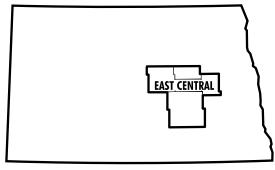


December 2013

## Projected 2014 Crop Budgets



# **East Central North Dakota**

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Note: This region consists of five counties: Eddy, Foster, Griggs, Stutsman and Wells.

The 2014 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 2014 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.



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.

Currently, a Farm Bill has not been authorized. **Direct and counter-cyclical payments** have been 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 have been \$9.75 per acre when averaged over all crop acreage. No counter-cyclical payments are expected. If there is an extension of the current Farm Bill, the Average Crop Revenue Election program may provide payments.

#### **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 2006-2012, 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 - 35 lb

Phosphorus - 8 ppm

Potassium - 280 ppm

#### Fertilizer prices:

Nitrogen - .46/lb Phosphorus - .42/lb Potassium - .39/lb

#### **Seed Prices:**

Spring Wheat 12.25/bu
Durum 11.25/bu
Barley 11.00/bu
Corn grain RR/Bt 2.90/thou.kern.
Soybean RR2 .352/thou.kern.

Dry Beans .90/lb

Oil Sunflower 1.42/thou.kern. Conf. Sunflower 2.45/thou.kern.

9.70/lb Canola Flax 19.00/bu Field Peas 14.00/bu Oats 7.00/bu Mustard 1.70/lb Buckwheat .67/lb Millet .38/lb Winter Wheat 11.50/bu Rye 11.50/bu

#### **Fuel prices:**

Diesel 3.25/gal Gas 3.05/gal

Lubrication charge: 15% of fuel cost

**Crop Insurance:** Coverage levels are 70% on all insurable crops. Yield Protection or APH insurance estimates are used, except for Revenue Protection on all wheat, barley, corn, soybeans, corn, canola, sunflowers and dry beans.

**Miscellaneous:** soil testing, machinery rent and custom work.

**Operating Interest:** Direct costs charged 4.25% 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, \$3 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**

Market Yield Market Price	Per Acre 45 6.87	Your Figures	Per Acre 35 7.15*	Your Figures
MARKET INCOME	309.15		250.25	
-Seed -Herbicides -Fungicides** -Insecticides*** -Fertilizer -Crop Insurance -Fuel & Lubrication -Repairs -Drying -Miscellaneous -Operating Interest	21.44 21.80 5.50 0.00 64.32 15.53 19.69 17.90 0.00 1.50 3.56		19.69 21.80 5.50 0.00 46.45 14.41 18.93 17.64 0.00 1.50 3.10	
SUM OF LISTED DIRECT COSTS	171.24		149.01	
INDIRECT (FIXED) COSTS -Misc. Overhead -Machinery Depreciation -Machinery Investment -Land Charge	7.11 20.69 11.92 66.80		6.93 20.21 11.67 66.80	
SUM OF LISTED INDIRECT COSTS	106.52		105.61	
SUM OF ALL LISTED COSTS	277.76	- <u></u> -	254.62	
RETURN TO LABOR & MANAGEMENT	31.39		(4.37)	
LISTED COSTS PER BUDGET UNIT -Direct Costs -Indirect Costs -Total Costs	(bu) 3.81 2.37 6.17		(bu) 4.26 3.02 7.27	

#### Wheat notes:

<sup>\*</sup>Durum price is for milling quality. There is high risk of lower quality and lower price.

<sup>\*\*</sup>Includes seed treatment (\$1.50-\$2.00) and early season foliar fungicide (\$2-\$4.50). Late season fungicides are often warranted in this region. For fusarium head blight (scab) control, prothioconazole or metconazole containing products are highly recommended when a more susceptable cultivar is grown and/or when conditions are favorable for infection.

<sup>\*\*\*</sup>Cereal grain aphid insecticide would cost about \$6.

## Malting Barley Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	64		115	
Market Price	5.15*	<del></del>	4.00	
MARKET INCOME	329.60		460.00	
DIRECT COSTS				
-Seed	19.25		86.62*	
-Herbicides	19.00		20.00	
-Fungicides	5.50**		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	54.76		88.27	
-Crop Insurance	14.45		33.28	
-Fuel & Lubrication	20.97		29.49	
-Repairs	18.17		23.62	
-Drying	0.00		24.15	
-Miscellaneous	1.50		1.50	
-Operating Interest	3.26		6.52	
	=======	========	=======	========
SUM OF LISTED DIRECT COSTS	156.87		313.45	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.48		9.85	
-Machinery Depreciation	21.81		33.10	-
-Machinery Investment	12.54		19.02	
-Land Charge	66.80		66.80	
-Land Onlinge	=======		======	
SUM OF LISTED INDIRECT COSTS	108.63		128.77	
SUM OF ALL LISTED COSTS	265.50		442.22	
RETURN TO LABOR & MANAGEMENT	64.10		17.78	
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	2.45		2.73 <sup>°</sup>	
-Indirect Costs	1.70		1.12	
-Total Costs	4.15		3.85	

#### Barley notes:

#### Corn notes:

\*RR/Bt corn and RR corn without Bt Trait for corn borer refuge. Cost includes insecticide seed treatment for wireworm, rootworm, white grub and suppression of cutworm.

<sup>\*</sup>On average, about 40% of production is feed quality. Use \$3.36 estimate for feed barley price.

<sup>\*\*</sup>Includes seed treatment (\$1.50-\$2.00) and early season foliar fungicide (\$2-\$4.50). Late season fungicides, prothioconazole or metconazole containing products, for fusarium head blight (scab) control are recommended when conditions are favorable for infection.

## **Soybeans**

## **Drybeans\***

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	31	i iguioo	1440	i igaioo
Market Price	11.00		0.31	
			_	
MARKET INCOME	341.00		446.40 _	
DIRECT COSTS				
-Seed	69.60*	- <u></u> -	45.00 _	
-Herbicides	20.00	- <u></u>	45.30**	
-Fungicides	0.00		20.00***	
-Insecticides	7.00**		0.00 _	
-Fertilizer	7.28		36.17 _	
-Crop Insurance	13.72		22.84 _	
-Fuel & Lubrication	17.44		22.60 _	
-Repairs	17.88		22.15 _	
-Drying	0.00		0.00 _	
-Miscellaneous	4.75		12.75	
-Operating Interest	3.35		4.82 _	
	======	=========	=======================================	
SUM OF LISTED DIRECT COSTS	161.02		231.63	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.01		8.01 _	
<ul> <li>-Machinery Depreciation</li> </ul>	21.07	·	27.03	
-Machinery Investment	12.07	- <u></u> -	15.62	
-Land Charge	66.80	- <u></u> -	66.80 _	
	======	=========	======= ==	
SUM OF LISTED INDIRECT COSTS	106.95		117.46 _	
SUM OF ALL LISTED COSTS	267.96		349.09	
30M 31 / NEE E18 1 E18 3 G 3 G 1 G	207.00			
RETURN TO LABOR & MANAGEMENT	73.04	·	97.31 _	
LISTED COSTS PER BUDGET UNIT	(bu)		(lb)	
-Direct Costs	5.19		0.16 <u> </u>	
-Indirect Costs	3.45		0.08	
-Total Costs	8.64		0.24 _	

#### Soybean notes:

#### Drybean notes:

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

<sup>\*\*</sup>Soybean aphid and/or spider mite insecticide

<sup>\*</sup>Acreage limitations existed under the 2008-2012 farm bill with possible forfeiture of government payments on base acres planted to drybeans. Rules for 2014 are unknown as of 12/10/2013.

<sup>\*\*</sup>Includes dessicant prior to straight cutting.

<sup>\*\*\*</sup>Fungicide for white mold. A second treatment may be necessary. Fungicide for rust at \$2-\$4.50 plus application maybe necessary.

## Oil Sunflower

## **Confectionery Sunflower**

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1380		1250	
Market Price	0.212		0.313	
MARKET INCOME	292.56		391.25	
DIRECT COSTS				
-Seed	31.24*		46.55*	
-Herbicides	26.70	- <del></del> -	28.90	
-Fungicides	0.00**	·	0.00**	
-Insecticides	7.00***		14.00***	
-Fertilizer	33.68		28.99	
-Crop Insurance	12.25		17.50	
-Fuel & Lubrication	21.03		20.72	
-Repairs	18.74	- <del></del> -	18.63	
-Drying	4.14		3.75	
-Miscellaneous	9.50		17.50	
-Operating Interest	3.49		4.18	
CLIM OF LICTED DIDECT COSTS	107.77	=========		=========
SUM OF LISTED DIRECT COSTS	167.77		200.71	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.74		7.67	
-Machinery Depreciation	23.06		22.86	
-Machinery Investment	14.09		13.98	
-Land Charge	66.80		66.80	
SUM OF LISTED INDIRECT COSTS	=======	=========	=======================================	========
SUM OF LISTED INDIRECT COSTS	111.69		111.31	
SUM OF ALL LISTED COSTS	279.46		312.03	
RETURN TO LABOR & MANAGEMENT	13.10		79.22	
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.12		0.16	
-Indirect Costs	0.08		0.09	
-Total Costs	0.20		0.25	
	v.=v		5.25	

#### Oil Sunflower notes:

#### Confectionery Sunflower notes:

<sup>\*</sup>Cost includes seed treatment for control of wireworm and flea beetle.

<sup>\*\*</sup>Fungicide for rust would cost \$4 plus application.

<sup>\*\*\*</sup>One spraying for head feeding insects (red seed weevil, lygus bug and banded moths). Custom application cost of \$8 is under "Miscellaneous."

<sup>\*</sup>Cost includes seed treatment for control of wireworm and flea beetle.

<sup>\*\*</sup>Fungicide for rust would cost \$4 plus application.

<sup>\*\*\*</sup>Two sprayings for head feeding insects (red seed weevil, lygus bug and banded moths) at about \$7 per application. Each custom application cost of \$8 is under "Miscellaneous."

## Canola

## Flax

		Your		Your
	Per Acre	Figures	Per Acre	Figures
Market Yield	1450		18	
Market Price	0.201		13.15	
MARKET INCOME	291.45		236.70	
DIRECT COSTS				
-Seed	48.50*		15.20	
-Herbicides	20.50		19.60	
-Fungicides	0.00**	- <del></del>	0.00	
-Insecticides	0.00		0.00	
-Fertilizer	62.63		21.95	
-Crop Insurance	11.36		10.55	
-Fuel & Lubrication	19.48		19.47	
-Repairs	17.98		18.85	
-Drying	0.00		0.00	
-Miscellaneous	1.50		1.50	
-Operating Interest	3.87		2.28	
SUM OF LISTED DIRECT COSTS	185.82		109.39	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.14		7.24	
-Machinery Depreciation	20.78		21.47	
-Machinery Investment	12.60		13.23	
-Land Charge	66.80		66.80	
Earla Offargo	=======		=======	
SUM OF LISTED INDIRECT COSTS	107.32		108.74	
SUM OF ALL LISTED COSTS	293.13		218.13	
RETURN TO LABOR & MANAGEMENT	(1.68)		18.57	
LISTED COSTS PER BUDGET UNIT	(lb)		(bu)	
-Direct Costs	0.13		6.08	
-Indirect Costs	0.07		6.04	
-Total Costs	0.20		12.12	

#### Canola notes:

<sup>\*</sup>Cost includes insecticide seed treatment for flea beetles.
\*\*Fungicide for white mold would cost about \$18 plus application.

## **Field Peas**

## **Oats**

		Your		Your
	Per Acre	Figures	Per Acre	Figures
Market Yield	35		61	
Market Price	7.20*		2.95	
MARKET INCOME	252.00		179.95	
DIRECT COSTS				
-Seed	42.00**		14.00	
-Herbicides	27.80		5.20	
-Fungicides	1.50		0.00	
-Insecticides	0.00	-	0.00	- <u></u> -
-Fertilizer	9.52		41.85	
-Crop Insurance	10.61	·	8.87	
-Fuel & Lubrication	20.53		22.50	
-Repairs	19.88		19.36	
-Drying	0.00		0.00	
-Miscellaneous	9.25		1.50	
-Operating Interest	3.00		2.41	
	=======	========	=======	=========
SUM OF LISTED DIRECT COSTS	144.08		115.69	
NIDIDEOT (EIVED) 000T0				
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.41		7.79	
-Machinery Depreciation	23.31		23.02	
-Machinery Investment	13.25		13.68	
-Land Charge	66.80		66.80	
CLIM OF LICTED INDIDECT COCTO	110.70		=======	
SUM OF LISTED INDIRECT COSTS	110.78		111.28	
SUM OF ALL LISTED COSTS	254.86		226.97	
RETURN TO LABOR & MANAGEMENT	(2.86)		(47.02)	
	( /		( /	
LISTED COSTS PER BUDGET UNIT	(bu)		(bu)	
-Direct Costs	<b>4</b> .12		1.9Ó	
-Indirect Costs	3.17		1.82	
-Total Costs	7.28		3.72	

#### Field Pea notes:

<sup>\*</sup>Yellow pea food quality price. Use \$9.25 for green pea food quality and about \$5.00 for feed quality peas. \*\*Yellow pea seed cost, use \$54 per acre for green peas.

## Yellow Mustard Buckwheat

Market Yield	Per Acre 900	Your Figures	Per Acre 950	Your Figures
Market Price	0.384		0.284	
Market Frice	0.364	-	0.204	-
MARKET INCOME	345.60		269.80	
DIRECT COSTS				
-Seed	20.40		33.50	
-Herbicides	13.50		11.40	
-Fungicides	0.00		0.00	
-Insecticides	6.00*		0.00	
-Fertilizer	27.92		17.03	
-Crop Insurance	0.00**		11.26*	
-Fuel & Lubrication	18.03		18.27	
-Repairs	17.84		17.93	
-Drying	0.00		0.00	
-Miscellaneous	1.50		1.50	
-Operating Interest	2.24		2.36	
operating interest	======	=======================================	======	
SUM OF LISTED DIRECT COSTS	107.43		113.25	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.95		7.03	
-Machinery Depreciation	20.51		20.70	
-Machinery Investment	12.35		12.45	
-Land Charge	66.80		66.80	
zana onargo	=======		======	
SUM OF LISTED INDIRECT COSTS	106.62		106.97	
30m 0. 2.3.25 m2m.20. 330.3	.00.02		100.07	
SUM OF ALL LISTED COSTS	214.05		220.22	
RETURN TO LABOR & MANAGEMENT	131.55		49.58	
LICTED COCTO DED DUDOET LINUT	/lb)		/11-1	
LISTED COSTS PER BUDGET UNIT	(lb)		(lb)	
-Direct Costs	0.12	-	0.12	
-Indirect Costs	0.12	-	0.11	
-Total Costs	0.24		0.23	

Yellow Mustard notes:

#### Buckwheat notes:

<sup>\*</sup>Insecticide seed treatment for flea beetles.

<sup>\*</sup>Crop insurance is not available.

<sup>\*</sup>Crop insurance is not available in most counties of this region.

## Millet Winter Wheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1700		49*	
Market Price	0.09		6.16	
MARKET INCOME	153.00		301.84	
DIRECT COSTS				
-Seed	9.50		13.80	
-Herbicides	3.10		23.70	
-Fungicides	0.00		9.00	
-Insecticides	0.00		0.00	
-Fertilizer	27.19		71.47	
-Crop Insurance	0.00		15.99	
-Fuel & Lubrication	20.45		17.48	
-Repairs	18.65		16.68	
-Drying	0.00		0.00	
-Miscellaneous	1.50		7.50	
-Operating Interest	1.71		3.73	
	=======	========	=======	=========
SUM OF LISTED DIRECT COSTS	82.09	-	179.36	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	7.32		6.77	
-Machinery Depreciation	21.72	-	19.36	
-Machinery Investment	12.99		10.66	
-Land Charge	66.80		66.80	
Land Onlingo	=======		=======	
SUM OF LISTED INDIRECT COSTS	108.84		103.58	
SUM OF ALL LISTED COSTS	190.92		282.94	
RETURN TO LABOR & MANAGEMENT	(37.92)		18.90	
LISTED COSTS PER BUDGET UNIT	(lb)		(bu)	
-Direct Costs	0.05		3.66	
-Indirect Costs	0.06		2.11	
-Total Costs	0.11		5.77	

#### Winter Wheat notes:

<sup>\*</sup>Yield is per harvested acre. There is some risk of acreage abandonment in spring.

## Rye

	Your	
	Per Acre	Figures
Market Yield	44	9
Market Price	7.15	
MARKET INCOME	314.60	
DIRECT COSTS		
-Seed	13.80	
-Herbicides	6.50	
-Fungicides	0.00	
-Insecticides	0.00	
-Fertilizer	62.53	
-Crop Insurance	12.10	
-Fuel & Lubrication	17.19	
-Repairs	16.30	
-Drying	0.00	
-Miscellaneous	7.50	
-Operating Interest	2.89	
Operating interest	=======	
SUM OF LISTED DIRECT COSTS	138.81	
COM OF EIGHED BIRLEOF COOFE	100.01	
INDIRECT (FIXED) COSTS		
-Misc. Overhead	6.72	
-Machinery Depreciation	19.16	
-Machinery Investment	10.67	
-Land Charge	66.80	
Earla Ghaige	======	
SUM OF LISTED INDIRECT COSTS	103.34	
SUM OF ALL LISTED COSTS	242.15	
RETURN TO LABOR & MANAGEMENT	72.45	
LISTED COSTS PER BUDGET UNIT	(bu)	
-Direct Costs	3.15	
-Indirect Costs	2.35	
-Total Costs	5.50	
=		

## 2014 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
FWA 140HP Tractor	125000	400 hr	20	39106	10.74 /hr	9.23 /hr	12.35 /hr	
FWA 180HP Tractor	169300	500 hr	15	48623	16.09 /hr	9.81 /hr	16.73 /hr	
4WD 340HP Tractor	223100	500 hr	15	64074	21.20 /hr	12.92 /hr	12.60 /hr	
SP Combine (base unit)	271000	250 hr	12	65426	68.52 /hr	30.28 /hr	42.70 /hr	
Tandem Truck (used)	37300	150 hr	15	11900	11.29 /hr	7.38 /hr	7.53 /hr	
Semi & Trailer (used)	41800	150 hr	10	12000	19.87 /hr	8.07 /hr	9.20 /hr	
Pick-up Truck	29500	300 hr	10	5800	7.90 /hr	2.65 /hr	3.40 /hr	
Swather 30 ft	29400	1000 ac	20	6971	1.12 /ac	0.82 /ac	0.48 /ac	13.1
Sprayer 90 ft	37300	5000 ac	10	18559	0.38 /ac	0.25 /ac	0.48 /ac	42.5
Chisel Plow 38 ft	41600	3000 ac	15	24336	0.38 /ac	0.49 /ac	0.92 /ac	19.6
Field Cultivator 48 ft	47700	3000 ac	15	27862	0.44 /ac	0.57 /ac	0.84 /ac	24.7
Tandem Disk 28 ft	33000	800 ac	20	9442	1.47 /ac	1.19 /ac	0.84 /ac	13.6
Heavy Harrow 70 ft	29800	2000 ac	20	17400	0.31 /ac	0.53 /ac	0.33 /ac	39.7
Air Seeder 40 ft	173800	2400 ac	10	88823	3.53 /ac	2.46 /ac	6.01 /ac	17.0
Planter 16-30	108400	1400 ac	15	45061	3.02 /ac	2.47 /ac	4.49 /ac	14.2
Corn head	56400	800 ac	12	16151	4.19 /ac	2.04 /ac	1.31 /ac	6.8
Grain head w/pu	15000	800 ac	20	1470	0.84 /ac	0.46 /ac	0.24 /ac	10.2
Grain str. cut 30 ft	25000	2000 ac	8	10096	0.93 /ac	0.39 /ac	0.39 /ac	10.2
Head w/sunf pans 30 ft	30100	600 ac	20	3079	2.25 /ac	1.24 /ac	0.47 /ac	10.2
Flex head 30 ft	37100	1000 ac	20	3400	1.68 /ac	0.91 /ac	0.57 /ac	10.2
Rock picker	21400	50 hr	20	6849	0.49 /ac	0.42 /ac	0.32 /ac	29.1
Grain Cart	29300	100 hr	20	5000	12.15 /hr	7.72 /hr	7.40 /hr	
Grain auger	12200	50 hr	20	710	11.49 /hr	5.81 /hr	4.60 /hr	

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