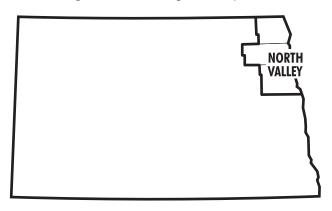


# Projected 2011 Crop Budgets North Valley North Dakota

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The 2011 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 2011 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 \$11.75 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.

**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 2003-2009, 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 - 30 lb

Phosphorus - 11 ppm

Potassium - 280 ppm

#### Fertilizer prices:

Nitrogen - .48/lb Phosphorus - .56/lb Potassium - .46/lb

#### **Seed Prices:**

Spring Wheat 11.00/bu Durum 10.50/bu Barley 7.50/bu

Corn grain RR/Bt 2.55/thou.kern.
Corn grain RR 2.15/thou.kern.
Soybean RR .295/thou.kern.

Dry Beans .78/lb

Oil Sunflower 1.30/thou.kern. Conf. Sunflower 2.20/thou.kern.

Canola 8.50/lb
Flax 17.50/bu
Field Peas 10.50/bu
Oats 5.75/bu
Mustard 1.10/lb
Winter Wheat 9.50/bu

#### **Fuel prices:**

Diesel 3.00/gal Gas 3.00/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, corn, soybeans, canola and sunflowers.

**Miscellaneous:** soil testing, machinery rent and custom work.

**Operating Interest:** Direct costs charged 5.00% 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**

Market Yield         49         41         47.47*           Market Price         7.18         306.27           MARKET INCOME         351.82         306.27           DIRECT COSTS         -Seed         22.00         21.00           -Herbicides         19.00         19.00           -Fungicides**         5.50         5.50
Market Price       7.18       7.47*         MARKET INCOME       351.82       306.27         DIRECT COSTS
Market Price       7.18       7.47*         MARKET INCOME       351.82       306.27         DIRECT COSTS
MARKET INCOME       351.82       306.27         DIRECT COSTS       -Seed       22.00       21.00         -Herbicides       19.00       19.00
DIRECT COSTS -Seed 22.00 21.00Herbicides 19.00 19.00
-Seed 22.00 21.00 -Herbicides 19.00 19.00
-Herbicides 19.00 19.00
-rungidues 5.50 5.50
-Insecticides*** 0.00 0.00
-Fertilizer 73.95 59.53
-Crop Insurance 15.70 12.90
-Fuel & Lubrication 19.69 19.15
-Repairs 16.40 16.21
-Drying 0.00 0.00
-Miscellaneous 6.50 6.50
-Operating Interest 4.47 3.99
SUM OF LISTED DIRECT COSTS         183.21          163.78
INDIRECT (FIXED) COSTS
-Misc. Overhead 6.76 6.63
-Machinery Depreciation 18.64 18.29
-Machinery Investment 11.04 10.86
-Land Charge 65.20 65.20
======= ========== ====================
SUM OF LISTED INDIRECT COSTS         101.65          100.98
SUM OF ALL LISTED COSTS         284.86          264.76
RETURN TO LABOR & MANAGEMENT 66.96 41.51
LISTED COSTS PER BUDGET UNIT (bu): (bu):
-Direct Costs 3.74 3.99
-Indirect Costs 2.07 2.46
-Total Costs 5.81 6.46

#### Wheat notes:

<sup>\*</sup>Durum price is for milling quality. There is high risk of lower quality and lower price.

<sup>\*\*</sup>Includes seed treatment (\$1.50-\$2.00) and early season foliar fungicide, which may not be warranted with good rotations, (\$3-\$4.50). Late season fungicide, often warranted in this region, would cost \$4-\$14, plus application. Trials consistantly show yield response of 5-10% with early season fungicide, IF wheat planted into residue, and 15-20% with late application IF weather favors disease development.

<sup>\*\*\*</sup>Wheat midge and/or cereal grain aphid insecticide would cost about \$6 per acre plus application.

### Malting Barley Corn Grain

	5 4	Your	5 4	Your
	Per Acre	Figures	Per Acre	Figures
Market Price	63		113	
Market Price	4.83*		4.33	
MARKET INCOME	304.29		489.29	
DIRECT COSTS				
-Seed	15.00		71.63*	
-Herbicides	16.00		14.50	
-Fungicides	1.50		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	55.35		87.98	
-Crop Insurance	10.50		31.60	
-Fuel & Lubrication	22.03		28.31	
-Repairs	17.58		19.75	
-Drying	0.00		22.60	
-Miscellaneous	6.50		6.50	·
-Operating Interest	3.61		7.07	
	=======	=========	=======	=========
SUM OF LISTED DIRECT COSTS	148.07		289.94	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.22		8.85	
-Machinery Depreciation	20.27		27.73	
-Machinery Investment	12.14		16.30	
-Land Charge	65.20		65.20	
-	======	=========	=======	=========
SUM OF LISTED INDIRECT COSTS	104.83		118.08	
SUM OF ALL LISTED COSTS	252.90		408.02	
RETURN TO LABOR & MANAGEMENT	51.39	-	81.27	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.35		2.57	
-Indirect Costs	1.66		1.04	
-Total Costs	4.01		3.61	

#### **Barley notes:**

#### 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.

<sup>\*</sup>On average, about 60% of production is feed quality. Use \$3.60 estimate for feed barley price.

### **S**oybeans

### Drybeans\*

	Per Acre	Your Figures	Per Acre	Your Figures
Market Price	30		1470	
Market Price	11.52		0.245	
MARKET INCOME	345.60		360.15	
DIRECT COSTS				
-Seed	51.63*	<del></del>	39.00	
-Herbicides	14.50		30.00	
-Fungicides	0.00		18.00**	
-Insecticides	7.00**		0.00	
-Fertilizer	0.22		39.78	
-Crop Insurance	13.70		26.30	
-Fuel & Lubrication	16.45		21.66	
-Repairs	15.78		17.25	
-Drying	0.00		0.00	
-Miscellaneous	3.50		6.50	
-Operating Interest	3.07		4.96	
	======	========	=======	========
SUM OF LISTED DIRECT COSTS	125.84		203.45	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.40		7.46	
-Machinery Depreciation	17.71		21.98	
-Machinery Investment	10.42		14.04	
-Land Charge	65.20		65.20	
	=======	========	=======	========
SUM OF LISTED INDIRECT COSTS	99.73		108.69	
SUM OF ALL LISTED COSTS	225.57	·	312.13	
RETURN TO LABOR & MANAGEMENT	120.03		48.02	
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	4.19		0.14	
-Indirect Costs	3.32		0.07	
-Total Costs	7.52		0.21	

#### Soybean notes:

#### **Drybean notes:**

<sup>\*</sup>Roundup (glyphosate) resistant soybeans. Insectide and fungicide seed treatment would cost about \$10 per acre.

<sup>\*\*</sup>Soybean aphid and/or spider mite insecticide

<sup>\*</sup>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.

<sup>\*\*</sup>Fungicide for white mold.

### Oil Sunflower

## **Confectionery Sunflower**

	Per Acre	Your Figures	Per Acre	Your Figures
Market Price	1400		1200	
Market Price	0.199		0.29	
MARKET INCOME	278.60		348.00	
DIRECT COSTS				
-Seed	31.20*		44.00*	
-Herbicides	24.00		24.00	
-Fungicides	0.00**		0.00**	
-Insecticides	6.00***		12.00***	
-Fertilizer	36.52		29.24	
-Crop Insurance	19.40		23.40	
-Fuel & Lubrication	19.55		19.13	
-Repairs	14.51		14.36	
-Drying	2.80		2.40	
-Miscellaneous	13.50		20.50	
-Operating Interest	4.19		4.73	
1 3	======		======	
SUM OF LISTED DIRECT COSTS	171.67		193.75	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.99		6.89	
-Machinery Depreciation	19.71		19.43	
-Machinery Investment	11.98		11.83	
-Land Charge	65.20		65.20	
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SUM OF LISTED INDIRECT COSTS	103.88		103.35	
SUM OF ALL LISTED COSTS	275.55		297.10	
RETURN TO LABOR & MANAGEMENT	3.05		50.90	
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.12		0.16	
-Indirect Costs	0.07		0.09	
-Total Costs	0.20		0.25	
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#### Oil Sunflower notes:

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

<sup>\*</sup>Cost includes seed treatment for control of wireworm and flea beetle.

<sup>\*\*</sup>Fungicide for rust would cost \$4 plus application.

<sup>\*\*\*</sup>One spraying for head feeding insects (red seed weevil, lygus bug and banded moths). Custom application cost of \$7 is under "Miscellaneous."

<sup>\*</sup>Cost includes seed treatment for control of wireworm and flea beetle, \$6.

<sup>\*\*</sup>Fungicide for rust would cost \$4 plus application.

<sup>\*\*\*</sup>Two sprayings for head feeding insects (red seed weevil, lygus bug and banded moths) at about \$6 per application. Each custom application cost of \$7 is under "Miscellaneous."

### Canola

### Flax

		Your		Your		
	Per Acre	Figures	Per Acre	Figures		
Market Price	1550		23			
Market Price	0.217		12.26			
MARKET INCOME	336.35		281.98			
DIRECT COSTS						
-Seed	42.50*		14.00			
-Herbicides	16.00		18.00			
-Fungicides	0.00**		0.00			
-Insecticides	0.00		0.00			
-Fertilizer	67.78		34.80			
-Crop Insurance	18.30		8.50			
-Fuel & Lubrication	17.21		19.42			
-Repairs	15.46		17.04			
-Drying	0.00		0.00			
-Miscellaneous	6.50		1.50			
-Operating Interest	4.59		2.83			
, ,	======		=======			
SUM OF LISTED DIRECT COSTS	188.35		116.08			
INDIRECT (FIXED) COSTS						
-Misc. Overhead	6.39		6.71			
-Machinery Depreciation	17.60		18.79			
-Machinery Investment	10.40		11.68			
-Land Charge	65.20		65.20			
	======	=========	=======	=========		
SUM OF LISTED INDIRECT COSTS	99.59		102.38			
SUM OF ALL LISTED COSTS	287.94		218.47			
RETURN TO LABOR & MANAGEMENT	48.41		63.51			
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):			
-Direct Costs	0.12		5.05			
-Indirect Costs	0.06		4.45			
-Total Costs	0.19		9.50			

#### Canola notes:

<sup>\*</sup>Cost includes insecticide seed treatment for flea beetles.

<sup>\*\*</sup>Fungicide for white mold would cost about \$18 plus application.

### **Field Peas**

### **Oats**

		Your		Your
	Per Acre	Figures	Per Acre	Figures
Market Price	35		65	
Market Price	6.30*		2.83	
MARKET INCOME	220.50		183.95	
DIRECT COSTS				
-Seed	31.50	·	11.50	
-Herbicides	24.50		4.20	
-Fungicides	1.50		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	7.64		47.46	
-Crop Insurance	8.70		9.70	
-Fuel & Lubrication	18.94		22.17	
-Repairs	17.41		17.63	
-Drying	0.00		0.00	
-Miscellaneous	5.00		6.50	
-Operating Interest	2.88		2.98	
, ,	=======	=========	======	========
SUM OF LISTED DIRECT COSTS	118.08	<del></del>	122.14	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.77		7.25	
-Machinery Depreciation	19.76		20.35	
-Machinery Investment	11.51		12.19	
-Land Charge	65.20		65.20	
zana onargo	=======		=======	
SUM OF LISTED INDIRECT COSTS	103.24		104.99	
SUM OF ALL LISTED COSTS	221.31		227.13	
RETURN TO LABOR & MANAGEMENT	(0.81)		(43.18)	
LISTED COSTS PER BUDGET UNIT -Direct Costs -Indirect Costs -Total Costs	(bu): 3.37 2.95 6.32		(bu): 1.88 1.62 3.49	

#### Field Pea notes:

<sup>\*</sup>Food quality price. Use \$3.50 price estimate for feed quality peas.

### Yellow Mustard

### Winter Wheat

		Your		Your
	Per Acre	Figures	Per Acre	Figures
Market Price	1000		50*	
Market Price	0.239		6.35	
MARKET INCOME	239.00		317.50	
DIRECT COSTS				
-Seed	13.20		11.40	
-Herbicides	12.00		17.80	
-Fungicides	0.00		9.00	
-Insecticides	6.00*		0.00	
-Fertilizer	34.75		75.76	
-Crop Insurance	0.00		15.70	
-Fuel & Lubrication	16.02		18.08	
-Repairs	15.06		15.86	
-Drying	0.00		0.00	
-Miscellaneous	1.50		6.50	
-Operating Interest	2.46		4.25	
- p	=======		=======	
SUM OF LISTED DIRECT COSTS	100.99		174.36	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.17		6.60	
-Machinery Depreciation	16.89		18.08	
-Machinery Investment	10.01		10.49	
-Land Charge	65.20		65.20	
_aa. oago	=======		=======	
SUM OF LISTED INDIRECT COSTS	98.26		100.37	
SUM OF ALL LISTED COSTS	199.25		274.73	
RETURN TO LABOR & MANAGEMENT	39.75		42.77	
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.10		3.49	
-Indirect Costs	0.10		2.01	
-Total Costs	0.20		5.49	

#### **Yellow Mustard notes:**

#### Winter Wheat notes:

<sup>\*</sup>Insecticide seed treatment for flea beetles.

<sup>\*</sup>Yield is per harvested acre, 2003-2009 acreage abandonment averaged 6%.

### 2011 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
2WD 100HP Tractor	62100	400hr	20	20032	5.26 /hr	4.62 /hr	6.33 /hr	
2WD 160HP Tractor	105600	500hr	15	31268	9.91 /hr	6.16 /hr	10.76 /hr	
4WD 330HP Tractor	183300	500hr	15	54237	17.21 /hr	10.69 /hr	10.67 /hr	
SP Combine (base unit)	231800	250hr	12	57648	58.05 /hr	26.05 /hr	37.62 /hr	
Tandem Truck (used)	34000	150hr	15	10800	10.31 /hr	6.72 /hr	6.67 /hr	
Semi & Trailer (used)	38100	150hr	10	10900	18.13 /hr	7.35 /hr	8.27 /hr	
Pick-up Truck	25500	300hr	10	5000	6.83 /hr	2.29 /hr	3.03 /hr	
Swather 25 ft	21100	1000ac	20	4997	0.81 /ac	0.59 /ac	0.37 /ac	12.1
Sprayer 90 ft	33500	5000ac	10	15176	0.31 /ac	0.22 /ac	0.43 /ac	42.5
Chisel Plow 38 ft	34700	3000ac	15	20264	0.32 /ac	0.41 /ac	0.77 /ac	19.6
Field Cultivator 48 ft	40400	3000ac	15	23591	0.37 /ac	0.48 /ac	0.71 /ac	24.7
Tandem Disk 28 ft	29700	800ac	20	8471	1.33 /ac	1.08 /ac	0.84 /ac	12.2
Heavy Harrow 70 ft	26800	2000ac	20	15602	0.28 /ac	0.48 /ac	0.30 /ac	39.7
Row-crop cultivator 12-30	12800	800ac	15	7053	0.48 /ac	0.56 /ac	0.48 /ac	11.6
Air Seeder 40 ft	156000	2400ac	12	73524	2.86 /ac	2.15 /ac	5.40 /ac	17.0
Planter 12-30	49200	800ac	20	16360	2.05 /ac	1.84 /ac	2.72 /ac	10.6
Bean cutter	11400	400ac	20	3252	1.02 /ac	0.82 /ac	0.62 /ac	6.5
Corn head	42200	600ac	20	3977	3.18 /ac	1.73 /ac	0.98 /ac	6.8
Grain head w/pu	13500	1200ac	10	4758	0.73 /ac	0.34 /ac	0.25 /ac	8.5
Grain str. cut 30 ft	22500	1000ac	15	4564	1.19 /ac	0.61 /ac	0.35 /ac	10.2
Head w/sunf pans 30 ft	27000	600ac	20	2758	2.02 /ac	1.11 /ac	0.42 /ac	10.2
Soybeans str. cut 30 ft	33300	1000ac	20	3043	1.51 /ac	0.82 /ac	0.51 /ac	10.2
Head w/drybean pickups	27000	400ac	20	2873	3.02 /ac	1.68 /ac	0.48 /ac	8.9
Grain Cart	27600	100hr	20	4700	11.45 /hr	7.27 /hr	7.00 /hr	
Grain auger	8400	50hr	20	610	7.79 /hr	4.05 /hr	4.20 /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	Field Cultivator	48	5.0	24.7	\$ 2.03	\$ 1.14
2	Plant	40	5.0	17.0	2.95	6.03
3	Spray (130%)	90	6.0	42.5	0.46	0.75
4	Combine	30	4.0	10.2	3.88	4.04
5	Chisel Plow	38	5.0	19.6	2.56	1.32
6	Chisel Plow	38	5.0	19.6	2.56	1.32
	Grain Cart*				1.13	0.33
	Trucks*				2.17	0.84
	Grain auger (pto)				0.21	0.08
	Pickup truck alloc	cation			1.74	0.55
		Total			19.69	16.40

<sup>\*</sup> Truck costs will vary between crops.

