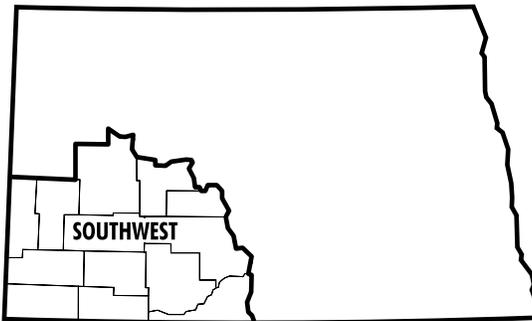




FARM MANAGEMENT PLANNING GUIDE

January 2017

Projected 2017 Crop Budgets



South West North Dakota

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The 2017 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 2017 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.

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North Dakota State University, Fargo, ND

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.

The 2014 Farm Bill initiated the Price Loss Coverage (PLC) and Agricultural Risk Coverage (ARC) support programs. **PLC and ARC payments** have been omitted from the budgets because those payments, if any, are tied to historic farm program base acres, not to current crop selection or production.

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 2009-2015, 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 - 10 ppm
 Potassium - 356 ppm

Fertilizer prices:
 Nitrogen - .35/lb
 Phosphorus - .37/lb
 Potassium - .25/lb

Seed Prices:

Spring Wheat	8.75/bu
Durum	12.00/bu
Barley	7.75/bu
Corn GM	2.65/thou.kern.
Soybean RR2	.33/thou.kern.
Oil Sunflower	1.50/thou.kern.
Conf. Sunflower	2.60/thou.kern.
Canola	11.00/lb
Flax	12.50/bu
Field Peas	13.75/bu
Oats	5.50/bu
Lentils	.57/lb
Mustard	2.00/lb
Safflower	.60/lb
Buckwheat	.60/lb
Millet	.25/lb
Small Chickpeas	.80/lb
Winter Wheat	7.50/bu
Rye	7.75/bu

Fuel prices:

Diesel	1.85/gal
Gas	2.10/gal

Lubrication charge: 15% of fuel cost

Crop Insurance: Revenue Protection was used for all wheat, barley, soybeans, corn, canola, sunflowers and dry beans. Yield Protection or APH insurance was used for other crops. A 70% coverage and optional units were used, except corn for which 80% coverage and enterprise units were assumed.

Miscellaneous: soil testing, machinery rent and custom work.

Operating Interest: Direct costs charged 4.75% 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, \$3.50 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 Per Acre	Figures	Your Per Acre	Figures
Market Yield	40	_____	39	_____
Market Price	4.94	_____	5.71*	_____
MARKET INCOME	197.60	_____	222.69	_____
DIRECT COSTS				
-Seed	13.13	_____	21.00	_____
-Herbicides	25.20	_____	25.20	_____
-Fungicides**	5.00	_____	5.00	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	39.92	_____	38.58	_____
-Crop Insurance	11.10	_____	11.50	_____
-Fuel & Lubrication	7.86	_____	7.83	_____
-Repairs	15.74	_____	15.72	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.50	_____	7.50	_____
-Operating Interest	2.98	_____	3.14	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	128.42	_____	135.48	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.90	_____	6.89	_____
-Machinery Depreciation	18.37	_____	18.33	_____
-Machinery Investment	10.00	_____	9.99	_____
-Land Charge	38.00	_____	38.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	73.28	_____	73.21	_____
SUM OF ALL LISTED COSTS	201.70	_____	208.69	_____
RETURN TO LABOR & MANAGEMENT	(4.10)	_____	14.00	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	3.21	_____	3.47	_____
-Indirect Costs	1.83	_____	1.88	_____
-Total Costs	5.04	_____	5.35	_____

Wheat notes:

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

**Includes seed treatment (\$1.50-\$2.00) and early season foliar fungicide (\$2-\$4.00). Although late season fungicides are often not warranted in this region, prothioconazole or metconazole containing products are highly recommended for fusarium head blight (scab) control when conditions are favorable for infection.

***Cereal grain aphid insecticide would cost about \$4.

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	58	_____	92	_____
Market Price	4.00*	_____	3.30	_____
MARKET INCOME	232.00	_____	303.60	_____
DIRECT COSTS				
-Seed	10.46	_____	60.95*	_____
-Herbicides	23.70	_____	20.00	_____
-Fungicides	5.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	34.24	_____	48.44	_____
-Crop Insurance	14.40	_____	17.30**	_____
-Fuel & Lubrication	8.35	_____	9.69	_____
-Repairs	16.11	_____	17.73	_____
-Drying	0.00	_____	16.56	_____
-Miscellaneous	7.50	_____	7.50	_____
-Operating Interest	2.84	_____	4.71	_____
SUM OF LISTED DIRECT COSTS	122.60	=====	202.87	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.18	_____	8.62	_____
-Machinery Depreciation	19.05	_____	25.91	_____
-Machinery Investment	10.34	_____	14.19	_____
-Land Charge	38.00	_____	38.00	_____
SUM OF LISTED INDIRECT COSTS	74.57	=====	86.72	=====
SUM OF ALL LISTED COSTS	197.18	_____	289.60	_____
RETURN TO LABOR & MANAGEMENT	34.82	_____	14.00	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	2.11	_____	2.21	_____
-Indirect Costs	1.29	_____	0.94	_____
-Total Costs	3.40	_____	3.15	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$2.70 price for feed barley quality.

**Includes seed treatment (\$1.50-\$2.00) and early season foliar fungicide (\$2-\$4.00). Late season fungicides, prothioconazole or metconazole containing products, for fusarium head blight (scab) control are recommended when conditions are favorable for infection.

Corn notes:

*GM corn with herbicide tolerance and above ground insect control traits. Cost includes insecticide seed treatment for wireworm, rootworm, white grub and suppression of cutworm.

**Crop insurance only available by written agreement in some counties of region.

Soybeans

Oil Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	27	_____	1490	_____
Market Price	8.70	_____	0.168	_____
MARKET INCOME	234.90	_____	250.32	_____
DIRECT COSTS				
-Seed	65.75*	_____	35.25	_____
-Herbicides	20.00	_____	33.20	_____
-Fungicides	0.00	_____	0.00*	_____
-Insecticides	0.00	_____	6.00**	_____
-Fertilizer	1.95	_____	26.69	_____
-Crop Insurance	13.30**	_____	14.20	_____
-Fuel & Lubrication	8.37	_____	8.33	_____
-Repairs	16.31	_____	16.75	_____
-Drying	0.00	_____	4.47	_____
-Miscellaneous	4.75	_____	15.50	_____
-Operating Interest	3.10	_____	3.81	_____
SUM OF LISTED DIRECT COSTS	133.52	=====	164.20	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.03	_____	7.41	_____
-Machinery Depreciation	19.72	_____	20.66	_____
-Machinery Investment	10.86	_____	11.49	_____
-Land Charge	38.00	_____	38.00	_____
SUM OF LISTED INDIRECT COSTS	75.61	=====	77.56	=====
SUM OF ALL LISTED COSTS	209.13	_____	241.76	_____
RETURN TO LABOR & MANAGEMENT	25.77	_____	8.56	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(lb)	
-Direct Costs	4.95	_____	0.11	_____
-Indirect Costs	2.80	_____	0.05	_____
-Total Costs	7.75	_____	0.16	_____

Soybean notes:

*RR2 (glyphosate) resistant soybeans. The cost includes \$8 for inoculant and fungicide treatment in addition to seed expense.

**Crop insurance only available by written agreement in some counties of region.

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 \$8 is under "Miscellaneous." Foliar applied insecticide for cutworms would cost about \$5 plus application (usually tank mixed with herbicide).

Confection Sunflower

Canola

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1440	_____	1650	_____
Market Price	0.217	_____	0.16	_____
MARKET INCOME	312.48	_____	264.00	_____
DIRECT COSTS				
-Seed	54.60	_____	55.00*	_____
-Herbicides	35.30	_____	22.50	_____
-Fungicides	0.00*	_____	0.00**	_____
-Insecticides	12.00**	_____	0.00	_____
-Fertilizer	25.35	_____	52.61	_____
-Crop Insurance	20.60	_____	16.30	_____
-Fuel & Lubrication	8.29	_____	7.60	_____
-Repairs	16.72	_____	15.55	_____
-Drying	4.32	_____	0.00	_____
-Miscellaneous	23.50	_____	7.50	_____
-Operating Interest	4.77	_____	4.21	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	205.44	_____	181.27	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.39	_____	6.76	_____
-Machinery Depreciation	20.60	_____	18.04	_____
-Machinery Investment	11.46	_____	9.83	_____
-Land Charge	38.00	_____	38.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	77.45	_____	72.63	_____
SUM OF ALL LISTED COSTS	282.89	_____	253.90	_____
RETURN TO LABOR & MANAGEMENT	29.59	_____	10.10	_____
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.14	_____	0.11	_____
-Indirect Costs	0.05	_____	0.04	_____
-Total Costs	0.20	_____	0.15	_____

Confection Sunflower notes:

*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 \$8 is under "Miscellaneous." Foliar applied insecticide for cutworms would cost about \$5 plus application (usually tank mixed with herbicide).

Canola notes:

*Cost includes insecticide seed treatment for flea beetles.

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

Flax

Field Peas

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	22		35	
Market Price	8.37		6.24	
MARKET INCOME	184.14		218.40	
DIRECT COSTS				
-Seed	10.00		41.25	
-Herbicides	25.40		35.00	
-Fungicides	0.00		1.50	
-Insecticides	0.00		0.00*	
-Fertilizer	21.39		6.16	
-Crop Insurance	9.00		11.00	
-Fuel & Lubrication	7.79		8.86	
-Repairs	16.16		18.03	
-Drying	0.00		0.00	
-Miscellaneous	1.50		6.00	
-Operating Interest	2.17		3.04	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	93.41		130.83	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.86		7.37	
-Machinery Depreciation	18.44		21.60	
-Machinery Investment	10.48		11.72	
-Land Charge	38.00		38.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	73.78		78.68	
SUM OF ALL LISTED COSTS	167.19		209.52	
RETURN TO LABOR & MANAGEMENT	16.95		8.88	
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	4.25		3.74	
-Indirect Costs	3.35		2.25	
-Total Costs	7.60		5.99	

Field Pea notes:

Green pea price is expected to be about \$.70 higher than yellow peas.

*Insecticide treatment for cutworms and/or pea aphids would cost about \$4 per acre plus application.

Oats

Lentils

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	65	_____	1360	_____
Market Price	2.17	_____	0.24	_____
MARKET INCOME	141.05	_____	326.40	_____
DIRECT COSTS				
-Seed	11.00	_____	39.90	_____
-Herbicides	10.25	_____	34.60*	_____
-Fungicides	0.00	_____	16.00**	_____
-Insecticides	0.00	_____	0.00***	_____
-Fertilizer	32.46	_____	3.99	_____
-Crop Insurance	9.50	_____	21.50	_____
-Fuel & Lubrication	9.27	_____	9.26	_____
-Repairs	17.06	_____	19.02	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.50	_____	9.25	_____
-Operating Interest	2.30	_____	3.65	_____
SUM OF LISTED DIRECT COSTS	99.35	=====	157.16	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.69	_____	7.40	_____
-Machinery Depreciation	20.46	_____	22.22	_____
-Machinery Investment	11.78	_____	12.23	_____
-Land Charge	38.00	_____	38.00	_____
SUM OF LISTED INDIRECT COSTS	77.93	=====	79.85	=====
SUM OF ALL LISTED COSTS	177.28	_____	237.01	_____
RETURN TO LABOR & MANAGEMENT	(36.23)	_____	89.39	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(lb)	
-Direct Costs	1.53	_____	0.12	_____
-Indirect Costs	1.20	_____	0.06	_____
-Total Costs	2.73	_____	0.17	_____

Lentil notes:

*Includes pre-harvest dessicant.

**Fungicide treatment for ascochyta/anthracnose.

***Insecticide treatment for cutworms and/or grasshoppers would cost about \$4 per acre plus application.

Yellow Mustard

Safflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	800	_____	1050	_____
Market Price	0.305	_____	0.17	_____
MARKET INCOME	244.00	_____	178.50	_____
DIRECT COSTS				
-Seed	20.00	_____	10.80	_____
-Herbicides	19.70	_____	21.60	_____
-Fungicides	0.00	_____	18.00*	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	15.75	_____	15.64	_____
-Crop Insurance	22.30*	_____	14.80	_____
-Fuel & Lubrication	8.31	_____	7.83	_____
-Repairs	16.81	_____	16.29	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.50	_____	7.50	_____
-Operating Interest	2.62	_____	2.67	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	112.99	_____	115.13	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.14	_____	6.86	_____
-Machinery Depreciation	19.30	_____	18.56	_____
-Machinery Investment	11.65	_____	10.26	_____
-Land Charge	38.00	_____	38.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	76.09	_____	73.68	_____
SUM OF ALL LISTED COSTS	189.07	_____	188.80	_____
RETURN TO LABOR & MANAGEMENT	54.93	_____	(10.30)	_____
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.14	_____	0.11	_____
-Indirect Costs	0.10	_____	0.07	_____
-Total Costs	0.24	_____	0.18	_____

Yellow Mustard notes:

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

Safflower notes:

*Fungicide for alternaria leaf spot.

Buckwheat

Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	850	_____	1400	_____
Market Price	0.198	_____	0.065	_____
MARKET INCOME	168.30	_____	91.00	_____
DIRECT COSTS				
-Seed	30.00	_____	6.25	_____
-Herbicides	17.10	_____	9.25	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	8.60	_____	13.10	_____
-Crop Insurance	7.00*	_____	0.00	_____
-Fuel & Lubrication	8.01	_____	8.26	_____
-Repairs	16.12	_____	16.30	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	7.50	_____
-Operating Interest	2.10	_____	1.44	_____
SUM OF LISTED DIRECT COSTS	90.43	=====	62.11	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.97	_____	7.11	_____
-Machinery Depreciation	18.73	_____	19.07	_____
-Machinery Investment	10.92	_____	11.09	_____
-Land Charge	38.00	_____	38.00	_____
SUM OF LISTED INDIRECT COSTS	74.62	=====	75.27	=====
SUM OF ALL LISTED COSTS	165.05	_____	137.38	_____
RETURN TO LABOR & MANAGEMENT	3.25	_____	(46.38)	_____
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.11	_____	0.04	_____
-Indirect Costs	0.09	_____	0.05	_____
-Total Costs	0.19	_____	0.10	_____

Buckwheat notes:

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

Small Chickpea* Winter Wheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1400		43*	
Market Price	0.31		4.18	
MARKET INCOME	434.00		179.74	
DIRECT COSTS				
-Seed	96.00		7.50	
-Herbicides	35.40		22.40	
-Fungicides	36.00**		9.00	
-Insecticides	0.00		0.00	
-Fertilizer	6.13		43.91	
-Crop Insurance	21.10		11.30	
-Fuel & Lubrication	10.59		7.80	
-Repairs	22.24		15.83	
-Drying	0.00		0.00	
-Miscellaneous	8.25		7.50	
-Operating Interest	5.60		2.97	
SUM OF LISTED DIRECT COSTS	241.31		128.21	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.07		6.86	
-Machinery Depreciation	26.73		18.25	
-Machinery Investment	14.45		9.78	
-Land Charge	38.00		38.00	
SUM OF LISTED INDIRECT COSTS	87.25		72.89	
SUM OF ALL LISTED COSTS	328.57		201.10	
RETURN TO LABOR & MANAGEMENT	105.43		(21.36)	
LISTED COSTS PER BUDGET UNIT				
	(lb)		(bu)	
-Direct Costs	0.17		2.98	
-Indirect Costs	0.06		1.70	
-Total Costs	0.23		4.68	

Small Chickpea notes:

*A kabula variety with medium size seed, about 7-8mm, which has better ascochyta resistance than large kabula's.

**Two fungicide treatments for ascochyta blight. Additional treatments may be necessary.

Winter Wheat notes:

*Yield is per harvested acre. There is some risk of acreage abandonment in spring.

Rye

	Per Acre	Your Figures
Market Yield	40	_____
Market Price	4.23	_____
MARKET INCOME	169.20	_____
DIRECT COSTS		
-Seed	9.30	_____
-Herbicides	6.50	_____
-Fungicides	0.00	_____
-Insecticides	0.00	_____
-Fertilizer	39.92	_____
-Crop Insurance	10.10	_____
-Fuel & Lubrication	7.55	_____
-Repairs	14.94	_____
-Drying	0.00	_____
-Miscellaneous	7.50	_____
-Operating Interest	2.28	_____
	=====	=====
SUM OF LISTED DIRECT COSTS	98.09	_____
INDIRECT (FIXED) COSTS		
-Misc. Overhead	6.76	_____
-Machinery Depreciation	17.72	_____
-Machinery Investment	9.52	_____
-Land Charge	38.00	_____
	=====	=====
SUM OF LISTED INDIRECT COSTS	71.99	_____
SUM OF ALL LISTED COSTS	170.08	_____
RETURN TO LABOR & MANAGEMENT	(0.88)	_____
LISTED COSTS PER BUDGET UNIT		
	(bu)	
-Direct Costs	2.45	_____
-Indirect Costs	1.80	_____
-Total Costs	4.25	_____

2017 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
FWA 140HP Tractor	130000	400 hr	20	40676	11.17 /hr	9.60 /hr	12.84 /hr	
FWA 180HP Tractor	176200	500 hr	15	50575	16.75 /hr	10.20 /hr	17.40 /hr	
4WD 340HP Tractor	232100	500 hr	15	66661	22.06 /hr	13.44 /hr	13.11 /hr	
SP Combine (base unit)	281900	250 hr	12	68074	71.28 /hr	31.50 /hr	44.43 /hr	
Tandem Truck (used)	38600	150 hr	15	12300	11.69 /hr	7.64 /hr	7.92 /hr	
Semi & Trailer (used)	43300	150 hr	10	12400	20.60 /hr	8.36 /hr	9.57 /hr	
Pick-up Truck	32000	300 hr	10	7400	8.20 /hr	2.96 /hr	3.67 /hr	
Swather 30 ft	30600	1000 ac	20	7253	1.17 /ac	0.85 /ac	0.49 /ac	13.1
Sprayer 90 ft	38800	5000 ac	10	19278	0.39 /ac	0.26 /ac	0.50 /ac	42.5
Heavy Harrow 70 ft	31000	2000 ac	20	18080	0.32 /ac	0.55 /ac	0.35 /ac	39.7
Air Seeder 40 ft	180800	2400 ac	10	92386	3.68 /ac	2.56 /ac	6.25 /ac	17.0
Planter 12-30	67700	800 ac	20	22530	2.82 /ac	2.54 /ac	3.74 /ac	10.6
Corn head	58600	800 ac	12	16808	4.35 /ac	2.12 /ac	1.36 /ac	6.8
Grain head w/pu	15600	800 ac	20	1536	0.88 /ac	0.48 /ac	0.25 /ac	10.2
Grain str. cut 30 ft	26000	2000 ac	8	10508	0.97 /ac	0.41 /ac	0.40 /ac	10.2
Head w/sunf pans 30 ft	31300	600 ac	20	3200	2.34 /ac	1.29 /ac	0.48 /ac	10.2
Flex head 30 ft	38600	1000 ac	20	3541	1.75 /ac	0.95 /ac	0.60 /ac	10.2
Rock picker	22300	50 hr	20	7122	0.51 /ac	0.44 /ac	0.33 /ac	29.1
Grain auger	13000	50 hr	20	750	12.25 /hr	6.19 /hr	4.80 /hr	

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