

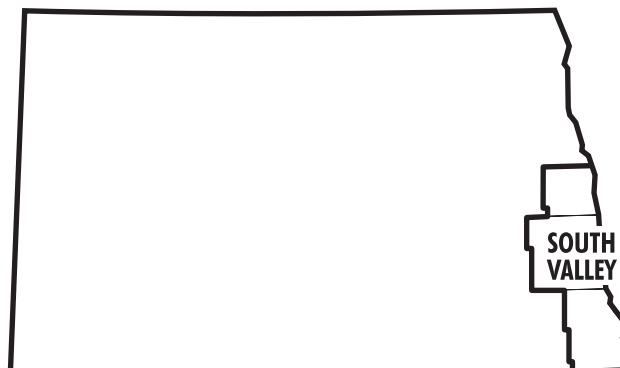
Farm Management Planning Guide



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Projected 2007 Crop Budgets South Valley North Dakota

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The 2007 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, or rental, expense of machinery and land, and real estate tax if land is owned, respectively.

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 2007 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 58105

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 2002 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 about \$13.00 per acre when averaged over all crop acreage. Counter-cyclical payments, which occur if the national average price of wheat, feed grains or soybeans is 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 1999-2005, after the low and high yield years are removed. Yields for safflower, yellow mustard, buckwheat, millet, rye, lentils 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 - 40 lb
 Phosphorus - 10 ppm
 Potassium - 278 ppm

Fertilizer prices:

Nitrogen - .32/lb
 Phosphorus - .255/lb
 Potassium - .20/lb

Seed Prices:

Spring Wheat 6.90/bu
 Durum 7.00/bu
 Barley 5.50/bu
 Corn grain RR/Bt 1.50/thou.kern.
 Corn grain RR 1.38/thou.kern.
 Oil Sunflower .68/thou.kern.
 Conf. Sunflower 1.18/thou.kern.
 Soybean RR 28/50 lb
 Dry Beans .62/lb
 Flax 8.00/bu
 Oats 3.75/bu

Fuel prices:

Diesel 2.30/gal
 Gas 2.35/gal

Lubrication charge: 15% of fuel cost

Crop Insurance: Coverage levels are 70% on all insurable crops. MPCl estimates are used, except for RA-HPO on spring wheat, soybeans and corn.

Miscellaneous: soil testing, machinery rent and custom work.

Operating Interest: Direct costs charged 8.25% 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, \$1 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	44		32	
Market Price	4.54		5.01	
MARKET INCOME	199.76		160.32	
DIRECT COSTS				
-Seed	13.80		14.00	
-Herbicides	14.20		14.20	
-Fungicides*	1.50		1.50	
-Insecticides	0.00		0.00	
-Fertilizer	38.81		24.73	
-Crop Insurance	7.70		7.10	
-Fuel & Lubrication	14.33		13.93	
-Repairs	11.45		11.27	
-Drying	0.00		0.00	
-Miscellaneous	1.00		1.00	
-Operating Interest	4.24		3.62	
SUM OF LISTED DIRECT COSTS	107.03		91.35	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	3.94		3.79	
-Machinery Depreciation	14.18		13.81	
-Machinery Investment	8.62		8.44	
-Land Charge	64.50		64.50	
SUM OF LISTED INDIRECT COSTS	91.24		90.54	
SUM OF ALL LISTED COSTS	198.27		181.89	
RETURN TO LABOR & MANAGEMENT	1.49		(21.57)	
LISTED COSTS PER BUDGET UNIT				
	(bu):		(bu):	
-Direct Costs	2.43		2.85	
-Indirect Costs	2.07		2.83	
-Total Costs	4.51		5.68	

notes:

*Early season foliar fungicide would cost about \$3-\$4 and late season fungicide would cost about \$7 plus application. Recent 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.

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	61	_____	125	_____
Market Price	3.18*	_____	2.72	_____
MARKET INCOME	193.98	_____	340.00	_____
DIRECT COSTS				
-Seed	11.00	_____	44.22*	_____
-Herbicides	12.50	_____	11.00	_____
-Fungicides	1.25	_____	0.00	_____
-Insecticides	0.00	_____	6.00**	_____
-Fertilizer	31.03	_____	60.37	_____
-Crop Insurance	4.26	_____	17.70	_____
-Fuel & Lubrication	15.60	_____	20.22	_____
-Repairs	12.08	_____	15.32	_____
-Drying	0.00	_____	16.88	_____
-Miscellaneous	1.00	_____	1.00	_____
-Operating Interest	3.66	_____	7.95	_____
SUM OF LISTED DIRECT COSTS	92.38	=====	200.66	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	4.26	_____	5.89	_____
-Machinery Depreciation	15.00	_____	22.47	_____
-Machinery Investment	9.20	_____	13.11	_____
-Land Charge	64.50	_____	64.50	_____
SUM OF LISTED INDIRECT COSTS	92.96	=====	105.96	=====
SUM OF ALL LISTED COSTS	185.33	_____	306.62	_____
RETURN TO LABOR & MANAGEMENT	8.65	_____	33.38	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	1.51	_____	1.61	_____
-Indirect Costs	1.52	_____	0.85	_____
-Total Costs	3.04	_____	2.45	_____

Barley notes:

*Use \$2.24 estimate for feed barley price.

Corn notes:

*RR/Bt corn is planted for corn borer control on 80 percent of acres and RR corn without Bt trait is on 20 percent of acres for corn borer refuge.

**Insecticide seed treatment for wireworm, rootworm, white grub and suppression of cutworm.

Soybeans

Drybeans*

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	34	_____	1470	_____
Market Price	6.28	_____	0.190	_____
MARKET INCOME	213.52	_____	279.30	_____
DIRECT COSTS				
-Seed	32.59*	_____	31.00	_____
-Herbicides	11.00	_____	24.00	_____
-Fungicides	0.00	_____	0.00**	_____
-Insecticides	6.00**	_____	0.00	_____
-Fertilizer	1.69	_____	23.28	_____
-Crop Insurance	7.70	_____	13.10	_____
-Fuel & Lubrication	12.26	_____	15.57	_____
-Repairs	10.94	_____	12.93	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.00	_____
-Operating Interest	3.45	_____	4.99	_____
SUM OF LISTED DIRECT COSTS	87.13	=====	125.87	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	3.68	_____	4.45	_____
-Machinery Depreciation	13.44	_____	16.71	_____
-Machinery Investment	8.01	_____	10.84	_____
-Land Charge	64.50	_____	64.50	_____
SUM OF LISTED INDIRECT COSTS	89.63	=====	96.51	=====
SUM OF ALL LISTED COSTS	176.76	_____	222.38	_____
RETURN TO LABOR & MANAGEMENT	36.76	_____	56.92	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	2.56	_____	0.09	_____
-Indirect Costs	2.64	_____	0.07	_____
-Total Costs	5.20	_____	0.15	_____

Soybean notes:

*Roundup (glyphosate) resistant soybeans.

**Soybean aphid insecticide.

Drybean notes:

*Acreage limitations exist under the 2002 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 would cost about \$16 plus application.

Oil Sunflower

Confectionery Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1460	_____	1320	_____
Market Price	0.149	_____	0.201	_____
MARKET INCOME	217.54	_____	265.32	_____
DIRECT COSTS				
-Seed	16.32	_____	23.60	_____
-Herbicides	15.50	_____	15.50	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides*	5.00	_____	11.00	_____
-Fertilizer	21.68	_____	18.38	_____
-Crop Insurance	5.31	_____	8.51	_____
-Fuel & Lubrication	15.31	_____	15.76	_____
-Repairs	12.00	_____	12.19	_____
-Drying	2.92	_____	2.64	_____
-Miscellaneous	1.00	_____	5.75	_____
-Operating Interest	3.92	_____	4.67	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	98.96	_____	118.00	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	4.44	_____	4.48	_____
-Machinery Depreciation	16.52	_____	16.72	_____
-Machinery Investment	10.21	_____	10.47	_____
-Land Charge	64.50	_____	64.50	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	95.66	_____	96.17	_____
SUM OF ALL LISTED COSTS	194.62	_____	214.17	_____
RETURN TO LABOR & MANAGEMENT	22.92	_____	51.15	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.07	_____	0.09	_____
-Indirect Costs	0.07	_____	0.07	_____
-Total Costs	0.13	_____	0.16	_____

Oil Sunflower notes:

*Seed treatment for control of wireworm and flea beetle.
 Sunflower beetle insecticide would cost about \$2 plus application.
 Red seed weevil insecticide would cost about \$6 plus application.

Confectionery Sunflower notes:

*Includes seed treatment for control of wireworm and flea beetle, \$5, and one spraying for head feeding insects (red seed weevil, lygus bug and banded moths) at about \$6 per acre. Custom application cost of \$4.75 is under "Miscellaneous." A second spraying is often needed. Insecticide for sunflower beetle would cost about \$2 plus application.

Flax

Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	21	_____	65	_____
Market Price	6.19	_____	1.90	_____
MARKET INCOME	129.99	_____	123.50	_____
DIRECT COSTS				
-Seed	6.40	_____	7.50	_____
-Herbicides	14.71	_____	1.88	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	16.47	_____	27.39	_____
-Crop Insurance	3.44	_____	6.34	_____
-Fuel & Lubrication	14.71	_____	15.73	_____
-Repairs	11.98	_____	12.14	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.00	_____	1.00	_____
-Operating Interest	2.83	_____	2.97	_____
SUM OF LISTED DIRECT COSTS	71.54	=====	74.96	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	3.90	_____	4.31	_____
-Machinery Depreciation	14.21	_____	15.12	_____
-Machinery Investment	9.11	_____	9.26	_____
-Land Charge	64.50	_____	64.50	_____
SUM OF LISTED INDIRECT COSTS	91.72	=====	93.19	=====
SUM OF ALL LISTED COSTS	163.26	_____	168.15	_____
RETURN TO LABOR & MANAGEMENT	(33.27)	_____	(44.65)	_____
LISTED COSTS PER BUDGET UNIT				
	(bu):		(bu):	
-Direct Costs	3.41	_____	1.15	_____
-Indirect Costs	4.37	_____	1.43	_____
-Total Costs	7.77	_____	2.59	_____

notes:

Winter Wheat

	Per Acre	Your Figures
Market Yield	46	_____
Market Price	4.04	_____
MARKET INCOME	185.84	_____
DIRECT COSTS		
-Seed	7.20	_____
-Herbicides	8.15	_____
-Fungicides	0.00	_____
-Insecticides	0.00	_____
-Fertilizer	41.15	_____
-Crop Insurance	7.70	_____
-Fuel & Lubrication	13.60	_____
-Repairs	11.22	_____
-Drying	0.00	_____
-Miscellaneous	1.10	_____
-Operating Interest	3.72	_____
	=====	=====
SUM OF LISTED DIRECT COSTS	93.84	_____
INDIRECT (FIXED) COSTS		
-Misc. Overhead	3.90	_____
-Machinery Depreciation	13.96	_____
-Machinery Investment	8.41	_____
-Land Charge	64.50	_____
	=====	=====
SUM OF LISTED INDIRECT COSTS	90.77	_____
SUM OF ALL LISTED COSTS	184.61	_____
RETURN TO LABOR & MANAGEMENT	1.23	_____
LISTED COSTS PER BUDGET UNIT	(bu):	
-Direct Costs	2.04	_____
-Indirect Costs	1.97	_____
-Total Costs	4.01	_____

Winter Wheat notes:

*Yield is per harvested acre, 1999-2005 acreage abandonment averaged 14%.

2007 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
2WD 100HP Tractor	53400	400 hr	20	17239	4.52/hr	3.97/hr	5.44/hr	
2WD 160HP Tractor	88000	500 hr	15	26044	8.26/hr	5.13/hr	8.96/hr	
4WD 280HP Tractor	121100	500 hr	15	35832	11.37/hr	7.06/hr	7.05/hr	
SP Combine (base unit)	150200	250 hr	12	37351	37.62/hr	16.88/hr	24.38/hr	
Tandem Truck (used)	30800	150 hr	15	10200	9.16/hr	6.15/hr	5.50/hr	
Semi & Trailer (used)	35900	150 hr	10	10200	17.13/hr	6.92/hr	6.87/hr	
Pick-up Truck	19700	300 hr	10	4100	5.20/hr	1.79/hr	2.58/hr	
Swather 25 ft	16900	1000 ac	20	3989	0.65/ac	0.47/ac	0.29/ac	12.1
Sprayer 90 ft	25900	3500 ac	15	10334	0.30/ac	0.23/ac	0.33/ac	42.5
Chisel Plow 35 ft	25600	1600 ac	15	14651	0.44/ac	0.57/ac	0.69/ac	16.2
Field Cultivator 45 ft	32100	3000 ac	15	17333	0.32/ac	0.37/ac	0.57/ac	23.2
Tandem Disk 28 ft	24700	800 ac	20	6869	1.10/ac	0.89/ac	0.70/ac	12.2
Heavy Harrow 70 ft	21700	2000 ac	20	12734	0.22/ac	0.39/ac	0.24/ac	39.7
Row-crop cultivator 12-30	10700	800 ac	15	5712	0.40/ac	0.47/ac	0.40/ac	11.6
Air Seeder 35 ft	72500	1800 ac	12	33136	1.78/ac	1.33/ac	2.86/ac	14.8
Planter 12-30	39300	800 ac	20	12465	1.64/ac	1.47/ac	2.17/ac	10.6
Bean cutter 6-30	9500	400 ac	20	2354	0.85/ac	0.69/ac	0.51/ac	6.5
Corn head 6-30	24700	400 ac	20	2325	2.78/ac	1.52/ac	0.76/ac	5.1
Grain head w/ptu	10800	1200 ac	10	3724	0.58/ac	0.27/ac	0.20/ac	8.5
Grain str. cut 25 ft	14600	800 ac	15	2872	0.97/ac	0.49/ac	0.27/ac	8.5
Head w/sunf pans 25 ft	18200	400 ac	20	1867	2.04/ac	1.13/ac	0.34/ac	8.5
Soybeans str. cut 25 ft	21100	800 ac	20	1907	1.20/ac	0.65/ac	0.39/ac	8.5
Head w/drybean pickups	21100	400 ac	20	2172	2.36/ac	1.31/ac	0.39/ac	8.5
Grain auger	6500	50 hr	20	500	6.00/hr	3.15/hr	0.66/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 Cultivate	45	5.0	23.2	\$ 1.41	\$ 0.87
2	Plant	35	5.0	14.8	2.20	3.33
3	Spray (130%)	90	6.0	42.5	0.36	0.60
4	Swath (20%)	25	5.0	12.1	0.19	0.15
5	Combine	25	4.0	8.5	3.16	3.14
6	Chisel Plow	35	4.5	16.2	2.01	1.12
7	Chisel Plow	35	4.5	16.2	2.01	1.12
	Trucks*				1.48	0.64
	Grain auger (pto)				0.16	0.01
	Pickup truck allocation				1.36	0.47
	Total				14.33	11.45

* Truck costs will vary between crops.

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

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