.81	_____	150.13	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	4.51	_____	0.142	_____
-Indirect Costs	2.97	_____	0.065	_____
-Total Costs	7.49	_____	0.207	_____

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. Fungicide for rust at \$4-\$12 plus application maybe necessary.

Oil Sunflower

Confection Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1670	_____	1550	_____
Market Price	0.201	_____	0.266	_____
MARKET REVENUE	335.67	_____	412.30	_____
DIRECT COSTS				
-Seed	34.10	_____	49.50	_____
-Herbicides	34.00	_____	36.20	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	37.32	_____	33.74	_____
-Crop Insurance	8.50	_____	21.00	_____
-Fuel & Lubrication	11.11	_____	10.95	_____
-Repairs	18.37	_____	18.26	_____
-Drying	5.28	_____	5.25	_____
-Miscellaneous	16.75	_____	25.25	_____
-Operating Interest	3.83	_____	4.73	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	174.26	_____	214.88	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.65	_____	8.58	_____
-Machinery Depreciation	22.79	_____	22.58	_____
-Machinery Investment	13.67	_____	13.56	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	100.11	_____	99.72	_____
SUM OF ALL LISTED COSTS	274.37	_____	314.60	_____
RETURN TO LABOR & MANAGEMENT	61.30	_____	97.70	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.104	_____	0.139	_____
-Indirect Costs	0.060	_____	0.064	_____
-Total Costs	0.164	_____	0.203	_____

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	1780		16	
Market Price	0.191		10.82	
MARKET REVENUE	339.98		173.12	
DIRECT COSTS				
-Seed	56.50		16.65	
-Herbicides	23.10		29.20	
-Fungicides	0.00*		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	66.78		15.43	
-Crop Insurance	6.50		11.50	
-Fuel & Lubrication	9.89		9.73	
-Repairs	17.68		18.43	
-Drying	0.00		0.00	
-Miscellaneous	8.25		1.50	
-Operating Interest	4.25		2.31	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	192.95		104.75	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.80		7.81	
-Machinery Depreciation	20.92		21.09	
-Machinery Investment	11.52		12.14	
-Land Charge	55.00		55.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	95.24		96.04	
SUM OF ALL LISTED COSTS	288.19		200.79	
RETURN TO LABOR & MANAGEMENT	51.79		(27.67)	
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.108		6.55	
-Indirect Costs	0.054		6.00	
-Total Costs	0.162		12.55	

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	_____	72	_____
Market Price	6.48	_____	2.56	_____
MARKET REVENUE	239.76	_____	184.32	_____
DIRECT COSTS				
-Seed	42.00	_____	12.50	_____
-Herbicides	35.90	_____	10.60	_____
-Fungicides	1.50	_____	0.00	_____
-Insecticides	0.00*	_____	0.00	_____
-Fertilizer	8.75	_____	44.04	_____
-Crop Insurance	6.00	_____	15.00	_____
-Fuel & Lubrication	10.82	_____	12.26	_____
-Repairs	19.36	_____	19.72	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	8.25	_____
-Operating Interest	3.01	_____	2.75	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	136.84	_____	125.12	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.23	_____	8.97	_____
-Machinery Depreciation	23.01	_____	23.39	_____
-Machinery Investment	12.80	_____	14.04	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	99.04	_____	101.40	_____
SUM OF ALL LISTED COSTS	235.88	_____	226.52	_____
RETURN TO LABOR & MANAGEMENT	3.88	_____	(42.20)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.70	_____	1.74	_____
-Indirect Costs	2.68	_____	1.41	_____
-Total Costs	6.38	_____	3.15	_____

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	1200	_____	850	_____
Market Price	0.18	_____	0.27	_____
MARKET REVENUE	216.00	_____	229.50	_____
DIRECT COSTS				
-Seed	21.00	_____	25.20	_____
-Herbicides	35.50*	_____	20.20	_____
-Fungicides	16.00**	_____	0.00	_____
-Insecticides	0.00***	_____	0.00	_____
-Fertilizer	4.75	_____	22.03	_____
-Crop Insurance	7.00	_____	0.00*	_____
-Fuel & Lubrication	11.69	_____	9.75	_____
-Repairs	22.04	_____	18.08	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	8.25	_____
-Operating Interest	2.87	_____	2.33	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	130.35	_____	105.84	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.63	_____	7.89	_____
-Machinery Depreciation	26.01	_____	20.33	_____
-Machinery Investment	14.33	_____	12.44	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	103.97	_____	95.66	_____
SUM OF ALL LISTED COSTS	234.32	_____	201.50	_____
RETURN TO LABOR & MANAGEMENT	(18.32)	_____	28.00	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.11	_____	0.125	_____
-Indirect Costs	0.09	_____	0.113	_____
-Total Costs	0.20	_____	0.237	_____

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 not available in this region.

Buckwheat

Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	900	_____	1500	_____
Market Price	0.223	_____	0.14	_____
MARKET REVENUE	200.70	_____	210.00	_____
DIRECT COSTS				
-Seed	20.00	_____	11.25	_____
-Herbicides	18.00	_____	9.60	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	13.54	_____	19.05	_____
-Crop Insurance	10.00*	_____	0.00	_____
-Fuel & Lubrication	9.50	_____	10.40	_____
-Repairs	17.39	_____	18.51	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	8.25	_____
-Operating Interest	2.02	_____	1.73	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	91.95	_____	78.79	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.73	_____	8.17	_____
-Machinery Depreciation	19.80	_____	21.13	_____
-Machinery Investment	11.72	_____	12.86	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	94.25	_____	97.16	_____
SUM OF ALL LISTED COSTS	186.20	_____	175.95	_____
RETURN TO LABOR & MANAGEMENT	14.50	_____	34.05	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.102	_____	0.053	_____
-Indirect Costs	0.105	_____	0.065	_____
-Total Costs	0.207	_____	0.117	_____

Buckwheat notes:

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

Winter Wheat

Rye

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	47*	_____	43	_____
Market Price	4.88	_____	4.09	_____
MARKET REVENUE	229.36	_____	175.87	_____
DIRECT COSTS				
-Seed	9.90	_____	9.60	_____
-Herbicides	23.00	_____	6.50	_____
-Fungicides	9.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	56.90	_____	50.99	_____
-Crop Insurance	7.00	_____	13.00	_____
-Fuel & Lubrication	9.48	_____	9.45	_____
-Repairs	16.59	_____	16.45	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.25	_____	8.25	_____
-Operating Interest	3.15	_____	2.57	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	143.27	_____	116.81	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.68	_____	7.69	_____
-Machinery Depreciation	18.77	_____	18.81	_____
-Machinery Investment	10.62	_____	10.81	_____
-Land Charge	55.00	_____	55.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	92.07	_____	92.31	_____
SUM OF ALL LISTED COSTS	235.34	_____	209.12	_____
RETURN TO LABOR & MANAGEMENT	(5.98)	_____	(33.25)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.05	_____	2.72	_____
-Indirect Costs	1.96	_____	2.15	_____
-Total Costs	5.01	_____	4.86	_____

Winter Wheat notes:

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

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