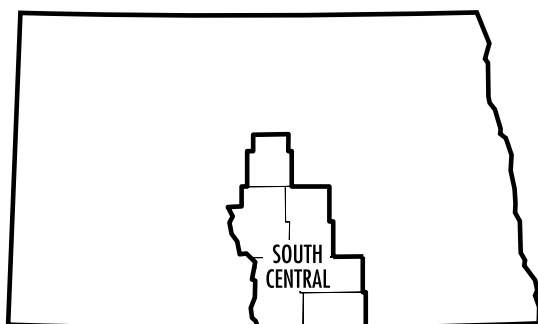




FARM MANAGEMENT PLANNING GUIDE

February 2023

Projected 2023 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 2023 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 2023 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 2015-2021, 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	- .71/lb
Phosphorus	- .61/lb
Potassium	- .65/lb

Seed Prices:

Spring Wheat	16.00/bu
Durum	18.00/bu
Barley	15.50/bu
Corn GM	2.96/thou.kern.
Soybean GM	.34/thou.kern.
Dry Beans	.75/thou.kern.
Oil Sunflower	1.71/thou.kern.
Conf. Sunflower	3.02/thou.kern.
Canola	14.80/lb
Flax	30.00/bu
Field Peas	20.00/bu
Oats	10.00/bu
Lentils	.30/lb
Mustard	.98/lb
Buckwheat	.50/lb
Millet	.60/lb
Winter Wheat	13.50/bu
Rye	11.00/bu

Fuel prices:

Diesel	3.90/gal
Gas	3.45/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 7.5% 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, \$5.00 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	43	_____	47	_____
Market Price	8.03	_____	9.03*	_____
MARKET REVENUE	345.29	_____	424.41	_____
DIRECT COSTS				
-Seed	27.20	_____	32.40	_____
-Herbicides	36.00	_____	36.00	_____
-Fungicides**	10.50	_____	10.50	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	90.87	_____	101.17	_____
-Crop Insurance	7.50	_____	8.00	_____
-Fuel & Lubrication	19.36	_____	19.71	_____
-Repairs	19.14	_____	19.25	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.75	_____	8.75	_____
-Operating Interest	8.22	_____	8.84	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	227.54	_____	244.62	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.30	_____	9.38	_____
-Machinery Depreciation	22.34	_____	22.58	_____
-Machinery Investment	11.42	_____	11.52	_____
-Land Charge	57.00	_____	57.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	100.06	_____	100.48	_____
SUM OF ALL LISTED COSTS	327.60	_____	345.10	_____
RETURN TO LABOR & MANAGEMENT	17.69	_____	79.31	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	5.29	_____	5.20	_____
-Indirect Costs	2.33	_____	2.14	_____
-Total Costs	7.62	_____	7.34	_____

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	59	_____	112	_____
Market Price	6.49*	_____	5.25	_____
MARKET REVENUE	382.91	_____	588.00	_____
DIRECT COSTS				
-Seed	24.80	_____	85.84*	_____
-Herbicides	29.40	_____	44.80	_____
-Fungicides	10.50**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	73.73	_____	125.36	_____
-Crop Insurance	6.00	_____	11.50	_____
-Fuel & Lubrication	20.74	_____	31.00	_____
-Repairs	19.60	_____	24.97	_____
-Drying	0.00	_____	22.40	_____
-Miscellaneous	8.75	_____	8.75	_____
-Operating Interest	7.26	_____	13.30	_____
SUM OF LISTED DIRECT COSTS	200.78	=====	367.92	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.61	_____	12.34	_____
-Machinery Depreciation	23.28	_____	38.10	_____
-Machinery Investment	11.84	_____	18.48	_____
-Land Charge	57.00	_____	57.00	_____
SUM OF LISTED INDIRECT COSTS	101.73	=====	125.92	=====
SUM OF ALL LISTED COSTS	302.51	_____	493.84	_____
RETURN TO LABOR & MANAGEMENT	80.40	_____	94.16	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.40	_____	3.29	_____
-Indirect Costs	1.72	_____	1.12	_____
-Total Costs	5.13	_____	4.41	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$4.50 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	_____	1600	_____
Market Price	12.20	_____	0.36	_____
MARKET REVENUE	390.40	_____	576.00	_____
DIRECT COSTS				
-Seed	65.80*	_____	61.88	_____
-Herbicides	46.00	_____	46.90*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	4.00**	_____	0.00	_____
-Fertilizer	7.08	_____	47.36	_____
-Crop Insurance	9.00	_____	12.50	_____
-Fuel & Lubrication	18.43	_____	25.20	_____
-Repairs	18.64	_____	23.28	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.25	_____	14.25	_____
-Operating Interest	6.53	_____	9.43	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	180.73	_____	260.80	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.15	_____	10.30	_____
-Machinery Depreciation	22.74	_____	29.09	_____
-Machinery Investment	11.30	_____	14.87	_____
-Land Charge	57.00	_____	57.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	100.19	_____	111.26	_____
SUM OF ALL LISTED COSTS	280.92	_____	372.06	_____
RETURN TO LABOR & MANAGEMENT	109.48	_____	203.94	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	5.65	_____	0.163	_____
-Indirect Costs	3.13	_____	0.070	_____
-Total Costs	8.78	_____	0.233	_____

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	1790	_____	1680	_____
Market Price	0.251	_____	0.352	_____
MARKET REVENUE	449.29	_____	591.36	_____
DIRECT COSTS				
-Seed	37.62	_____	54.36	_____
-Herbicides	44.90	_____	48.10	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	73.06	_____	67.35	_____
-Crop Insurance	9.00	_____	21.50	_____
-Fuel & Lubrication	21.62	_____	21.32	_____
-Repairs	19.45	_____	19.35	_____
-Drying	5.28	_____	5.25	_____
-Miscellaneous	17.75	_____	26.75	_____
-Operating Interest	8.76	_____	10.27	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	242.44	_____	284.25	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.04	_____	9.97	_____
-Machinery Depreciation	25.20	_____	24.99	_____
-Machinery Investment	13.18	_____	13.09	_____
-Land Charge	57.00	_____	57.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	105.42	_____	105.05	_____
SUM OF ALL LISTED COSTS	347.86	_____	389.30	_____
RETURN TO LABOR & MANAGEMENT	101.43	_____	202.06	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.135	_____	0.169	_____
-Indirect Costs	0.059	_____	0.063	_____
-Total Costs	0.194	_____	0.232	_____

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	1620		16	
Market Price	0.261		14.08	
MARKET REVENUE	422.82		225.28	
DIRECT COSTS				
-Seed	74.00		27.00	
-Herbicides	28.00		41.20	
-Fungicides	0.00*		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	106.58		28.98	
-Crop Insurance	6.50		11.50	
-Fuel & Lubrication	18.65		18.60	
-Repairs	18.52		19.44	
-Drying	0.00		0.00	
-Miscellaneous	8.75		1.75	
-Operating Interest	9.79		5.57	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	270.79		154.04	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.02		9.09	
-Machinery Depreciation	22.81		23.14	
-Machinery Investment	10.97		11.64	
-Land Charge	57.00		57.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	99.80		100.87	
SUM OF ALL LISTED COSTS	370.59		254.91	
RETURN TO LABOR & MANAGEMENT	52.23		(29.63)	
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.167		9.63	
-Indirect Costs	0.062		6.30	
-Total Costs	0.229		15.93	

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	_____	64	_____
Market Price	9.00	_____	2.95	_____
MARKET REVENUE	333.00	_____	188.80	_____
DIRECT COSTS				
-Seed	60.00	_____	20.00	_____
-Herbicides	47.60	_____	12.90	_____
-Fungicides	3.00	_____	0.00	_____
-Insecticides	0.00*	_____	0.00	_____
-Fertilizer	12.19	_____	67.38	_____
-Crop Insurance	6.00	_____	15.00	_____
-Fuel & Lubrication	20.74	_____	22.84	_____
-Repairs	20.37	_____	20.25	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.75	_____	8.75	_____
-Operating Interest	6.74	_____	6.27	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	186.39	_____	173.39	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.52	_____	9.97	_____
-Machinery Depreciation	25.16	_____	24.23	_____
-Machinery Investment	12.24	_____	12.74	_____
-Land Charge	57.00	_____	57.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	103.92	_____	103.94	_____
SUM OF ALL LISTED COSTS	290.31	_____	277.33	_____
RETURN TO LABOR & MANAGEMENT	42.69	_____	(88.53)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	5.04	_____	2.71	_____
-Indirect Costs	2.81	_____	1.62	_____
-Total Costs	7.85	_____	4.33	_____

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	_____	800	_____
Market Price	0.23	_____	0.55	_____
MARKET REVENUE	276.00	_____	440.00	_____
DIRECT COSTS				
-Seed	21.00	_____	13.72	_____
-Herbicides	47.10*	_____	29.60	_____
-Fungicides	16.00**	_____	0.00	_____
-Insecticides	0.00***	_____	0.00	_____
-Fertilizer	6.59	_____	36.15	_____
-Crop Insurance	7.00	_____	0.00*	_____
-Fuel & Lubrication	22.30	_____	18.56	_____
-Repairs	23.20	_____	18.82	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.75	_____	8.75	_____
-Operating Interest	5.74	_____	4.71	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	158.68	_____	130.31	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.94	_____	9.01	_____
-Machinery Depreciation	28.30	_____	21.34	_____
-Machinery Investment	13.68	_____	11.43	_____
-Land Charge	57.00	_____	57.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	108.92	_____	98.78	_____
SUM OF ALL LISTED COSTS	267.60	_____	229.09	_____
RETURN TO LABOR & MANAGEMENT	8.40	_____	210.91	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.132	_____	0.163	_____
-Indirect Costs	0.091	_____	0.123	_____
-Total Costs	0.223	_____	0.286	_____

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	0.363	_____	0.19	_____
MARKET REVENUE	326.70	_____	285.00	_____
DIRECT COSTS				
-Seed	25.00	_____	15.00	_____
-Herbicides	21.80	_____	11.70	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	24.92	_____	34.95	_____
-Crop Insurance	10.00*	_____	0.00	_____
-Fuel & Lubrication	18.16	_____	19.91	_____
-Repairs	18.10	_____	19.27	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.75	_____	8.75	_____
-Operating Interest	4.49	_____	4.11	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	124.22	_____	113.69	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.85	_____	9.31	_____
-Machinery Depreciation	20.83	_____	22.25	_____
-Machinery Investment	10.77	_____	11.85	_____
-Land Charge	57.00	_____	57.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	97.45	_____	100.41	_____
SUM OF ALL LISTED COSTS	221.67	_____	214.10	_____
RETURN TO LABOR & MANAGEMENT	105.03	_____	70.90	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.138	_____	0.076	_____
-Indirect Costs	0.108	_____	0.067	_____
-Total Costs	0.246	_____	0.143	_____

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	7.04	_____	6.98	_____
MARKET REVENUE	330.88	_____	300.14	_____
DIRECT COSTS				
-Seed	14.85	_____	13.20	_____
-Herbicides	31.70	_____	10.00	_____
-Fungicides	10.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	101.17	_____	90.87	_____
-Crop Insurance	7.50	_____	13.00	_____
-Fuel & Lubrication	18.11	_____	18.06	_____
-Repairs	17.46	_____	17.32	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.75	_____	8.75	_____
-Operating Interest	7.86	_____	6.42	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	217.40	_____	177.62	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.95	_____	8.97	_____
-Machinery Depreciation	20.82	_____	20.86	_____
-Machinery Investment	10.24	_____	10.43	_____
-Land Charge	57.00	_____	57.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	97.01	_____	97.26	_____
SUM OF ALL LISTED COSTS	314.41	_____	274.88	_____
RETURN TO LABOR & MANAGEMENT	16.47	_____	25.26	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.63	_____	4.13	_____
-Indirect Costs	2.06	_____	2.26	_____
-Total Costs	6.69	_____	6.39	_____

Winter Wheat notes:

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

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