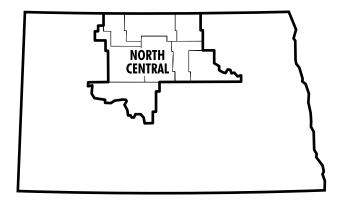


# Projected 2012 Crop Budgets North Central North Dakota

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The 2012 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



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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 ears.(Crop prices, direct costs, and the land charge are best estimates for only the 2012 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.

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.

**Direct and counter-cyclical payments** under the Farm Bill are omitted from the budgets because those payments are tied to historic farm program base acres and payment yields, not to current crop selection or production. Direct payments for this region are \$9.00 per acre when averaged over all crop acreage. Counter-cylclical payments, which occur if the national average price of program crops are below a certain level, are not expected with the price levels used in the budgets.

#### **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 2004-2010, 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	- 38 lb
Phosphorus	- 8 ppm
Potassium	- 363 ppm

#### Fertilizer prices:

Nitrogen	58/lb
Phosphorus	58/lb
Potassium	52/lb

#### Seed Prices:

Spring Wheat	12.75/bu
Durum	14.00/bu
Barley	12.00/bu
Corn grain RR/Bt	2.70/thou.kern.
Corn grain RR	2.37/thou.kern.
Soybean RR	.345/thou.kern.
Dry Beans	.92/lb
Oil Sunflower	1.35/thou.kern.
Conf. Sunflower	2.30/thou.kern.
Canola	9.10/lb
Flax	18.00/bu
Field Peas	13.50/bu
Oats	5.75/bu
Lentils	.42/lb
Mustard	1.60/lb
Buckwheat	.65/lb
Millet	.32/lb
Winter Wheat	10.50/bu
Rye	9.50/bu

#### **Fuel prices:**

Diesel 3.20/gal Gas 3.40/gal

Lubrication charge: 15% of fuel cost

- **Crop Insurance:** Coverage levels are 70% on all insurable crops. Yield Protection or APH insurance estimates are used, except for Revenue Protection on all wheat, soybeans, corn, canola and sunflowers.
- **Miscellaneous:** soil testing, machinery rent and custom work.
- **Operating Interest:** Direct costs charged 4.60% 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

		Your		Your
	Per Acre	Figures	Per Acre	Figures
Market Yield	38		37	
Market Price	7.34		8.44*	
MARKET INCOME	278.92		312.28	
DIRECT COSTS				
-Seed	19.13		28.00	
-Herbicides	22.00		22.00	
-Fungicides**	5.50		5.50	
-Insecticides***	0.00		0.00	
-Fertilizer	64.92		62.63	
-Crop Insurance	13.00		13.80	
-Fuel & Lubrication	16.21		16.16	
-Repairs	15.44		15.42	
-Drying	0.00		0.00	
-Miscellaneous	1.50		1.50	
-Operating Interest	3.63		3.80	
- <b>1</b>	=======		========	
SUM OF LISTED DIRECT COSTS	161.31		168.80	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.42		6.41	
-Machinery Depreciation	17.23		17.20	
-Machinery Investment	10.22		10.21	
-Land Charge	46.20		46.20	
	40.20		40.20	
SUM OF LISTED INDIRECT COSTS	80.08		80.02	
SUM OF ALL LISTED COSTS	241.40		248.82	
RETURN TO LABOR & MANAGEMENT	37.52		63.46	
LISTED COSTS PER BUDGET UNIT -Direct Costs -Indirect Costs -Total Costs	(bu): 4.25 2.11 6.35		(bu): 4.56 2.16 6.72	

#### Wheat notes:

\*Durum price is for milling quality. There is risk of lower quality and price.

\*\*Includes seed treatment (\$1.50-\$2) and early season foliar fungicide (\$2-\$4.50). Although late season fungicides are often not warranted in this region, prothioconazole or metconazole containing products are recommended for fusarium head blight (scab) control when conditions are favorable for infection. \*\*\*Wheat midge and/or cereal grain aphid insecticide would cost about \$6 per acre plus application.

# Malting Barley Corn Grain

		Your		Your
	Per Acre	Figures	Per Acre	Figures
Market Yield	59		86	
Market Price	6.09*		4.93	
MARKET INCOME	359.31		423.98	
DIRECT COSTS				
-Seed	18.00		60.58*	
-Herbicides	19.50		15.00	
-Fungicides	5.50**		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	61.82		78.34	
-Crop Insurance	11.90		25.60	
-Fuel & Lubrication	18.89		23.14	
-Repairs	16.75		17.27	
-Drying	0.00		17.20	
-Miscellaneous	1.50		1.50	
-Operating Interest	3.54		5.49	
1 3	=======			
SUM OF LISTED DIRECT COSTS	157.40		244.12	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.09		8.05	
-Machinery Depreciation	19.58		24.95	
-Machinery Investment	11.80		14.32	
-Land Charge	46.20		46.20	
Earla Onargo	=======		=======	
SUM OF LISTED INDIRECT COSTS	84.68		93.52	
SUM OF ALL LISTED COSTS	242.08		337.64	
RETURN TO LABOR & MANAGEMENT	117.23		86.34	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.67		2.84	
-Indirect Costs	1.44		1.09	
-Total Costs	4.10		3.93	
			-	

#### **Barley notes:**

\*On average, about 35% of production is feed quality. Use \$4.08 estimate for feed barley price.

\*\*Includes seed treatment (\$1.50-\$2.00) and early season foliar fungicide (\$2-\$4.50).

#### Corn notes:

\*RR/Bt corn is planted on 80 percent of acres and RR corn without Bt Trait is on 20 percent of acres for corn borer refuge. Cost includes insecticide seed treatment for wireworm, rootworm, white grub and suppression of cutworm.

### **Soybeans**

### **Drybeans\***

		Your		Your
	Per Acre	Figures	Per Acre	Figures
Market Yield	27		1310	
Market Price	10.85		0.37	
MARKET INCOME	292.95		484.70	
DIRECT COSTS				
-Seed	60.37*		46.00	
-Herbicides	15.00		42.00**	
-Fungicides	0.00		0.00	
-Insecticides	0.00**		0.00	
-Fertilizer	8.75		39.01	
-Crop Insurance	14.00		19.90	
-Fuel & Lubrication	13.28		19.87	
-Repairs	13.80		16.96	
-Drying	0.00		0.00	
-Miscellaneous	6.50		11.50	
-Operating Interest	3.03		4.49	
1 5	=======		=======	
SUM OF LISTED DIRECT COSTS	134.74		199.74	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	5.95		6.87	
-Machinery Depreciation	16.06		21.37	
-Machinery Investment	9.01		12.22	
-Land Charge	46.20		46.20	
Earla Onargo	=======		========	
SUM OF LISTED INDIRECT COSTS	77.23		86.67	
SUM OF ALL LISTED COSTS	211.97		286.41	
RETURN TO LABOR & MANAGEMENT	80.98		198.29	
LISTED COSTS PER BUDGET UNIT -Direct Costs -Indirect Costs -Total Costs	(bu): 4.99 2.86 7.85		(lb): 0.15 0.07 0.22	

#### Soybean notes:

\*RR2 (glyphosate) resistant soybeans.

\*\*Soybean aphid and/or spider mite insecticide would cost about \$7 per acre plus application.

#### Drybean notes:

\*Acreage limitations exist under the farm bill. The general rule is drybean acres can not be planted on base acres. If farm or producer has drybean history, drybean can be planted on base acres but government payments on those acres will be forfeited.

\*\*Includes dessicant prior to straight cutting.

### Oil Sunflower

### Confectionery Sunflower

Per Acre	Your Figures	Per Acre	Your Figures
1490		1370	
0.228		0.342	
339.72		468.54	
28.35*		41.40*	
28.20		30.20	
0.00**		0.00**	
7.00***		14.00***	
46.83		41.28	
16.00		18.90	
18.38		18.19	
14.52		14.45	
2.98		2.74	
8.50		15.50	
3.93		4.52	
		========	
174.68		201.19	
6.79		6.74	
18.64		18.52	
11.19		11.13	
46.20		46.20	
=======	==========	=======	==========
82.83		82.59	
257.52		283.78	
82.20		184.76	
(lb): 0.12 0.06 0.17		(lb): 0.15 0.06 0.21	
	1490 0.228 339.72 28.35* 28.20 0.00** 7.00*** 46.83 16.00 18.38 14.52 2.98 8.50 3.93 ===== 174.68 6.79 18.64 11.19 46.20 ===== 82.83 257.52 82.20 (lb): 0.12 0.06	Per Acre       Figures         1490	Per Acre         Figures         Per Acre $1490$

#### **Oil Sunflower notes:**

\*Cost includes seed treatment for control of wireworm and flea beetle.

\*\*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 \$7 is under "Miscellaneous." Insecticide treatment for cutworms would cost about \$5 plus application (usually tank mixed with herbicide).

#### **Confectionery Sunflower notes:**

\*Cost includes seed treatment for control of wireworm and flea beetle.

\*\*Fungicide for rust would cost \$4 plus application.

\*\*\*Two sprayings for head feeding insects (red seed weevil, lygus bug and banded moths) at about \$7 per application. Each custom application cost of \$7 is under "Miscellaneous." Insecticide treatment for cutworms would cost about \$5 plus application (usually tank mixed with herbicide).

### Canola

# Flax

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1500		21	
Market Price	0.215		12.90	
MARKET INCOME	322.50		270.90	
DIRECT COSTS				
-Seed	45.50*		12.60	
-Herbicides	18.00		25.50	
-Fungicides	0.00**		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	80.29		34.74	
-Crop Insurance	12.40		10.50	
-Fuel & Lubrication	16.63		15.47	
-Repairs	15.60		15.31	
-Drying	0.00		0.00	
-Miscellaneous	1.50		1.50	
-Operating Interest	4.37		2.66	
				============
SUM OF LISTED DIRECT COSTS	194.28		118.29	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.41		6.21	
-Machinery Depreciation	17.82		16.80	
-Machinery Investment	10.50		10.04	
-Land Charge	46.20		46.20	
	========		=======	
SUM OF LISTED INDIRECT COSTS	80.93		79.25	
SUM OF ALL LISTED COSTS	275.22		197.54	
RETURN TO LABOR & MANAGEMENT	47.28		73.36	
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.13		5.63	
-Indirect Costs	0.05		3.77	
-Total Costs	0.18		9.41	
			-	

#### Canola notes:

\*Cost includes insecticide seed treatment for flea beetles.

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

### **Field Peas**

### Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	35		60	
Market Price	8.10*		3.14	
MARKET INCOME	283.50		188.40	
DIRECT COSTS				
-Seed	40.50		11.50	
-Herbicides	30.50		8.25	
-Fungicides	1.50		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	13.14		51.07	
-Crop Insurance	10.10		10.50	
-Fuel & Lubrication	15.55		18.94	
-Repairs	15.77		16.77	
-Drying	0.00		0.00	
-Miscellaneous	9.00		1.50	
-Operating Interest	3.13		2.73	
SUM OF LISTED DIRECT COSTS	139.20		121.26	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.37		7.11	
-Machinery Depreciation	18.48		19.62	
-Machinery Investment	10.15		11.82	
-Land Charge	46.20	<u> </u>	46.20	
SUM OF LISTED INDIRECT COSTS	======= 81.21		======= 84.74	
SUM OF ALL LISTED COSTS	220.40		206.00	
RETURN TO LABOR & MANAGEMENT	63.10		(17.60)	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.98		2.02	
-Indirect Costs	2.32		1.41	
-Total Costs	6.30		3.43	
	0.00		00	

#### Field Pea notes:

\*Food quality price. Feed quality peas would have a lower price.

### Lentils

# Yellow Mustard

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1320		950	
Market Price	0.22		0.349	
MARKET INCOME	290.40		331.55	
DIRECT COSTS				
-Seed	29.40		19.20	
-Herbicides	34.00*		16.00	
-Fungicides	0.00**		0.00	
-Insecticides	0.00		6.00*	
-Fertilizer	8.26		37.70	
-Crop Insurance	15.20		15.00**	
-Fuel & Lubrication	15.43		16.78	
-Repairs	16.41		15.99	
-Drying	0.00		0.00	
-Miscellaneous	9.00		1.50	
-Operating Interest	2.94		2.95	
SUM OF LISTED DIRECT COSTS	130.64		131.12	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.46		6.49	
<ul> <li>Machinery Depreciation</li> </ul>	18.77		18.16	
-Machinery Investment	10.46		11.09	
-Land Charge	46.20		46.20	
SUM OF LISTED INDIRECT COSTS	====== 81.89		======= 81.94	
SUM OF ALL LISTED COSTS	212.53		213.06	
RETURN TO LABOR & MANAGEMENT	77.87		118.49	
LISTED COSTS PER BUDGET UNIT -Direct Costs -Indirect Costs	(lb): 0.10 0.06		(lb): 0.14 0.09	
-Total Costs	0.16		0.22	

#### Lentil notes:

\*Includes pre-harvest dessicant.

\*\*Fungicide treatment for ascochyta would cost about \$16 plus application.

#### Yellow Mustard notes:

\*Insecticide seed treatment for flea beetles.

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

### **Buckwheat**

# Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	950		1300	
Market Price	0.283		0.125	
MARKET INCOME	268.85		162.50	
DIRECT COSTS				
-Seed	32.50		8.00	
-Herbicides	14.50		6.50	
-Fungicides	0.00		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	20.58		20.40	
-Crop Insurance	14.00*		0.00	
-Fuel & Lubrication	16.30		17.24	
-Repairs	15.48		16.16	
-Drying	0.00		0.00	
-Miscellaneous	1.50		1.50	
-Operating Interest	2.64		1.61	
			=======	
SUM OF LISTED DIRECT COSTS	117.49		71.40	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.35		6.62	
-Machinery Depreciation	17.75		18.46	
-Machinery Investment	10.51		11.25	
-Land Charge	46.20		46.20	
Land Onlarge	=======		=======	
SUM OF LISTED INDIRECT COSTS	80.81		82.53	
SUM OF ALL LISTED COSTS	198.30		153.93	
RETURN TO LABOR & MANAGEMENT	70.55		8.57	
LISTED COSTS PER BUDGET UNIT -Direct Costs -Indirect Costs -Total Costs	(lb): 0.12 0.09 0.21		(lb): 0.05 0.06 0.12	

#### Buckwheat notes:

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

### Winter Wheat

### Rye

		Your		Your
	Per Acre	Figures	Per Acre	Figures
Market Yield	49*		42	
Market Price	6.00		6.73	
MARKET INCOME	294.00		282.66	
DIRECT COSTS				
-Seed	10.50		11.40	
-Herbicides	19.80		3.50	
-Fungicides	9.00		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	90.09		74.07	
-Crop Insurance	13.00		7.40	
-Fuel & Lubrication	16.12		15.83	
-Repairs	14.76		14.38	
-Drying	0.00		0.00	
-Miscellaneous	6.50		6.50	
-Operating Interest	4.13		3.06	
	=======		=======	
SUM OF LISTED DIRECT COSTS	183.90		136.14	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.24		6.17	
-Machinery Depreciation	16.60		16.38	
-Machinery Investment	9.27		9.27	
-Land Charge	46.20		46.20	
	+0.20		+0.20	
SUM OF LISTED INDIRECT COSTS	78.32		78.02	
SUM OF ALL LISTED COSTS	262.22		214.16	
RETURN TO LABOR & MANAGEMENT	31.78		68.50	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.75		3.24	
-Indirect Costs	1.60		1.86	
-Total Costs	5.35		5.10	

#### Winter Wheat notes:

\*Yield is per harvested acre, 2003-2009 acreage abandonment averaged 7%.

# 2012 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
2WD 100HP Tractor	64600	400hr	20	20830	5.47 /hr	4.81 /hr	6.58 /hr	
2WD 160HP Tractor	109900	500hr	15	32513	10.32 /hr	6.41 /hr	11.19 /hr	
4WD 330HP Tractor	190700	500hr	15	56409	17.91 /hr	11.12 /hr	11.09 /hr	
SP Combine (base unit)	241000	250hr	12	59947	60.35 /hr	27.09 /hr	39.12 /hr	
Tandem Truck (used)	34800	150hr	15	11100	10.53 /hr	6.89 /hr	6.93 /hr	
Semi & Trailer (used)	39100	150hr	10	11200	18.60 /hr	7.55 /hr	8.53 /hr	
Pick-up Truck	27500	300hr	10	5400	7.37 /hr	2.47 /hr	3.13 /hr	
Swather 25 ft	22000	1000ac	20	5198	0.84 /ac	0.61 /ac	0.38 /ac	12.1
Sprayer 90 ft	34800	5000ac	10	15792	0.32 /ac	0.23 /ac	0.45 /ac	42.5
Heavy Harrow 70 ft	27800	2000ac	20	16234	0.29 /ac	0.50 /ac	0.31 /ac	39.7
Air Seeder 40 ft	162200	2400ac	12	76449	2.97 /ac	2.23 /ac	5.61 /ac	17.0
Planter 12-30	51100	800ac	20	17011	2.13 /ac	1.92 /ac	2.82 /ac	10.6
Corn head	43900	600ac	20	4137	3.31 /ac	1.80 /ac	1.02 /ac	6.8
Grain head w/pu	14000	800ac	15	2924	0.92 /ac	0.48 /ac	0.27 /ac	8.5
Grain str. cut 30 ft	23400	2000ac	8	9409	0.87 /ac	0.37 /ac	0.36 /ac	10.2
Head w/sunf pans 30 ft	28100	600ac	20	2871	2.10 /ac	1.16 /ac	0.43 /ac	10.2
Soybeans str. cut 30 ft	34600	1000ac	20	3174	1.57 /ac	0.85 /ac	0.53 /ac	10.2
Rock picker	20000	50hr	20	6386	0.45 /ac	0.40 /ac	0.30 /ac	29.1
Grain auger	8700	50hr	20	630	8.07 /hr	4.20 /hr	4.30 /hr	

#### **Example Sequence of Operations**

Field operations sequence for spring wheat and durum.

OP. NO.	DESCRIPTION	(FEET) WIDTH	(MPH) SPEED	(AC/HR) Fld Cap	(\$/AC) FUEL & LUBE	(\$/AC) EST. REPAIRS
1	NH3 Application	48	5.0	24.7	2.30	1.19
2	Pick Rocks				0.59	0.52
3	Spray (burn-dowr	n) 90	6.0	42.5	0.40	0.60
4	Plant	40	5.0	17.0	3.35	6.27
5	Spray (120%)	90	6.0	42.5	0.49	0.72
6	Combine	30	4.0	10.2	4.39	4.20
7	Heavy Harrow	70	5.5	39.7	0.69	0.59
	Trucks*				1.91	0.70
	Grain auger (pto)				0.23	0.09
	Pickup truck allocation				1.86	0.56
				Total	16.21	15.44

\* Truck costs will vary between crops.

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