

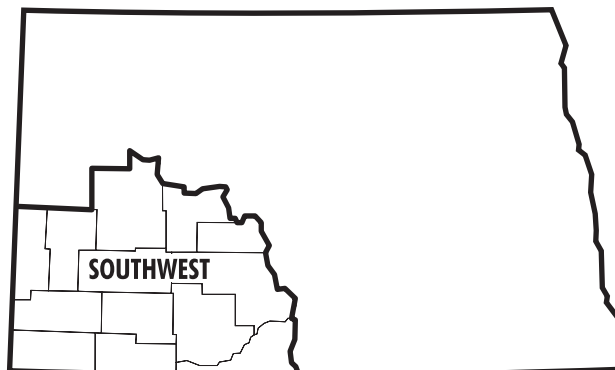
Farm Management Planning Guide



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Projected 2007 Crop Budgets South West 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 \$6.25 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.

The budgets for the South West and North West regions 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 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 - 52 lb
 Phosphorus - 12 ppm
 Potassium - 356 ppm

Fertilizer prices:

Nitrogen - .305/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 1.38/thou.kern.
 Oil Sunflower .68/thou.kern.
 Conf. Sunflower 1.18/thou.kern.
 Flax 8.00/bu
 Canola 3.30/lb
 Oats 3.75/bu
 Field Peas 6.40/bu
 Millet .20/lb
 Buckwheat .30/lb
 Safflower .42/lb
 Lentils .19/lb
 Mustard .65/lb
 Large Chickpeas .65/lb
 Rye 4.00/bu
 Winter Wheat 6.00/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. MPC1 estimates are used, except for RA-HPO on spring wheat, soybeans, corn and canola.

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	28	_____	30	_____
Market Price	4.24	_____	4.70	_____
MARKET INCOME	118.72	_____	141.00	_____
DIRECT COSTS				
-Seed	8.63	_____	10.50	_____
-Herbicides	14.30	_____	14.30	_____
-Fungicides*	1.50	_____	1.50	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	14.37	_____	16.53	_____
-Crop Insurance	6.70	_____	6.90	_____
-Fuel & Lubrication	8.77	_____	8.84	_____
-Repairs	8.69	_____	8.72	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.00	_____	5.00	_____
-Operating Interest	2.80	_____	2.98	_____
SUM OF LISTED DIRECT COSTS	70.76	=====	75.27	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	3.05	_____	3.07	_____
-Machinery Depreciation	11.01	_____	11.07	_____
-Machinery Investment	6.07	_____	6.10	_____
-Land Charge	26.00	_____	26.00	_____
SUM OF LISTED INDIRECT COSTS	46.12	=====	46.24	=====
SUM OF ALL LISTED COSTS	116.88	_____	121.51	_____
RETURN TO LABOR & MANAGEMENT	1.84	_____	19.49	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.53	_____	2.51	_____
-Indirect Costs	1.65	_____	1.54	_____
-Total Costs	4.17	_____	4.05	_____

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	48	_____	63	_____
Market Price	3.28*	_____	2.84	_____
MARKET INCOME	157.44	_____	178.92	_____
DIRECT COSTS				
-Seed	6.25	_____	26.03*	_____
-Herbicides	13.80	_____	8.00	_____
-Fungicides	1.25	_____	0.00	_____
-Insecticides	0.00	_____	0.00**	_____
-Fertilizer	15.63	_____	17.71	_____
-Crop Insurance	3.76	_____	0.00***	_____
-Fuel & Lubrication	10.41	_____	11.73	_____
-Repairs	9.66	_____	11.68	_____
-Drying	0.00	_____	8.51	_____
-Miscellaneous	5.00	_____	5.00	_____
-Operating Interest	2.71	_____	3.66	_____
SUM OF LISTED DIRECT COSTS	68.47	=====	92.31	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	3.54	_____	4.33	_____
-Machinery Depreciation	12.55	_____	17.19	_____
-Machinery Investment	7.17	_____	9.49	_____
-Land Charge	26.00	_____	26.00	_____
SUM OF LISTED INDIRECT COSTS	49.26	=====	57.01	=====
SUM OF ALL LISTED COSTS	117.73	_____	149.32	_____
RETURN TO LABOR & MANAGEMENT	39.71	_____	29.60	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	1.43	_____	1.47	_____
-Indirect Costs	1.03	_____	0.90	_____
-Total Costs	2.45	_____	2.37	_____

Barley notes:

*Use \$2.31 estimate for feed barley price.

Corn notes:

*Roundup (glyphosate) resistant corn.

**Insecticide for wireworm, rootworm, cutworm and white grub would cost \$15-\$16 for granular applied or about \$5 per acre for seed treatment (only suppression for cutworm). Corn borer insecticide, foliar applied mid-season, would cost about \$6 plus application.

***Crop insurance only available by written agreement.

Oil Sunflower

Confectionery Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1230	_____	1200	_____
Market Price	0.139	_____	0.190	_____
MARKET INCOME	170.97	_____	228.00	_____
DIRECT COSTS				
-Seed	15.98	_____	24.78	_____
-Herbicides	23.65	_____	23.65	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides*	5.00	_____	11.00	_____
-Fertilizer	10.85	_____	10.20	_____
-Crop Insurance	7.59	_____	11.57	_____
-Fuel & Lubrication	9.38	_____	9.35	_____
-Repairs	9.36	_____	9.35	_____
-Drying	2.46	_____	2.40	_____
-Miscellaneous	5.00	_____	9.75	_____
-Operating Interest	3.68	_____	4.62	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	92.95	_____	116.67	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	3.51	_____	3.50	_____
-Machinery Depreciation	12.98	_____	12.95	_____
-Machinery Investment	7.31	_____	7.30	_____
-Land Charge	26.00	_____	26.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	49.79	_____	49.74	_____
SUM OF ALL LISTED COSTS	142.75	_____	166.41	_____
RETURN TO LABOR & MANAGEMENT	28.22	_____	61.59	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.08	_____	0.10	_____
-Indirect Costs	0.04	_____	0.04	_____
-Total Costs	0.12	_____	0.14	_____

Oil Sunflower (solid seeded) 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 (solid seeded) 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.

Canola

Flax

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1210	_____	18	_____
Market Price	0.135	_____	5.73	_____
MARKET INCOME	163.35	_____	103.14	_____
DIRECT COSTS				
-Seed	18.15	_____	4.80	_____
-Herbicides	20.50	_____	17.71	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	7.00	_____	0.00*	_____
-Fertilizer	24.48*	_____	7.31	_____
-Crop Insurance	8.90	_____	4.92	_____
-Fuel & Lubrication	9.54	_____	9.86	_____
-Repairs	9.29	_____	9.69	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.00	_____	5.00	_____
-Operating Interest	4.24	_____	2.45	_____
SUM OF LISTED DIRECT COSTS	107.09	=====	61.73	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	3.22	_____	3.32	_____
-Machinery Depreciation	11.78	_____	12.06	_____
-Machinery Investment	6.78	_____	7.23	_____
-Land Charge	26.00	_____	26.00	_____
SUM OF LISTED INDIRECT COSTS	47.78	=====	48.61	=====
SUM OF ALL LISTED COSTS	154.88	_____	110.34	_____
RETURN TO LABOR & MANAGEMENT	8.47	_____	(7.20)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.09	_____	3.43	_____
-Indirect Costs	0.04	_____	2.70	_____
-Total Costs	0.13	_____	6.13	_____

Canola notes:

*Fertilizer cost includes 20 lbs sulfur.

Flax notes:

*Insecticide for late season grasshopper outbreaks would cost about \$8 per acre plus application.

Field Peas

Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	29		54	
Market Price	3.96*		1.78	
MARKET INCOME	114.84		96.12	
DIRECT COSTS				
-Seed	19.20		7.50	
-Herbicides	20.00		4.88	
-Fungicides	0.00		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	2.25		14.70	
-Crop Insurance	4.11		6.22	
-Fuel & Lubrication	10.13		10.61	
-Repairs	10.21		9.74	
-Drying	0.00		0.00	
-Miscellaneous	2.00		5.00	
-Operating Interest	2.80		2.42	
SUM OF LISTED DIRECT COSTS	70.69		61.07	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	3.37		3.62	
-Machinery Depreciation	13.01		12.73	
-Machinery Investment	7.12		7.26	
-Land Charge	26.00		26.00	
SUM OF LISTED INDIRECT COSTS	49.50		49.61	
SUM OF ALL LISTED COSTS	120.20		110.68	
RETURN TO LABOR & MANAGEMENT	(5.36)		(14.56)	
LISTED COSTS PER BUDGET UNIT				
	(bu):		(bu):	
-Direct Costs	2.44		1.13	
-Indirect Costs	1.71		0.92	
-Total Costs	4.14		2.05	

Field Pea notes:

*Food quality price. Use loan rate of about \$3.60 per bushel to project revenue from feed quality peas. The loan deficiency payment is calculated from the price of feed quality peas.

Lentils

Yellow Mustard

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1250	_____	850	_____
Market Price	0.115	_____	0.164	_____
MARKET INCOME	143.75	_____	139.40	_____
DIRECT COSTS				
-Seed	13.30	_____	6.50	_____
-Herbicides	20.50	_____	11.60	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	1.62	_____	8.75	_____
-Crop Insurance	8.47	_____	4.33	_____
-Fuel & Lubrication	10.63	_____	9.29	_____
-Repairs	10.46	_____	9.18	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	4.00	_____	5.00	_____
-Operating Interest	2.85	_____	2.25	_____
SUM OF LISTED DIRECT COSTS	71.82	=====	56.91	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	3.33	_____	3.12	_____
-Machinery Depreciation	13.10	_____	11.55	_____
-Machinery Investment	7.21	_____	6.67	_____
-Land Charge	26.00	_____	26.00	_____
SUM OF LISTED INDIRECT COSTS	49.65	=====	47.34	=====
SUM OF ALL LISTED COSTS	121.47	_____	104.25	_____
RETURN TO LABOR & MANAGEMENT	22.28	_____	35.15	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.06	_____	0.07	_____
-Indirect Costs	0.04	_____	0.06	_____
-Total Costs	0.10	_____	0.12	_____

notes:

Safflower

Buckwheat

	Per Acre	Figures	Your Per Acre	Your Figures
Market Yield	900	_____	850	_____
Market Price	0.150	_____	0.144	_____
MARKET INCOME	135.00	_____	122.40	_____
DIRECT COSTS				
-Seed	10.50	_____	15.00	_____
-Herbicides	13.14	_____	10.88	_____
-Fungicides	0.10	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	3.95	_____	1.90	_____
-Crop Insurance	6.02	_____	0.00	_____
-Fuel & Lubrication	8.62	_____	9.42	_____
-Repairs	8.62	_____	9.24	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.00	_____	1.00	_____
-Operating Interest	2.31	_____	1.96	_____
SUM OF LISTED DIRECT COSTS	58.27	=====	49.39	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	2.99	_____	3.17	_____
-Machinery Depreciation	10.87	_____	11.66	_____
-Machinery Investment	6.00	_____	6.73	_____
-Land Charge	26.00	_____	26.00	_____
SUM OF LISTED INDIRECT COSTS	45.87	=====	47.56	=====
SUM OF ALL LISTED COSTS	104.14	_____	96.95	_____
RETURN TO LABOR & MANAGEMENT	30.86	_____	25.45	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.06	_____	0.06	_____
-Indirect Costs	0.05	_____	0.06	_____
-Total Costs	0.12	_____	0.11	_____

notes:

Millet

Large Chickpeas

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1400	_____	1100	_____
Market Price	0.075	_____	0.265	_____
MARKET INCOME	105.00	_____	291.50	_____
DIRECT COSTS				
-Seed	5.00	_____	78.00	_____
-Herbicides	4.50	_____	20.50	_____
-Fungicides	0.00	_____	49.00*	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	5.38	_____	2.30	_____
-Crop Insurance	0.00	_____	7.93	_____
-Fuel & Lubrication	9.73	_____	11.36	_____
-Repairs	9.37	_____	11.80	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.00	_____	6.00	_____
-Operating Interest	1.61	_____	7.71	_____
SUM OF LISTED DIRECT COSTS	40.58	=====	194.60	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	3.29	_____	3.59	_____
-Machinery Depreciation	11.94	_____	14.24	_____
-Machinery Investment	6.87	_____	8.15	_____
-Land Charge	26.00	_____	26.00	_____
SUM OF LISTED INDIRECT COSTS	48.09	=====	51.99	=====
SUM OF ALL LISTED COSTS	88.67	_____	246.59	_____
RETURN TO LABOR & MANAGEMENT	16.33	_____	44.91	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.03	_____	0.18	_____
-Indirect Costs	0.03	_____	0.05	_____
-Total Costs	0.06	_____	0.22	_____

Large Chickpea notes:

*Three treatments of fungicide for ascochyta blight. More treatment may be necessary. Two different chemistries should be used for fungicide resistance management.

Winter Wheat

Rye

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	34*	_____	36	_____
Market Price	3.63	_____	2.44	_____
MARKET INCOME	123.42	_____	87.84	_____
DIRECT COSTS				
-Seed	6.00	_____	4.80	_____
-Herbicides	8.15	_____	3.00	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	20.85	_____	23.01	_____
-Crop Insurance	6.70	_____	5.00	_____
-Fuel & Lubrication	8.91	_____	8.77	_____
-Repairs	8.51	_____	8.34	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.00	_____	5.00	_____
-Operating Interest	2.64	_____	2.39	_____
SUM OF LISTED DIRECT COSTS	66.77	=====	60.31	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	3.03	_____	3.05	_____
-Machinery Depreciation	10.81	_____	10.85	_____
-Machinery Investment	5.83	_____	5.86	_____
-Land Charge	26.00	_____	26.00	_____
SUM OF LISTED INDIRECT COSTS	45.67	=====	45.76	=====
SUM OF ALL LISTED COSTS	112.44	_____	106.07	_____
RETURN TO LABOR & MANAGEMENT	10.98	_____	(18.23)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	1.96	_____	1.68	_____
-Indirect Costs	1.34	_____	1.27	_____
-Total Costs	3.31	_____	2.95	_____

Winter Wheat notes:

*Yield is per harvested acre, 1999-2005 acreage abandonment averaged 17%.

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	5000 ac	10	12852	0.26/ac	0.18/ac	0.33/ac	42.5
Heavy Harrow 70 ft	21700	2000 ac	20	12734	0.22/ac	0.39/ac	0.24/ac	39.7
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
Corn head 6-30	24700	400 ac	20	2325	2.78/ac	1.52/ac	0.76/ac	5.1
Grain head w/pu	10800	800 ac	15	2193	0.71/ac	0.37/ac	0.20/ac	8.5
Grain str. cut 25 ft	14600	1200 ac	10	4876	0.80/ac	0.37/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
Rock picker	15400	50 hr	20	4748	0.35/ac	0.30/ac	0.23/ac	29.1
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	Pick Rocks				0.40	0.42
2	Spray (burn-down)	90	6.0	42.5	0.27	0.46
3	Plant	35	5.0	14.8	2.20	3.33
4	Spray	90	6.0	42.5	0.27	0.46
5	Combine str. cut	25	4.0	8.5	3.16	3.14
	Trucks*				0.95	0.40
	Grain auger (pto)				0.16	0.01
	Pickup truck allocation				1.36	0.47
	Total				8.77	8.69

* Truck costs will vary between crops.

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