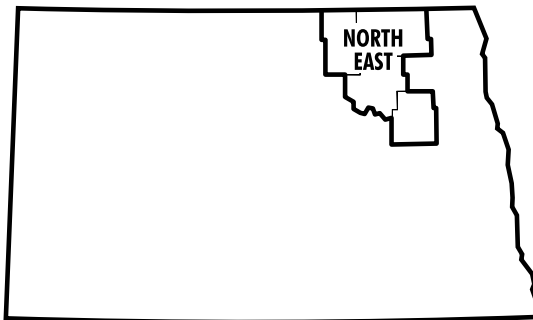




FARM MANAGEMENT PLANNING GUIDE

December 2015

Projected 2016 Crop Budgets



North East North Dakota

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The 2016 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 2016 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, and eliminated the direct and counter-cyclical payment programs and the ACRE program.

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 2008-2014, 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 of 130% of market yield. N fertilizer can be reduced if previous crop was soybean, dry bean, field peas or lentil.

Soil test - recrop:
 Nitrogen - 35 lb
 Phosphorus - 6 ppm
 Potassium - 248 ppm

Fertilizer prices:
 Nitrogen - .40/lb
 Phosphorus - .44/lb
 Potassium - .33/lb

Seed Prices:

Spring Wheat	9.25/bu
Durum	12.50/bu
Barley	8.50/bu
Corn GM	2.70/thou.kern.
Soybean RR2	.33/thou.kern.
Dry Beans	.67/lb
Oil Sunflower	1.50/thou.kern.
Conf. Sunflower	2.50/thou.kern.
Canola	10.25/lb
Flax	14.50/bu
Field Peas	14.00/bu
Oats	6.00/bu
Mustard	2.00/lb
Buckwheat	.60/lb
Millet	.25/lb
Winter Wheat	8.00/bu

Fuel prices:

Diesel	1.80/gal
Gas	1.95/gal

Lubrication charge: 15% of fuel cost

Crop Insurance: Revenue Protection was used for all wheat, barley, soybeans, corn, canola, sunflowers and dry beans. Yield Protection or APH insurance was used for other crops. A 70% coverage and optional units were used, except corn and soybeans for which 75% coverage and enterprise units were assumed.

Miscellaneous: soil testing, machinery rent and custom work.

Operating Interest: Direct costs charged 4.25% 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, \$3 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	50	_____	44	_____
Market Price	5.32	_____	6.02*	_____
MARKET INCOME	266.00	_____	264.88	_____
DIRECT COSTS				
-Seed	16.19	_____	25.00	_____
-Herbicides	22.00	_____	22.00	_____
-Fungicides**	17.00	_____	17.00	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	70.13	_____	60.04	_____
-Crop Insurance	12.10	_____	13.40	_____
-Fuel & Lubrication	11.57	_____	11.31	_____
-Repairs	19.53	_____	19.37	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	3.61	_____	3.60	_____
SUM OF LISTED DIRECT COSTS	173.63	=====	173.22	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.59	_____	7.49	_____
-Machinery Depreciation	22.39	_____	22.09	_____
-Machinery Investment	12.99	_____	12.83	_____
-Land Investment	56.50	_____	56.50	_____
SUM OF LISTED INDIRECT COSTS	99.47	=====	98.91	=====
SUM OF ALL LISTED COSTS	273.10	_____	272.13	_____
RETURN TO LABOR & MANAGEMENT	(7.10)	_____	(7.25)	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	3.47	_____	3.94	_____
-Indirect Costs	1.99	_____	2.25	_____
-Total Costs	5.46	_____	6.18	_____

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 often warranted in this region for fusarium head blight (scab) control.

***Wheat midge insecticide would cost about \$6. Cereal grain aphid insecticide would cost about \$6.

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	70	_____	110	_____
Market Price	4.19*	_____	3.50	_____
MARKET INCOME	293.30	_____	385.00	_____
DIRECT COSTS				
-Seed	17.00	_____	82.35*	_____
-Herbicides	19.20	_____	22.00	_____
-Fungicides	17.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	60.02	_____	82.07	_____
-Crop Insurance	14.60	_____	22.40	_____
-Fuel & Lubrication	13.29	_____	16.28	_____
-Repairs	21.16	_____	24.38	_____
-Drying	0.00	_____	23.10	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	3.48	_____	5.82	_____
SUM OF LISTED DIRECT COSTS	167.25	=====	279.91	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.37	_____	10.11	_____
-Machinery Depreciation	24.99	_____	34.10	_____
-Machinery Investment	14.92	_____	19.60	_____
-Land Investment	56.50	_____	56.50	_____
SUM OF LISTED INDIRECT COSTS	104.78	=====	120.31	=====
SUM OF ALL LISTED COSTS	272.03	_____	400.22	_____
RETURN TO LABOR & MANAGEMENT	21.27	_____	(15.22)	_____
LISTED COSTS PER BUDGET UNIT				
	(bu)		(bu)	
-Direct Costs	2.39	_____	2.54	_____
-Indirect Costs	1.50	_____	1.09	_____
-Total Costs	3.89	_____	3.64	_____

Barley notes:

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

**Includes seed treatment, an early season foliar fungicide, and a late season fungicide recommended when conditions are favorable for fusarium head blight (scab) infection.

Corn notes:

*GM corn with herbicide tolerance and above ground insect control traits. Cost includes insecticide seed treatment for wireworm, rootworm, white grub and suppression of cutworm.

Soybeans

Drybeans

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	30	_____	1570	_____
Market Price	7.95	_____	0.22	_____
MARKET INCOME	238.50	_____	345.40	_____
DIRECT COSTS				
-Seed	65.75*	_____	55.28	_____
-Herbicides	20.00	_____	45.80*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	4.00	_____	0.00	_____
-Fertilizer	12.18	_____	40.04	_____
-Crop Insurance	14.40	_____	28.80	_____
-Fuel & Lubrication	11.35	_____	12.72	_____
-Repairs	20.18	_____	23.06	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	4.75	_____	12.75	_____
-Operating Interest	3.24	_____	5.07	_____
SUM OF LISTED DIRECT COSTS	155.86	=====	243.51	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.61	_____	8.34	_____
-Machinery Depreciation	23.37	_____	28.18	_____
-Machinery Investment	13.71	_____	16.26	_____
-Land Investment	56.50	_____	56.50	_____
SUM OF LISTED INDIRECT COSTS	101.18	=====	109.28	=====
SUM OF ALL LISTED COSTS	257.04	_____	352.79	_____
RETURN TO LABOR & MANAGEMENT	(18.54)	_____	(7.39)	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(lb)	
-Direct Costs	5.20	_____	0.16	_____
-Indirect Costs	3.37	_____	0.07	_____
-Total Costs	8.57	_____	0.22	_____

Soybean notes:

*RR2 (glyphosate) resistant soybeans. 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 may be necessary.

Oil Sunflower Confection Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1360		1050	
Market Price	0.159		0.216	
MARKET INCOME	216.24		226.80	
DIRECT COSTS				
-Seed	33.00		47.50	
-Herbicides	27.00		29.20	
-Fungicides	0.00*		0.00*	
-Insecticides	5.00**		10.00**	
-Fertilizer	32.33		21.77	
-Crop Insurance	15.00		23.00	
-Fuel & Lubrication	11.77		11.36	
-Repairs	19.44		19.17	
-Drying	4.08		3.15	
-Miscellaneous	9.50		17.50	
-Operating Interest	3.34		3.88	
	=====		=====	
SUM OF LISTED DIRECT COSTS	160.46		186.53	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.00		7.83	
-Machinery Depreciation	23.92		23.44	
-Machinery Investment	14.60		14.35	
-Land Investment	56.50		56.50	
	=====		=====	
SUM OF LISTED INDIRECT COSTS	103.03		102.11	
SUM OF ALL LISTED COSTS	263.49		288.64	
RETURN TO LABOR & MANAGEMENT	(47.25)		(61.84)	
LISTED COSTS PER BUDGET UNIT				
	(lb)		(lb)	
-Direct Costs	0.12		0.18	
-Indirect Costs	0.08		0.10	
-Total Costs	0.19		0.27	

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	1860		24	
Market Price	0.145		8.05	
MARKET INCOME	269.70		193.20	
DIRECT COSTS				
-Seed	51.25*		14.50	
-Herbicides	21.30		20.40	
-Fungicides	0.00**		0.00*	
-Insecticides	0.00		0.00	
-Fertilizer	80.53		33.49	
-Crop Insurance	16.90		7.00	
-Fuel & Lubrication	9.96		10.82	
-Repairs	17.78		19.20	
-Drying	0.00		0.00	
-Miscellaneous	1.50		1.50	
-Operating Interest	4.23		2.27	
SUM OF LISTED DIRECT COSTS	203.44		109.19	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.24		7.53	
-Machinery Depreciation	21.12		21.87	
-Machinery Investment	12.33		13.62	
-Land Investment	56.50		56.50	
SUM OF LISTED INDIRECT COSTS	97.19		99.52	
SUM OF ALL LISTED COSTS	300.64		208.71	
RETURN TO LABOR & MANAGEMENT	(30.94)		(15.51)	
LISTED COSTS PER BUDGET UNIT				
	(lb)		(bu)	
-Direct Costs	0.11		4.55	
-Indirect Costs	0.05		4.15	
-Total Costs	0.16		8.70	

Canola notes:

*Cost includes insecticide seed treatment for flea beetles.

**Fungicide for white mold would cost about \$18 plus application.

Flax notes:

*Fungicide treatment for Pasmox has shown good yield response.

Field Peas

Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	37		74	
Market Price	6.42		2.30	
MARKET INCOME	237.54		170.20	
DIRECT COSTS				
-Seed	42.00		12.00	
-Herbicides	29.70		5.25	
-Fungicides	1.50		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	13.33		52.87	
-Crop Insurance	11.60		9.80	
-Fuel & Lubrication	11.57		13.16	
-Repairs	20.70		20.47	
-Drying	0.00		0.00	
-Miscellaneous	9.25		1.50	
-Operating Interest	2.97		2.44	
SUM OF LISTED DIRECT COSTS	142.63		117.50	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.71		8.30	
-Machinery Depreciation	24.30		24.53	
-Machinery Investment	13.81		14.53	
-Land Investment	56.50		56.50	
SUM OF LISTED INDIRECT COSTS	102.32		103.86	
SUM OF ALL LISTED COSTS	244.95		221.36	
RETURN TO LABOR & MANAGEMENT	(7.41)		(51.16)	
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	3.85		1.59	
-Indirect Costs	2.77		1.40	
-Total Costs	6.62		2.99	

Field Pea notes:

For 2016, yellow and green peas are expected to have very similar returns and costs.

Yellow Mustard

Buckwheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	900	_____	950	_____
Market Price	0.31	_____	0.216	_____
MARKET INCOME	279.00	_____	205.20	_____
DIRECT COSTS				
-Seed	24.00	_____	30.00	_____
-Herbicides	13.70	_____	11.50	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	6.00*	_____	0.00	_____
-Fertilizer	28.16	_____	17.95	_____
-Crop Insurance	24.00	_____	0.00*	_____
-Fuel & Lubrication	10.14	_____	11.85	_____
-Repairs	18.53	_____	20.26	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	2.68	_____	1.98	_____
SUM OF LISTED DIRECT COSTS	128.70	=====	95.04	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.21	_____	7.65	_____
-Machinery Depreciation	21.32	_____	23.03	_____
-Machinery Investment	12.83	_____	14.12	_____
-Land Investment	56.50	_____	56.50	_____
SUM OF LISTED INDIRECT COSTS	97.85	=====	101.30	=====
SUM OF ALL LISTED COSTS	226.56	_____	196.34	_____
RETURN TO LABOR & MANAGEMENT	52.44	_____	8.86	_____
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	_____	52*	_____
Market Price	0.065	_____	4.51	_____
MARKET INCOME	104.00	_____	234.52	_____
DIRECT COSTS				
-Seed	6.25	_____	10.20	_____
-Herbicides	3.25	_____	23.90	_____
-Fungicides	0.00	_____	9.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	24.73	_____	73.50	_____
-Crop Insurance	0.00	_____	12.30	_____
-Fuel & Lubrication	11.39	_____	9.15	_____
-Repairs	19.32	_____	17.05	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	7.50	_____
-Operating Interest	1.41	_____	3.46	_____
SUM OF LISTED DIRECT COSTS	67.85	=====	166.05	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.55	_____	6.94	_____
-Machinery Depreciation	22.47	_____	19.63	_____
-Machinery Investment	13.44	_____	10.76	_____
-Land Investment	56.50	_____	56.50	_____
SUM OF LISTED INDIRECT COSTS	99.96	=====	93.83	=====
SUM OF ALL LISTED COSTS	167.82	_____	259.88	_____
RETURN TO LABOR & MANAGEMENT	(63.82)	_____	(25.36)	_____
LISTED COSTS PER BUDGET UNIT	(lb)		(bu)	
-Direct Costs	0.04	_____	3.19	_____
-Indirect Costs	0.06	_____	1.80	_____
-Total Costs	0.10	_____	5.00	_____

Winter Wheat notes:

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

2016 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
FWA 140HP Tractor	130000	400 hr	20	40676	11.17 /hr	9.60 /hr	12.84 /hr	
FWA 180HP Tractor	176200	500 hr	15	50575	16.75 /hr	10.20 /hr	17.40 /hr	
4WD 340HP Tractor	232100	500 hr	15	66661	22.06 /hr	13.44 /hr	13.11 /hr	
SP Combine (base unit)	281900	250 hr	12	68074	71.28 /hr	31.50 /hr	44.43 /hr	
Tandem Truck (used)	38300	150 hr	15	12200	11.60 /hr	7.58 /hr	7.85 /hr	
Semi & Trailer (used)	42900	150 hr	10	12250	20.43 /hr	8.27 /hr	9.47 /hr	
Pick-up Truck	30600	300 hr	10	6000	8.20 /hr	2.75 /hr	3.55 /hr	
Swather 30 ft	30600	1000 ac	20	7253	1.17 /ac	0.85 /ac	0.49 /ac	13.1
Sprayer 90 ft	38800	5000 ac	10	19278	0.39 /ac	0.26 /ac	0.50 /ac	42.5
Chisel Plow 38 ft	43300	3000 ac	15	25280	0.40 /ac	0.51 /ac	0.96 /ac	19.6
Field Cultivator 48 ft	48900	3000 ac	15	28558	0.45 /ac	0.58 /ac	0.86 /ac	24.7
Tandem Disk 28 ft	34300	800 ac	20	9830	1.53 /ac	1.24 /ac	0.87 /ac	13.6
Heavy Harrow 70 ft	31000	2000 ac	20	18080	0.32 /ac	0.55 /ac	0.35 /ac	39.7
Air Seeder 40 ft	180800	2400 ac	10	92386	3.68 /ac	2.56 /ac	6.25 /ac	17.0
Planter 16-30	112800	1400 ac	15	46864	3.14 /ac	2.57 /ac	4.67 /ac	14.2
Corn head 8R	58600	800 ac	12	16808	4.35 /ac	2.12 /ac	1.36 /ac	6.8
Grain head w/pu	15600	1200 ac	12	4555	0.77 /ac	0.38 /ac	0.25 /ac	10.2
Grain str. cut 30 ft	26000	1000 ac	15	5290	1.38 /ac	0.70 /ac	0.40 /ac	10.2
Head w/sunf pans 30 ft	31300	600 ac	20	3200	2.34 /ac	1.29 /ac	0.48 /ac	10.2
Flex head 30 ft	38600	1000 ac	20	3541	1.75 /ac	0.95 /ac	0.60 /ac	10.2
Rock picker	22300	50 hr	20	7122	0.51 /ac	0.44 /ac	0.33 /ac	29.1
Grain Cart	30000	100 hr	20	5100	12.45 /hr	7.90 /hr	7.50 /hr	
Grain auger	12700	50 hr	20	735	11.97 /hr	6.05 /hr	4.70 /hr	

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