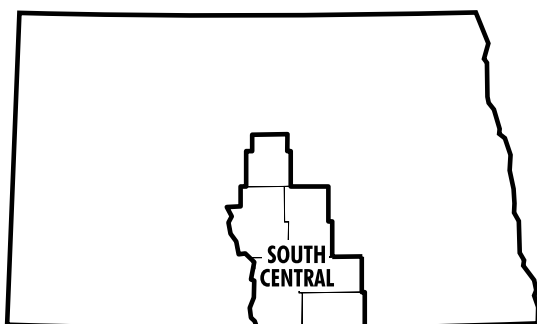




FARM MANAGEMENT PLANNING GUIDE

December 2017

Projected 2018 Crop Budgets



South Central North Dakota

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Note: This region consists of six counties: Burleigh, Emmons, Kidder, Logan, McIntosh and Sheridan.

The contributions of NDSU Extension Specialists: Ron Haugen, Frayne Olson, Janet Knodel, Rich Zollinger, Sam Markell, Andrew Friskop, Greg Endres, Hans Kandel, Joel Ransom and Lesley Lubenow are acknowledged. The information provided by agronomists, crop input suppliers, crop processors and producers throughout North Dakota is also acknowledged.

The 2018 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 2018 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 2010-2016, 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. N fertilizer can be reduced if previous crop was soybean, dry bean, field peas or lentil.

Soil test - recrop:
 Nitrogen - 40 lb
 Phosphorus - 9 ppm
 Potassium - 328 ppm

Fertilizer prices:
 Nitrogen - .37/lb
 Phosphorus - .40/lb
 Potassium - .27/lb

Seed Prices:

Spring Wheat	10.00/bu
Durum	13.00/bu
Barley	8.00/bu
Corn GM	2.65/thou.kern.
Soybean GM	.33/thou.kern.
Dry Beans	.68/thou.kern.
Oil Sunflower	1.50/thou.kern.
Conf. Sunflower	2.70/thou.kern.
Canola	11.40/lb
Flax	16.00/bu
Field Peas	14.00/bu
Oats	6.50/bu
Lentils	.42/lb
Mustard	2.00/lb
Buckwheat	.45/lb
Millet	.25/lb
Winter Wheat	7.75/bu
Rye	7.75/bu

Fuel prices:

Diesel	2.20/gal
Gas	2.45/gal

Lubrication charge: 15% of fuel cost

Crop Insurance: Revenue Protection was used for all wheat, barley, soybeans, corn, canola, sunflowers, field peas 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 5.1% 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, \$4.00 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	_____	46	_____
Market Price	5.67	_____	6.27*	_____
MARKET INCOME	249.48	_____	288.42	_____
DIRECT COSTS				
-Seed	17.00	_____	23.40	_____
-Herbicides	25.20	_____	25.20	_____
-Fungicides**	9.00	_____	9.00	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	48.82	_____	51.71	_____
-Crop Insurance	14.60	_____	14.70	_____
-Fuel & Lubrication	11.26	_____	11.36	_____
-Repairs	17.52	_____	17.58	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.50	_____	7.50	_____
-Operating Interest	3.85	_____	4.09	_____
SUM OF LISTED DIRECT COSTS	154.75	_____	164.54	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.95	_____	7.99	_____
-Machinery Depreciation	20.19	_____	20.29	_____
-Machinery Investment	11.68	_____	11.73	_____
-Land Charge	58.50	_____	58.50	_____
SUM OF LISTED INDIRECT COSTS	98.32	_____	98.51	_____
SUM OF ALL LISTED COSTS	253.07	_____	263.05	_____
RETURN TO LABOR & MANAGEMENT	(3.59)	_____	25.37	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	3.52	_____	3.58	_____
-Indirect Costs	2.23	_____	2.14	_____
-Total Costs	5.75	_____	5.72	_____

Wheat notes:

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

**Includes seed treatment, an early season foliar fungicide, and a late season fungicide. Prothioconazole or metconazole containing products are highly recommended when conditions are favorable for fusarium head blight (scab) infection.

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

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	65	_____	101	_____
Market Price	3.49*	_____	3.25	_____
MARKET INCOME	226.85	_____	328.25	_____
DIRECT COSTS				
-Seed	12.80	_____	76.85*	_____
-Herbicides	23.70	_____	22.00	_____
-Fungicides	9.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	43.42	_____	59.46	_____
-Crop Insurance	13.70	_____	18.40	_____
-Fuel & Lubrication	12.28	_____	17.27	_____
-Repairs	18.11	_____	22.47	_____
-Drying	0.00	_____	18.18	_____
-Miscellaneous	7.50	_____	7.50	_____
-Operating Interest	3.58	_____	6.17	_____
SUM OF LISTED DIRECT COSTS	144.09	=====	248.31	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.33	_____	10.52	_____
-Machinery Depreciation	21.27	_____	33.68	_____
-Machinery Investment	12.24	_____	18.51	_____
-Land Charge	58.50	_____	58.50	_____
SUM OF LISTED INDIRECT COSTS	100.35	=====	121.20	=====
SUM OF ALL LISTED COSTS	244.44	_____	369.51	_____
RETURN TO LABOR & MANAGEMENT	(17.59)	_____	(41.26)	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	2.22	_____	2.46	_____
-Indirect Costs	1.54	_____	1.20	_____
-Total Costs	3.76	_____	3.66	_____

Barley notes:

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

**Includes seed treatment, an early season foliar fungicide, and a late season fungicide. Prothioconazole or metconazole containing products are highly recommended when conditions are favorable for fusarium head blight (scab) infection.

Corn notes:

*GM corn with herbicide tolerance and above ground insect control traits.

Soybeans

Drybeans

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	30	_____	1580	_____
Market Price	8.80	_____	0.225	_____
MARKET INCOME	264.00	_____	355.50	_____
DIRECT COSTS				
-Seed	65.75*	_____	56.10	_____
-Herbicides	22.00	_____	45.80*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	4.00**	_____	0.00	_____
-Fertilizer	4.52	_____	31.65	_____
-Crop Insurance	18.10	_____	20.50	_____
-Fuel & Lubrication	10.59	_____	14.49	_____
-Repairs	16.97	_____	21.17	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.00	_____	13.00	_____
-Operating Interest	3.75	_____	5.68	_____
SUM OF LISTED DIRECT COSTS	150.68	=====	228.40	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.75	_____	8.83	_____
-Machinery Depreciation	20.40	_____	26.38	_____
-Machinery Investment	11.47	_____	15.21	_____
-Land Charge	58.50	_____	58.50	_____
SUM OF LISTED INDIRECT COSTS	98.12	=====	108.92	=====
SUM OF ALL LISTED COSTS	248.81	_____	337.32	_____
RETURN TO LABOR & MANAGEMENT	15.19	_____	18.18	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(lb)	
-Direct Costs	5.02	_____	0.14	_____
-Indirect Costs	3.27	_____	0.07	_____
-Total Costs	8.29	_____	0.21	_____

Soybean notes:

*GM soybeans with herbicide tolerance. The cost includes \$8 for inoculant and fungicide treatment in addition to seed expense.

**Soybean aphid and/or spider mite insecticide.

Drybean notes:

Under the 2014 farm bill government payment reductions can occur if drybean plantings exceed non-base acres plus 15 percent of base acres (35 percent if enrolled in ARC-IC).

*Includes dessicant prior to straight cutting.

**Fungicide for white mold. Fungicide for rust at \$4-\$12 plus application maybe necessary.

Oil Sunflower

Confection Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1540	_____	1550	_____
Market Price	0.171	_____	0.229	_____
MARKET INCOME	263.34	_____	354.95	_____
DIRECT COSTS				
-Seed	33.00	_____	48.60	_____
-Herbicides	33.20	_____	35.30	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	30.16	_____	30.46	_____
-Crop Insurance	15.30	_____	28.10	_____
-Fuel & Lubrication	12.11	_____	12.12	_____
-Repairs	17.47	_____	17.48	_____
-Drying	4.65	_____	4.65	_____
-Miscellaneous	15.50	_____	23.50	_____
-Operating Interest	4.24	_____	5.36	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	170.63	_____	215.57	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.45	_____	8.45	_____
-Machinery Depreciation	22.22	_____	22.24	_____
-Machinery Investment	13.19	_____	13.20	_____
-Land Charge	58.50	_____	58.50	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	102.36	_____	102.39	_____
SUM OF ALL LISTED COSTS	272.99	_____	317.96	_____
RETURN TO LABOR & MANAGEMENT	(9.65)	_____	36.99	_____
LISTED COSTS PER BUDGET UNIT				
	(lb)		(lb)	
-Direct Costs	0.11	_____	0.14	_____
-Indirect Costs	0.07	_____	0.07	_____
-Total Costs	0.18	_____	0.21	_____

Oil Sunflower notes:

*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 per acre plus application (usually tank mixed with herbicide).

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

Canola

Flax

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1740	_____	18	_____
Market Price	0.171	_____	9.56	_____
MARKET INCOME	297.54	_____	172.08	_____
DIRECT COSTS				
-Seed	57.00	_____	14.40	_____
-Herbicides	22.50	_____	28.50	_____
-Fungicides	0.00*	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	61.26	_____	15.98	_____
-Crop Insurance	16.10	_____	8.10	_____
-Fuel & Lubrication	11.05	_____	10.88	_____
-Repairs	17.07	_____	17.81	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.50	_____	1.50	_____
-Operating Interest	4.91	_____	2.48	_____
SUM OF LISTED DIRECT COSTS	197.38	=====	99.64	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.81	_____	7.77	_____
-Machinery Depreciation	20.62	_____	21.10	_____
-Machinery Investment	11.59	_____	11.97	_____
-Land Charge	58.50	_____	58.50	_____
SUM OF LISTED INDIRECT COSTS	98.52	=====	99.34	=====
SUM OF ALL LISTED COSTS	295.90	_____	198.98	_____
RETURN TO LABOR & MANAGEMENT	1.64	_____	(26.90)	_____
LISTED COSTS PER BUDGET UNIT	(lb)		(bu)	
-Direct Costs	0.11	_____	5.54	_____
-Indirect Costs	0.06	_____	5.52	_____
-Total Costs	0.17	_____	11.05	_____

Canola notes:

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

Field Peas

Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	36		67	
Market Price	6.30		1.97	
MARKET INCOME	226.80		131.99	
DIRECT COSTS				
-Seed	42.00		13.00	
-Herbicides	35.00		10.25	
-Fungicides	1.50		0.00	
-Insecticides	0.00*		0.00	
-Fertilizer	8.09		36.68	
-Crop Insurance	10.70		10.40	
-Fuel & Lubrication	11.94		13.32	
-Repairs	18.37		18.86	
-Drying	0.00		0.00	
-Miscellaneous	9.50		7.50	
-Operating Interest	3.50		2.81	
SUM OF LISTED DIRECT COSTS	140.59		112.81	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.01		8.77	
-Machinery Depreciation	22.03		22.94	
-Machinery Investment	12.15		13.62	
-Land Charge	58.50		58.50	
SUM OF LISTED INDIRECT COSTS	100.69		103.82	
SUM OF ALL LISTED COSTS	241.29		216.64	
RETURN TO LABOR & MANAGEMENT	(14.49)		(84.65)	
LISTED COSTS PER BUDGET UNIT				
	(bu)		(bu)	
-Direct Costs	3.91		1.68	
-Indirect Costs	2.80		1.55	
-Total Costs	6.70		3.23	

Field Pea notes:

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

Lentils

Yellow Mustard

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1230	_____	850	_____
Market Price	0.22	_____	0.31	_____
MARKET INCOME	270.60	_____	263.50	_____
DIRECT COSTS				
-Seed	31.50	_____	24.00	_____
-Herbicides	34.60*	_____	19.70	_____
-Fungicides	16.00**	_____	0.00	_____
-Insecticides	0.00***	_____	0.00	_____
-Fertilizer	4.61	_____	18.94	_____
-Crop Insurance	17.10	_____	0.00*	_____
-Fuel & Lubrication	13.00	_____	10.81	_____
-Repairs	21.26	_____	17.42	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	7.50	_____
-Operating Interest	3.76	_____	2.51	_____
SUM OF LISTED DIRECT COSTS	151.32	=====	100.87	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.54	_____	7.82	_____
-Machinery Depreciation	25.80	_____	20.27	_____
-Machinery Investment	14.07	_____	12.21	_____
-Land Charge	58.50	_____	58.50	_____
SUM OF LISTED INDIRECT COSTS	106.90	=====	98.81	=====
SUM OF ALL LISTED COSTS	258.23	_____	199.68	_____
RETURN TO LABOR & MANAGEMENT	12.37	_____	63.82	_____
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.12	_____	0.12	_____
-Indirect Costs	0.09	_____	0.12	_____
-Total Costs	0.21	_____	0.23	_____

Lentil notes:

*Includes pre-harvest dessicant.

**Fungicide treatment for ascochyta/anthracnose.

***Foliar insecticide for cutworms, pea aphids and/or grasshoppers would cost about \$4 per acre plus application.

Yellow Mustard notes:

*Crop insurance is not available in this region.

Buckwheat

Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	900		1500	
Market Price	0.193		0.065	
MARKET INCOME	173.70		97.50	
DIRECT COSTS				
-Seed	22.50		6.25	
-Herbicides	17.10		9.25	
-Fungicides	0.00		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	10.63		16.07	
-Crop Insurance	14.30*		0.00	
-Fuel & Lubrication	10.54		11.53	
-Repairs	16.76		17.83	
-Drying	0.00		0.00	
-Miscellaneous	1.50		7.50	
-Operating Interest	2.38		1.74	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	95.70		70.17	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.66		8.09	
-Machinery Depreciation	19.76		21.04	
-Machinery Investment	11.52		12.62	
-Land Charge	58.50		58.50	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	97.45		100.24	
SUM OF ALL LISTED COSTS	193.15		170.41	
RETURN TO LABOR & MANAGEMENT	(19.45)		(72.91)	
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.11		0.05	
-Indirect Costs	0.11		0.07	
-Total Costs	0.21		0.11	

Buckwheat notes:

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

Winter Wheat

Rye

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	47*	_____	43	_____
Market Price	4.38	_____	4.49	_____
MARKET INCOME	205.86	_____	193.07	_____
DIRECT COSTS				
-Seed	8.53	_____	9.30	_____
-Herbicides	22.40	_____	6.50	_____
-Fungicides	9.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	53.16	_____	47.37	_____
-Crop Insurance	15.00	_____	10.70	_____
-Fuel & Lubrication	10.51	_____	10.48	_____
-Repairs	15.99	_____	15.85	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.50	_____	7.50	_____
-Operating Interest	3.62	_____	2.75	_____
SUM OF LISTED DIRECT COSTS	145.70	=====	110.45	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.62	_____	7.63	_____
-Machinery Depreciation	18.76	_____	18.80	_____
-Machinery Investment	10.46	_____	10.65	_____
-Land Charge	58.50	_____	58.50	_____
SUM OF LISTED INDIRECT COSTS	95.34	=====	95.57	=====
SUM OF ALL LISTED COSTS	241.04	_____	206.03	_____
RETURN TO LABOR & MANAGEMENT	(35.18)	_____	(12.96)	_____
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	3.10	_____	2.57	_____
-Indirect Costs	2.03	_____	2.22	_____
-Total Costs	5.13	_____	4.79	_____

Winter Wheat notes:

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

2018 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
FWA 150HP Tractor	136000	400 hr	20	42564	11.68 /hr	10.04 /hr	13.44 /hr	
FWA 190HP Tractor	178800	500 hr	15	51357	16.99 /hr	10.36 /hr	17.67 /hr	
4WD 370HP Tractor	255000	500 hr	15	73227	24.24 /hr	14.77 /hr	14.40 /hr	
SP Combine (base unit)	290000	250 hr	12	70023	73.33 /hr	32.40 /hr	45.70 /hr	
Tandem Truck (used)	39200	150 hr	15	12500	11.87 /hr	7.76 /hr	8.04 /hr	
Semi & Trailer (used)	46000	150 hr	10	13100	21.93 /hr	8.87 /hr	9.93 /hr	
Pick-up Truck	33000	300 hr	10	7600	8.47 /hr	3.05 /hr	3.78 /hr	
Swather 30 ft	31100	1000 ac	20	7354	1.19 /ac	0.86 /ac	0.50 /ac	13.1
Sprayer 90 ft	39400	5000 ac	10	19574	0.40 /ac	0.27 /ac	0.50 /ac	42.5
Heavy Harrow 70 ft	31500	2000 ac	20	18372	0.33 /ac	0.56 /ac	0.35 /ac	39.7
Air Seeder 40 ft	183500	2400 ac	10	93777	3.73 /ac	2.59 /ac	6.35 /ac	17.0
Planter 16-30	114500	1400 ac	15	47571	3.19 /ac	2.61 /ac	4.74 /ac	14.2
Corn head 8R w/chopper	82500	800 ac	12	23629	6.12 /ac	2.98 /ac	1.91 /ac	6.8
Grain head w/pu	18700	800 ac	20	1807	1.05 /ac	0.58 /ac	0.29 /ac	10.2
Grain str. cut 35 ft	30800	2000 ac	8	12797	1.12 /ac	0.49 /ac	0.41 /ac	11.9
Head w/sunf pans	37100	600 ac	20	3883	2.76 /ac	1.53 /ac	0.49 /ac	11.9
Flex head 35 ft	45100	1000 ac	20	4289	2.04 /ac	1.11 /ac	0.60 /ac	11.9
Rock picker	22600	50 hr	20	7231	0.51 /ac	0.45 /ac	0.34 /ac	29.1
Grain Cart	36600	100 hr	20	6200	15.20 /hr	9.63 /hr	8.60 /hr	
Grain auger	13500	50 hr	20	780	12.72 /hr	6.43 /hr	5.00 /hr	

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