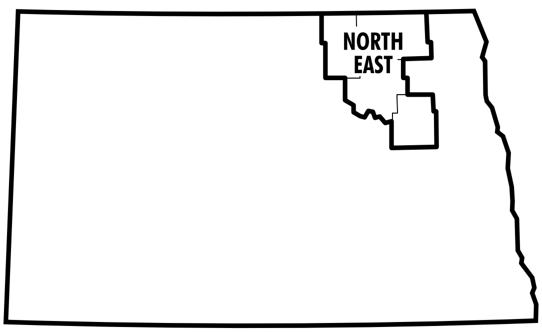
EC1655

FARM MANAGEMENT PLANNING GUIDE

December 2017

Projected 2018 Crop Budgets



North East North Dakota

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The 2018 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 2018 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 2014 Farm Bill initiated 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 2010-2016, 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.

Soil test	**- recrop:**
Nitrogen	- 34 lb
Phosphorus	- 6 ppm
Potassium	- 248 ppm

Fertilizer prices:

Nitrogen	- .37/lb
Phosphorus	- .40/lb
Potassium	- .27/lb

Seed Prices:

Spring Wheat	10.00/bu
Durum	13.00/bu
Barley	8.00/bu
Corn GM	2.65/thou.kern.
Soybean GM	.33/thou.kern.
Dry Beans	.68/thou.kern.
Oil Sunflower	1.50/thou.kern.
Conf. Sunflower	2.70/thou.kern.
Canola	11.40/lb
Flax	16.00/bu
Field Peas	14.00/bu
Oats	6.50/bu
Mustard	2.00/lb
Buckwheat	.45/lb
Millet	.25/lb
Winter Wheat	7.75/bu

Fuel prices:

Diesel	2.20/gal
Gas	2.45/gal

Lubrication charge: 15% of fuel cost

Crop Insurance: Revenue Protection was used for all wheat, barley, soybeans, corn, canola, sunflowers, field peas and dry beans. Yield Protection or APH insurance was used for other crops. A 70% coverage and optional units were used, except corn for which 80% coverage and enterprise units were assumed.

Miscellaneous: soil testing, machinery rent and custom work.

Operating Interest: Direct costs charged 5.1% 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: 4.5% 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	54	____________	47	____________
Market Price	5.68	____________	6.27*	____________
MARKET INCOME	306.72	____________	294.69	____________
DIRECT COSTS				
-Seed	17.50	____________	26.00	____________
-Herbicides	22.00	____________	22.00	____________
-Fungicides**	17.00	____________	17.00	____________
-Insecticides***	0.00	____________	0.00	____________
-Fertilizer	71.14	____________	60.29	____________
-Crop Insurance	17.00	____________	20.10	____________
-Fuel & Lubrication	14.45	____________	14.11	____________
-Repairs	19.68	____________	19.48	____________
-Drying	0.00	____________	0.00	____________
-Miscellaneous	1.50	____________	1.50	____________
-Operating Interest	4.60	____________	4.60	____________
	========	============	========	============
SUM OF LISTED DIRECT COSTS	184.87	____________	185.09	____________
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.54	____________	8.41	____________
-Machinery Depreciation	22.60	____________	22.24	____________
-Machinery Investment	13.29	____________	13.10	____________
-Land Charge	58.50	____________	58.50	____________
	========	============	========	============
SUM OF LISTED INDIRECT COSTS	102.93	____________	102.25	____________
SUM OF ALL LISTED COSTS	287.80	____________	287.34	____________
RETURN TO LABOR & MANAGEMENT	18.92	____________	7.35	____________
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	3.42	____________	3.94	____________
-Indirect Costs	1.91	____________	2.18	____________
-Total Costs	5.33	____________	6.11	____________

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) infection.
***Cereal grain aphid insecticide would cost about $4. Wheat midge insecticide would cost about $6.

	Malting Barley		Corn Grain	
	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	69	____________	117	____________
Market Price	3.45*	____________	3.25	____________
MARKET INCOME	238.05	____________	380.25	____________
DIRECT COSTS				
-Seed	16.00	____________	80.83*	____________
-Herbicides	19.20	____________	24.00	____________
-Fungicides	17.00**	____________	0.00	____________
-Insecticides	0.00	____________	0.00	____________
-Fertilizer	54.61	____________	81.48	____________
-Crop Insurance	12.70	____________	20.80	____________
-Fuel & Lubrication	15.07	____________	21.07	____________
-Repairs	19.85	____________	25.90	____________
-Drying	0.00	____________	21.06	____________
-Miscellaneous	1.50	____________	1.50	____________
-Operating Interest	3.98	____________	7.05	____________
	========	============	========	============
SUM OF LISTED DIRECT COSTS	159.90	____________	283.69	____________
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.76	____________	11.52	____________
-Machinery Depreciation	23.17	____________	37.39	____________
-Machinery Investment	13.55	____________	21.36	____________
-Land Charge	58.50	____________	58.50	____________
	========	============	========	============
SUM OF LISTED INDIRECT COSTS	103.98	____________	128.78	____________
SUM OF ALL LISTED COSTS	263.88	____________	412.48	____________
RETURN TO LABOR & MANAGEMENT	(25.83)	____________	(32.23)	____________
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	2.32	____________	2.42	____________
-Indirect Costs	1.51	____________	1.10	____________
-Total Costs	3.82	____________	3.53	____________

Barley notes:
*There is risk of not making malting barley quality. Use $2.70 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) infection.

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	____________	1560	____________
Market Price	8.80	____________	0.225	____________
MARKET INCOME	281.60	____________	351.00	____________
DIRECT COSTS				
-Seed	65.75*	____________	56.10	____________
-Herbicides	24.00	____________	45.80*	____________
-Fungicides	0.00	____________	20.00**	____________
-Insecticides	4.00**	____________	0.00	____________
-Fertilizer	11.81	____________	36.70	____________
-Crop Insurance	22.10	____________	21.00	____________
-Fuel & Lubrication	14.15	____________	15.99	____________
-Repairs	20.28	____________	22.73	____________
-Drying	0.00	____________	0.00	____________
-Miscellaneous	5.00	____________	13.00	____________
-Operating Interest	4.26	____________	5.90	____________
	========	============	========	============
SUM OF LISTED DIRECT COSTS	171.36	____________	237.22	____________
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.54	____________	9.15	____________
-Machinery Depreciation	23.63	____________	27.71	____________
-Machinery Investment	14.04	____________	16.29	____________
-Land Charge	58.50	____________	58.50	____________
	========	============	========	============
SUM OF LISTED INDIRECT COSTS	104.71	____________	111.66	____________
SUM OF ALL LISTED COSTS	276.07	____________	348.87	____________
RETURN TO LABOR & MANAGEMENT	5.53	____________	2.13	____________
LISTED COSTS PER BUDGET UNIT	(bu)		(lb)	
-Direct Costs	5.35	____________	0.15	____________
-Indirect Costs	3.27	____________	0.07	____________
-Total Costs	8.63	____________	0.22	____________

Soybean notes:
*GM soybeans with herbicide tolerance. The cost includes $8 for inoculant and fungicide treatment in addition to seed expense.
**Soybean aphid and/or spider mite insecticide.

Drybean notes:
Under the 2014 farm bill government payment reductions can occur if drybean plantings exceed non-base acres plus 15 percent of base acres (35 percent if enrolled in ARC-IC).
*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	1440	____________	1050	____________
Market Price	0.171	____________	0.229	____________
MARKET INCOME	246.24	____________	240.45	____________
DIRECT COSTS				
-Seed	33.00	____________	51.30	____________
-Herbicides	27.00	____________	29.20	____________
-Fungicides	0.00*	____________	0.00*	____________
-Insecticides	5.00**	____________	10.00**	____________
-Fertilizer	32.61	____________	20.37	____________
-Crop Insurance	17.40	____________	26.50	____________
-Fuel & Lubrication	14.65	____________	14.05	____________
-Repairs	19.57	____________	19.23	____________
-Drying	4.32	____________	3.15	____________
-Miscellaneous	9.50	____________	17.50	____________
-Operating Interest	4.16	____________	4.88	____________
	========	============	========	============
SUM OF LISTED DIRECT COSTS	167.21	____________	196.18	____________
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.97	____________	8.75	____________
-Machinery Depreciation	24.32	____________	23.68	____________
-Machinery Investment	15.04	____________	14.71	____________
-Land Charge	58.50	____________	58.50	____________
	========	============	========	============
SUM OF LISTED INDIRECT COSTS	106.83	____________	105.63	____________
SUM OF ALL LISTED COSTS	274.04	____________	301.81	____________
RETURN TO LABOR & MANAGEMENT	(27.80)	____________	(61.36)	____________
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.12	____________	0.19	____________
-Indirect Costs	0.07	____________	0.10	____________
-Total Costs	0.19	____________	0.29	____________

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	1930	____________	23	____________
Market Price	0.17	____________	9.57	____________
MARKET INCOME	328.10	____________	220.11	____________
DIRECT COSTS				
-Seed	57.00	____________	16.00	____________
-Herbicides	22.50	____________	21.00	____________
-Fungicides	0.00*	____________	0.00*	____________
-Insecticides	0.00	____________	0.00	____________
-Fertilizer	77.64	____________	29.36	____________
-Crop Insurance	20.30	____________	9.50	____________
-Fuel & Lubrication	14.53	____________	13.85	____________
-Repairs	19.86	____________	20.22	____________
-Drying	0.00	____________	0.00	____________
-Miscellaneous	1.50	____________	1.50	____________
-Operating Interest	5.44	____________	2.84	____________
	========	============	========	============
SUM OF LISTED DIRECT COSTS	218.77	____________	114.28	____________
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.51	____________	8.42	____________
-Machinery Depreciation	23.60	____________	23.53	____________
-Machinery Investment	13.82	____________	13.94	____________
-Land Charge	58.50	____________	58.50	____________
	========	============	========	============
SUM OF LISTED INDIRECT COSTS	104.43	____________	104.39	____________
SUM OF ALL LISTED COSTS	323.20	____________	218.66	____________
RETURN TO LABOR & MANAGEMENT	4.90	____________	1.45	____________
LISTED COSTS PER BUDGET UNIT	(lb)		(bu)	
-Direct Costs	0.11	____________	4.97	____________
-Indirect Costs	0.05	____________	4.54	____________
-Total Costs	0.17	____________	9.51	____________

Canola notes:
*Fungicide for white mold would cost about $18 plus application.

Flax notes:
*Fungicide treatment for pasmo has shown good yield response.

	Field Peas		Oats	
	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	36	____________	78	____________
Market Price	6.30	____________	2.00	____________
MARKET INCOME	226.80	____________	156.00	____________
DIRECT COSTS				
-Seed	42.00	____________	13.00	____________
-Herbicides	31.50	____________	5.25	____________
-Fungicides	1.50	____________	0.00	____________
-Insecticides	0.00	____________	0.00	____________
-Fertilizer	11.79	____________	52.34	____________
-Crop Insurance	14.30	____________	10.60	____________
-Fuel & Lubrication	14.46	____________	16.86	____________
-Repairs	20.55	____________	21.33	____________
-Drying	0.00	____________	0.00	____________
-Miscellaneous	9.50	____________	1.50	____________
-Operating Interest	3.71	____________	3.08	____________
	========	============	========	============
SUM OF LISTED DIRECT COSTS	149.32	____________	123.96	____________
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.53	____________	9.39	____________
-Machinery Depreciation	24.05	____________	25.87	____________
-Machinery Investment	13.89	____________	15.34	____________
-Land Charge	58.50	____________	58.50	____________
	========	============	========	============
SUM OF LISTED INDIRECT COSTS	104.97	____________	109.10	____________
SUM OF ALL LISTED COSTS	254.29	____________	233.06	____________
RETURN TO LABOR & MANAGEMENT	(27.49)	____________	(77.06)	____________
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	4.15	____________	1.59	____________
-Indirect Costs	2.92	____________	1.40	____________
-Total Costs	7.06	____________	2.99	____________

	Yellow Mustard		Buckwheat	
	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	900	____________	950	____________
Market Price	0.31	____________	0.196	____________
MARKET INCOME	279.00	____________	186.20	____________
DIRECT COSTS				
-Seed	24.00	____________	22.50	____________
-Herbicides	13.70	____________	11.50	____________
-Fungicides	0.00	____________	0.00	____________
-Insecticides	6.00*	____________	0.00	____________
-Fertilizer	26.23	____________	16.82	____________
-Crop Insurance	19.90	____________	0.00*	____________
-Fuel & Lubrication	13.20	____________	15.29	____________
-Repairs	19.26	____________	21.11	____________
-Drying	0.00	____________	0.00	____________
-Miscellaneous	1.50	____________	1.50	____________
-Operating Interest	3.16	____________	2.26	____________
	========	============	========	============
SUM OF LISTED DIRECT COSTS	126.94	____________	90.99	____________
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.20	____________	8.67	____________
-Machinery Depreciation	22.30	____________	24.16	____________
-Machinery Investment	13.46	____________	14.85	____________
-Land Charge	58.50	____________	58.50	____________
	========	============	========	============
SUM OF LISTED INDIRECT COSTS	102.46	____________	106.18	____________
SUM OF ALL LISTED COSTS	229.40	____________	197.17	____________
RETURN TO LABOR & MANAGEMENT	49.60	____________	(10.97)	____________
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.14	____________	0.10	____________
-Indirect Costs	0.11	____________	0.11	____________
-Total Costs	0.25	____________	0.21	____________

Yellow Mustard notes:
*Insecticide seed treatment for flea beetles.

Buckwheat notes:
*Crop insurance is not available in this region.

	Millet		Winter Wheat	
	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1600	____________	54*	____________
Market Price	0.065	____________	4.36	____________
MARKET INCOME	104.00	____________	235.44	____________
DIRECT COSTS				
-Seed	6.25	____________	9.30	____________
-Herbicides	3.25	____________	23.90	____________
-Fungicides	0.00	____________	9.00	____________
-Insecticides	0.00	____________	0.00	____________
-Fertilizer	23.09	____________	71.14	____________
-Crop Insurance	0.00	____________	17.00	____________
-Fuel & Lubrication	14.63	____________	11.52	____________
-Repairs	20.05	____________	17.00	____________
-Drying	0.00	____________	0.00	____________
-Miscellaneous	1.50	____________	7.50	____________
-Operating Interest	1.75	____________	4.24	____________
	========	============	========	============
SUM OF LISTED DIRECT COSTS	70.53	____________	170.60	____________
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.55	____________	7.81	____________
-Machinery Depreciation	23.51	____________	19.57	____________
-Machinery Investment	14.09	____________	10.86	____________
-Land Charge	58.50	____________	58.50	____________
	========	============	========	============
SUM OF LISTED INDIRECT COSTS	104.65	____________	96.73	____________
SUM OF ALL LISTED COSTS	175.18	____________	267.34	____________
RETURN TO LABOR & MANAGEMENT	(71.18)	____________	(31.90)	____________
LISTED COSTS PER BUDGET UNIT	(lb)		(bu)	
-Direct Costs	0.04	____________	3.16	____________
-Indirect Costs	0.07	____________	1.79	____________
-Total Costs	0.11	____________	4.95	____________

Winter Wheat notes:
*Yield is per harvested acre. There is some risk of acreage abandonment in spring.

2018 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
FWA 150HP Tractor	136000	400 hr	20	42564	11.68 /hr	10.04 /hr	13.44 /hr	
FWA 190HP Tractor	178800	500 hr	15	51357	16.99 /hr	10.36 /hr	17.67 /hr	
4WD 370HP Tractor	255000	500 hr	15	73227	24.24 /hr	14.77 /hr	14.40 /hr	
SP Combine (base unit)	290000	250 hr	12	70023	73.33 /hr	32.40 /hr	45.70 /hr	
Tandem Truck (used)	39200	150 hr	15	12500	11.87 /hr	7.76 /hr	8.04 /hr	
Semi & Trailer (used)	46000	150 hr	10	13100	21.93 /hr	8.87 /hr	9.93 /hr	
Pick-up Truck	33000	300 hr	10	7600	8.47 /hr	3.05 /hr	3.78 /hr	
Swather 30 ft	31100	1000 ac	20	7354	1.19 /ac	0.86 /ac	0.50 /ac	13.1
Sprayer 90 ft	39400	5000 ac	10	19574	0.40 /ac	0.27 /ac	0.50 /ac	42.5
Chisel Plow 38 ft	45500	3000 ac	15	26571	0.42 /ac	0.54 /ac	1.01 /ac	19.6
Field Cultivator 48 ft	52500	3000 ac	15	30693	0.49 /ac	0.62 /ac	0.92 /ac	24.7
Tandem Disk 28 ft	34800	800 ac	20	9976	1.55 /ac	1.26 /ac	0.88 /ac	13.6
Heavy Harrow 70 ft	31500	2000 ac	20	18372	0.33 /ac	0.56 /ac	0.35 /ac	39.7
Air Seeder 40 ft	183500	2400 ac	10	93777	3.73 /ac	2.59 /ac	6.35 /ac	17.0
Planter 16-30	114500	1400 ac	15	47571	3.19 /ac	2.61 /ac	4.74 /ac	14.2
Corn head 8R w/chopper	82500	800 ac	12	23629	6.12 /ac	2.98 /ac	1.91 /ac	6.8
Grain head w/pu	18700	1200 ac	12	5359	0.92 /ac	0.45 /ac	0.29 /ac	10.2
Grain str. cut 35 ft	30800	1000 ac	15	6416	1.62 /ac	0.84 /ac	0.41 /ac	11.9
Head w/sunf pans	37100	600 ac	20	3883	2.76 /ac	1.53 /ac	0.49 /ac	11.9
Flex head 35 ft	45100	1000 ac	20	4289	2.04 /ac	1.11 /ac	0.60 /ac	11.9
Rock picker	22600	50 hr	20	7231	0.51 /ac	0.45 /ac	0.34 /ac	29.1
Grain Cart	36600	100 hr	20	6200	15.20 /hr	9.63 /hr	8.60 /hr	
Grain auger	13500	50 hr	20	780	12.72 /hr	6.43 /hr	5.00 /hr	

For more information on this and other topics, see **www.ag.ndsu.edu**

430-12-17