

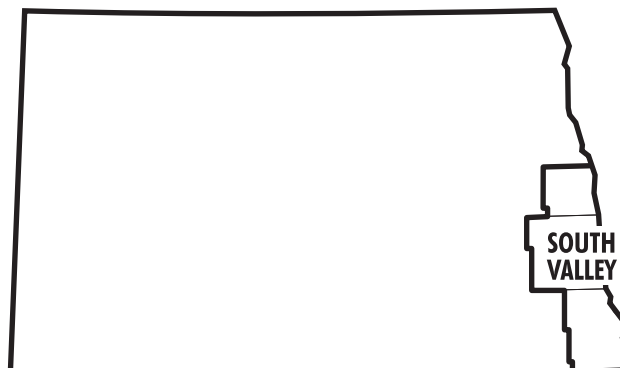
Farm Management Planning Guide



December 2010

Projected 2011 Crop Budgets South Valley North Dakota

Andrew Swenson, Farm Management Specialist
Ron Haugen, Farm Management Specialist



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

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 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.

NDSU
Extension Service

North Dakota State University, Fargo, ND 58108

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 \$13.00 per acre when averaged over all crop acreage. Counter-cyclical 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 - 10 ppm
 Potassium - 278 ppm

Fertilizer prices:

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

Seed Prices:

Spring Wheat 11.00/bu
 Barley 7.50/bu
 Corn Triple Trait GM 2.80/thous.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.
 Oats 5.75/bu
 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

Malting Barley

	Per Acre	Your Figures	Per Acre	Your Figures
Market Price	50	_____	68	_____
Market Price	7.25	_____	4.87*	_____
MARKET INCOME	362.50	_____	331.16	_____
DIRECT COSTS				
-Seed	22.00	_____	15.00	_____
-Herbicides	19.00	_____	16.00	_____
-Fungicides	5.50*	_____	1.50	_____
-Insecticides	0.00**	_____	0.00	_____
-Fertilizer	78.20	_____	63.36	_____
-Crop Insurance	13.50	_____	9.10	_____
-Fuel & Lubrication	19.75	_____	22.37	_____
-Repairs	16.43	_____	17.70	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	6.50	_____	6.50	_____
-Operating Interest	4.52	_____	3.79	_____
SUM OF LISTED DIRECT COSTS	185.40	=====	155.32	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.77	_____	7.30	_____
-Machinery Depreciation	18.69	_____	20.49	_____
-Machinery Investment	11.07	_____	12.26	_____
-Land Charge	87.10	_____	87.10	_____
SUM OF LISTED INDIRECT COSTS	123.63	=====	127.14	=====
SUM OF ALL LISTED COSTS	309.03	_____	282.46	_____
RETURN TO LABOR & MANAGEMENT	53.47	_____	48.70	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.71	_____	2.28	_____
-Indirect Costs	2.47	_____	1.87	_____
-Total Costs	6.18	_____	4.15	_____

Wheat notes:

**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 consistently 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.

**Cereal grain aphid insecticide would cost about \$6 per acre plus application.

Barley notes:

*Use \$3.63 estimate for feed barley price.

Corn Grain

Soybeans

	Per Acre	Your Figures	Per Acre	Your Figures
Market Price	130	_____	33	_____
Market Price	4.42	_____	11.62	_____
MARKET INCOME	574.60	_____	383.46	_____
DIRECT COSTS				
-Seed	82.77*	_____	51.63*	_____
-Herbicides	18.00	_____	18.00	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	7.00**	_____
-Fertilizer	107.55	_____	3.60	_____
-Crop Insurance	27.10	_____	13.70	_____
-Fuel & Lubrication	29.40	_____	16.65	_____
-Repairs	20.14	_____	15.85	_____
-Drying	26.00	_____	0.00	_____
-Miscellaneous	6.50	_____	3.50	_____
-Operating Interest	7.94	_____	3.25	_____
SUM OF LISTED DIRECT COSTS	325.40	=====	133.18	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.11	_____	6.45	_____
-Machinery Depreciation	28.44	_____	17.84	_____
-Machinery Investment	16.68	_____	10.49	_____
-Land Charge	87.10	_____	87.10	_____
SUM OF LISTED INDIRECT COSTS	141.33	=====	121.88	=====
SUM OF ALL LISTED COSTS	466.73	_____	255.06	_____
RETURN TO LABOR & MANAGEMENT	107.87	_____	128.40	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.50	_____	4.04	_____
-Indirect Costs	1.09	_____	3.69	_____
-Total Costs	3.59	_____	7.73	_____

Corn notes:

*Triple GM trait 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.

Soybean notes:

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

**Soybean aphid and/or spider mite insecticide

Drybeans*

Oil Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Price	1530	_____	1670	_____
Market Price	0.245	_____	0.204	_____
MARKET INCOME	374.85	_____	340.68	_____
DIRECT COSTS				
-Seed	39.00	_____	31.20*	_____
-Herbicides	30.00	_____	24.00	_____
-Fungicides	18.00**	_____	0.00**	_____
-Insecticides	0.00	_____	6.00***	_____
-Fertilizer	43.51	_____	48.04	_____
-Crop Insurance	22.70	_____	14.90	_____
-Fuel & Lubrication	21.31	_____	20.13	_____
-Repairs	17.16	_____	14.72	_____
-Drying	0.00	_____	3.34	_____
-Miscellaneous	6.50	_____	13.50	_____
-Operating Interest	4.95	_____	4.40	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	203.14	_____	180.22	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.41	_____	7.13	_____
-Machinery Depreciation	22.00	_____	20.09	_____
-Machinery Investment	13.93	_____	12.18	_____
-Land Charge	87.10	_____	87.10	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	130.44	_____	126.50	_____
SUM OF ALL LISTED COSTS	333.58	_____	306.72	_____
RETURN TO LABOR & MANAGEMENT	41.27	_____	33.96	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.13	_____	0.11	_____
-Indirect Costs	0.09	_____	0.08	_____
-Total Costs	0.22	_____	0.18	_____

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.

**Fungicide for white mold.

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."

Confectionery Sunflower

Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Price	1410	_____	79	_____
Market Price	0.298	_____	2.96	_____
MARKET INCOME	420.18	_____	233.84	_____
DIRECT COSTS				
-Seed	44.00*	_____	11.50	_____
-Herbicides	24.00	_____	4.20	_____
-Fungicides	0.00**	_____	0.00	_____
-Insecticides	12.00***	_____	0.00	_____
-Fertilizer	38.32	_____	63.14	_____
-Crop Insurance	18.30	_____	8.40	_____
-Fuel & Lubrication	19.58	_____	23.11	_____
-Repairs	14.52	_____	17.97	_____
-Drying	2.82	_____	0.00	_____
-Miscellaneous	20.50	_____	6.50	_____
-Operating Interest	4.85	_____	3.37	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	198.88	_____	138.19	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.00	_____	7.47	_____
-Machinery Depreciation	19.73	_____	20.97	_____
-Machinery Investment	11.98	_____	12.52	_____
-Land Charge	87.10	_____	87.10	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	125.81	_____	128.06	_____
SUM OF ALL LISTED COSTS	324.69	_____	266.25	_____
RETURN TO LABOR & MANAGEMENT	95.49	_____	(32.41)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.14	_____	1.75	_____
-Indirect Costs	0.09	_____	1.62	_____
-Total Costs	0.23	_____	3.37	_____

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 \$6 per application. Each custom application cost of \$7 is under "Miscellaneous."

Winter Wheat

	Per Acre	Your Figures
Market Price	52*	_____
Market Price	6.43	_____
MARKET INCOME	334.36	_____
DIRECT COSTS		
-Seed	11.40	_____
-Herbicides	17.80	_____
-Fungicides	9.00	_____
-Insecticides	0.00	_____
-Fertilizer	81.90	_____
-Crop Insurance	13.60	_____
-Fuel & Lubrication	18.22	_____
-Repairs	15.91	_____
-Drying	0.00	_____
-Miscellaneous	6.50	_____
-Operating Interest	4.36	_____
	=====	=====
SUM OF LISTED DIRECT COSTS	178.69	_____
INDIRECT (FIXED) COSTS		
-Misc. Overhead	6.63	_____
-Machinery Depreciation	18.17	_____
-Machinery Investment	10.54	_____
-Land Charge	87.10	_____
	=====	=====
SUM OF LISTED INDIRECT COSTS	122.44	_____
SUM OF ALL LISTED COSTS	301.13	_____
RETURN TO LABOR & MANAGEMENT	33.23	_____
LISTED COSTS PER BUDGET UNIT	(bu):	
-Direct Costs	3.44	_____
-Indirect Costs	2.35	_____
-Total Costs	5.79	_____

Winter Wheat notes:

*Yield is per harvested acre, 2003-2009 acreage abandonment averaged 12%.

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.

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*				1.15	0.33
	Trucks*				2.21	0.87
	Grain auger (pto)				0.21	0.08
	Pickup truck allocation				1.74	0.55
	Total				19.75	16.43

* Truck costs will vary between crops.

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