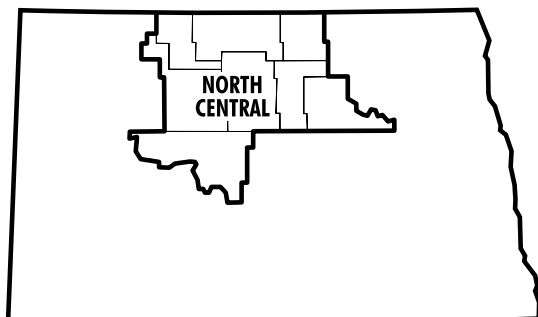




FARM MANAGEMENT PLANNING GUIDE

December 2018

Projected 2019 Crop Budgets



North Central North Dakota

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The 2019 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 2019 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.

NDSU

EXTENSION

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 2018 Farm Bill continues 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 2011-2017, 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 - 36 lb
 Phosphorus - 8 ppm
 Potassium - 363 ppm

Fertilizer prices:
 Nitrogen - .43/lb
 Phosphorus - .45/lb
 Potassium - .31/lb

Seed Prices:

Spring Wheat	10.25/bu
Durum	11.50/bu
Barley	8.25/bu
Corn GM	2.67/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	11.50/lb
Flax	16.00/bu
Field Peas	14.00/bu
Oats	6.50/bu
Lentils	.30/lb
Mustard	2.10/lb
Buckwheat	.40/lb
Millet	.28/lb
Winter Wheat	9.50/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, dry beans and lentils with a 75% coverage level and enterprise units. APH insurance was used for other crops for which 70% coverage and optional units were assumed.

Miscellaneous: soil testing, machinery rent and custom work.

Operating Interest: Direct costs charged 5.85% 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	49	_____	44	_____
Market Price	5.55	_____	5.96*	_____
MARKET INCOME	271.95	_____	262.24	_____
DIRECT COSTS				
-Seed	17.43	_____	23.00	_____
-Herbicides	26.20	_____	26.20	_____
-Fungicides**	9.00	_____	17.00	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	68.33	_____	59.78	_____
-Crop Insurance	7.00	_____	8.70	_____
-Fuel & Lubrication	13.11	_____	12.87	_____
-Repairs	19.56	_____	19.42	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	4.74	_____	4.93	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	166.87	_____	173.39	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.50	_____	8.41	_____
-Machinery Depreciation	22.37	_____	22.11	_____
-Machinery Investment	13.32	_____	13.18	_____
-Land Charge	51.00	_____	51.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	95.19	_____	94.70	_____
SUM OF ALL LISTED COSTS	262.06	_____	268.09	_____
RETURN TO LABOR & MANAGEMENT	9.89	_____	(5.85)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.41	_____	3.94	_____
-Indirect Costs	1.94	_____	2.15	_____
-Total Costs	5.35	_____	6.09	_____

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).

***Cereal grain aphid insecticide would cost about \$4. Wheat midge insecticide would cost about \$6.

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	70*	_____	110	_____
Market Price	3.22	_____	3.30	_____
MARKET INCOME	225.40	_____	363.00	_____
DIRECT COSTS				
-Seed	13.20	_____	77.43*	_____
-Herbicides	24.30	_____	24.00	_____
-Fungicides	17.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	58.98	_____	80.70	_____
-Crop Insurance	7.20	_____	12.00	_____
-Fuel & Lubrication	14.05	_____	19.22	_____
-Repairs	19.99	_____	24.64	_____
-Drying	0.00	_____	19.80	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	4.57	_____	7.58	_____
SUM OF LISTED DIRECT COSTS	160.79	_____	266.87	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.86	_____	11.16	_____
-Machinery Depreciation	23.34	_____	36.22	_____
-Machinery Investment	13.79	_____	20.31	_____
-Land Charge	51.00	_____	51.00	_____
SUM OF LISTED INDIRECT COSTS	96.99	_____	118.69	_____
SUM OF ALL LISTED COSTS	257.78	_____	385.56	_____
RETURN TO LABOR & MANAGEMENT	(32.38)	_____	(22.56)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.30	_____	2.43	_____
-Indirect Costs	1.39	_____	1.08	_____
-Total Costs	3.68	_____	3.51	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$2.40 for feed barley.

**Includes seed treatment, an early season foliar fungicide, and a late season fungicide fungicide recommended when conditions are favorable for fusarium head blight (scab).

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	33	_____	1760	_____
Market Price	7.95	_____	0.21	_____
MARKET INCOME	262.35	_____	369.60	_____
DIRECT COSTS				
-Seed	64.10*	_____	56.10	_____
-Herbicides	26.00	_____	46.90*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	0.00**	_____	0.00	_____
-Fertilizer	8.30	_____	46.09	_____
-Crop Insurance	5.40	_____	11.40	_____
-Fuel & Lubrication	10.37	_____	14.64	_____
-Repairs	16.41	_____	21.63	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.00	_____	13.00	_____
-Operating Interest	3.97	_____	6.72	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	139.54	_____	236.48	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.70	_____	8.97	_____
-Machinery Depreciation	20.17	_____	27.01	_____
-Machinery Investment	11.20	_____	15.56	_____
-Land Charge	51.00	_____	51.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	90.07	_____	102.54	_____
SUM OF ALL LISTED COSTS	229.61	_____	339.03	_____
RETURN TO LABOR & MANAGEMENT	32.74	_____	30.57	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	4.23	_____	0.13	_____
-Indirect Costs	2.73	_____	0.06	_____
-Total Costs	6.96	_____	0.19	_____

Soybean notes:

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

**Soybean aphid and/or spider mite insecticide would cost about \$4 per acre plus application.

Drybean notes:

*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	1570		1300	
Market Price	0.164		0.227	
MARKET INCOME	257.48		295.10	
DIRECT COSTS				
-Seed	31.50		48.60	
-Herbicides	34.00		36.20	
-Fungicides	0.00*		0.00*	
-Insecticides	5.00**		10.00**	
-Fertilizer	38.78		29.45	
-Crop Insurance	8.40		12.60	
-Fuel & Lubrication	13.68		13.27	
-Repairs	19.33		19.09	
-Drying	4.71		3.90	
-Miscellaneous	9.50		17.50	
-Operating Interest	4.82		5.58	
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	169.73		196.18	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.91		8.75	
-Machinery Depreciation	24.16		23.71	
-Machinery Investment	14.69		14.45	
-Land Charge	51.00		51.00	
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	98.76		97.91	
SUM OF ALL LISTED COSTS	268.49		294.10	
RETURN TO LABOR & MANAGEMENT	(11.01)		1.00	
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.11		0.15	
-Indirect Costs	0.06		0.08	
-Total Costs	0.17		0.23	

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	1810	_____	22	_____
Market Price	0.164	_____	9.46	_____
MARKET INCOME	296.84	_____	208.12	_____
DIRECT COSTS				
-Seed	57.50	_____	14.40	_____
-Herbicides	23.10	_____	29.20	_____
-Fungicides	0.00*	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	76.37	_____	28.96	_____
-Crop Insurance	8.50	_____	9.90	_____
-Fuel & Lubrication	12.52	_____	12.61	_____
-Repairs	18.77	_____	19.65	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	5.80	_____	3.40	_____
SUM OF LISTED DIRECT COSTS	204.06	=====	119.61	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.17	_____	8.27	_____
-Machinery Depreciation	22.66	_____	23.10	_____
-Machinery Investment	12.73	_____	13.49	_____
-Land Charge	51.00	_____	51.00	_____
SUM OF LISTED INDIRECT COSTS	94.57	=====	95.86	=====
SUM OF ALL LISTED COSTS	298.62	_____	215.47	_____
RETURN TO LABOR & MANAGEMENT	(1.78)	_____	(7.35)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.11	_____	5.44	_____
-Indirect Costs	0.05	_____	4.36	_____
-Total Costs	0.16	_____	9.79	_____

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	42		79	
Market Price	6.00		2.19	
MARKET INCOME	252.00		173.01	
DIRECT COSTS				
-Seed	42.00		13.00	
-Herbicides	35.90		10.60	
-Fungicides	1.50		0.00	
-Insecticides	0.00*		0.00	
-Fertilizer	12.24		56.53	
-Crop Insurance	7.40		11.50	
-Fuel & Lubrication	12.23		15.43	
-Repairs	19.01		20.94	
-Drying	0.00		0.00	
-Miscellaneous	9.50		1.50	
-Operating Interest	4.09		3.79	
SUM OF LISTED DIRECT COSTS	143.86		133.30	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.30		9.43	
-Machinery Depreciation	23.45		25.38	
-Machinery Investment	12.87		15.37	
-Land Charge	51.00		51.00	
SUM OF LISTED INDIRECT COSTS	95.61		101.17	
SUM OF ALL LISTED COSTS	239.48		234.47	
RETURN TO LABOR & MANAGEMENT	12.52		(61.46)	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.43		1.69	
-Indirect Costs	2.28		1.28	
-Total Costs	5.70		2.97	

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	1450	_____	900	_____
Market Price	0.14	_____	0.32	_____
MARKET INCOME	203.00	_____	288.00	_____
DIRECT COSTS				
-Seed	21.00	_____	25.20	_____
-Herbicides	35.50*	_____	20.20	_____
-Fungicides	16.00**	_____	0.00	_____
-Insecticides	0.00***	_____	6.00*	_____
-Fertilizer	7.04	_____	26.91	_____
-Crop Insurance	9.60	_____	16.30**	_____
-Fuel & Lubrication	13.20	_____	12.38	_____
-Repairs	21.68	_____	19.16	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	1.50	_____
-Operating Interest	3.91	_____	3.73	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	137.42	_____	131.39	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.71	_____	8.26	_____
-Machinery Depreciation	26.43	_____	22.08	_____
-Machinery Investment	14.40	_____	13.63	_____
-Land Charge	51.00	_____	51.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	100.54	_____	94.97	_____
SUM OF ALL LISTED COSTS	237.97	_____	226.36	_____
RETURN TO LABOR & MANAGEMENT	(34.97)	_____	61.64	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.09	_____	0.15	_____
-Indirect Costs	0.07	_____	0.11	_____
-Total Costs	0.16	_____	0.25	_____

Lentil notes:

*Includes pre-harvest dessicant.

**Fungicide treatment for ascochyta/anthracnose.

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

Yellow Mustard notes:

*Insecticide seed treatment for flea beetles.

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

Buckwheat

Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	950	_____	1300	_____
Market Price	0.183	_____	0.07	_____
MARKET INCOME	173.85	_____	91.00	_____
DIRECT COSTS				
-Seed	20.00	_____	7.00	_____
-Herbicides	18.00	_____	9.60	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	16.46	_____	16.27	_____
-Crop Insurance	7.70*	_____	0.00	_____
-Fuel & Lubrication	12.12	_____	12.86	_____
-Repairs	18.49	_____	19.44	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	1.50	_____
-Operating Interest	2.76	_____	1.95	_____
SUM OF LISTED DIRECT COSTS	97.03	=====	68.62	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	8.10	_____	8.44	_____
-Machinery Depreciation	21.58	_____	22.60	_____
-Machinery Investment	12.94	_____	13.91	_____
-Land Charge	51.00	_____	51.00	_____
SUM OF LISTED INDIRECT COSTS	93.61	=====	95.95	=====
SUM OF ALL LISTED COSTS	190.64	_____	164.57	_____
RETURN TO LABOR & MANAGEMENT	(16.79)	_____	(73.57)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.10	_____	0.05	_____
-Indirect Costs	0.10	_____	0.07	_____
-Total Costs	0.20	_____	0.13	_____

Buckwheat notes:

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

Winter Wheat

Rye

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	51*	_____	46	_____
Market Price	4.72	_____	4.33	_____
MARKET INCOME	240.72	_____	199.18	_____
DIRECT COSTS				
-Seed	10.45	_____	9.30	_____
-Herbicides	24.50	_____	6.50	_____
-Fungicides	9.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	71.75	_____	63.20	_____
-Crop Insurance	7.20	_____	16.70	_____
-Fuel & Lubrication	12.24	_____	12.06	_____
-Repairs	17.48	_____	17.07	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.00	_____	8.00	_____
-Operating Interest	4.70	_____	3.89	_____
SUM OF LISTED DIRECT COSTS	165.32	=====	136.71	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.93	_____	7.88	_____
-Machinery Depreciation	20.36	_____	20.14	_____
-Machinery Investment	11.34	_____	11.35	_____
-Land Charge	51.00	_____	51.00	_____
SUM OF LISTED INDIRECT COSTS	90.63	=====	90.37	=====
SUM OF ALL LISTED COSTS	255.96	_____	227.08	_____
RETURN TO LABOR & MANAGEMENT	(15.24)	_____	(27.90)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.24	_____	2.97	_____
-Indirect Costs	1.78	_____	1.96	_____
-Total Costs	5.02	_____	4.94	_____

Winter Wheat notes:

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

2019 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
FWA 150HP Tractor	138400	400 hr	20	43309	11.89 /hr	10.22 /hr	13.67 /hr	
FWA 190HP Tractor	182000	500 hr	15	52235	17.30 /hr	10.54 /hr	17.98 /hr	
4WD 370HP Tractor	259500	500 hr	15	74521	24.66 /hr	15.03 /hr	14.65 /hr	
SP Combine (base unit)	295100	250 hr	12	71234	74.62 /hr	32.97 /hr	46.49 /hr	
Tandem Truck (used)	39900	150 hr	15	12700	12.09 /hr	7.89 /hr	8.17 /hr	
Semi & Trailer (used)	46800	150 hr	10	13300	22.33 /hr	9.02 /hr	10.13 /hr	
Pick-up Truck	33600	300 hr	10	7700	8.63 /hr	3.10 /hr	3.85 /hr	
Swather 30 ft	31100	1000 ac	20	7354	1.19 /ac	0.86 /ac	0.50 /ac	13.1
Sprayer 90 ft	40100	5000 ac	10	19912	0.40 /ac	0.27 /ac	0.51 /ac	42.5
Heavy Harrow 70 ft	32000	2000 ac	20	18712	0.33 /ac	0.57 /ac	0.36 /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	116500	1400 ac	15	48419	3.24 /ac	2.65 /ac	4.83 /ac	14.2
Corn head 8R w/chopper	83900	800 ac	12	24043	6.22 /ac	3.03 /ac	1.94 /ac	6.8
Grain head w/pu	19000	800 ac	20	1840	1.07 /ac	0.59 /ac	0.29 /ac	10.2
Grain str. cut 35 ft	31300	2000 ac	8	13009	1.14 /ac	0.50 /ac	0.41 /ac	11.9
Head w/sunf pans	37700	600 ac	20	3945	2.81 /ac	1.56 /ac	0.50 /ac	11.9
Flex head 35 ft	45800	1000 ac	20	4361	2.07 /ac	1.13 /ac	0.61 /ac	11.9
Rock picker	23000	50 hr	20	7340	0.52 /ac	0.46 /ac	0.34 /ac	29.1
Grain Cart	37200	100 hr	20	6300	15.45 /hr	9.79 /hr	8.75 /hr	
Grain auger	13700	50 hr	20	790	12.91 /hr	6.52 /hr	5.10 /hr	

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