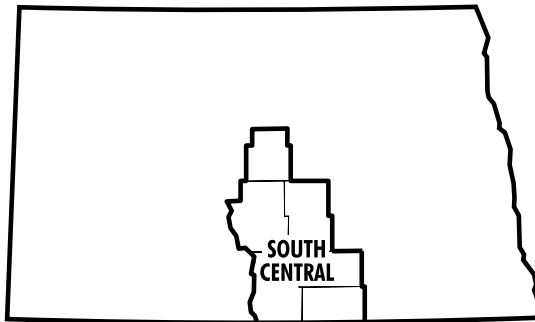




## Projected 2013 Crop Budgets



# South Central North Dakota

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

The 2013 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 2013 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.

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 \$6.50 per acre when averaged over all crop acreage. No payments from counter-cyclical type programs are 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, 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 2005-2011, 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 - 36 lb  
 Phosphorus - 9 ppm  
 Potassium - 328 ppm

**Fertilizer prices:**  
 Nitrogen - .58/lb  
 Phosphorus - .52/lb  
 Potassium - .48/lb

### Seed Prices:

Spring Wheat	13.20/bu
Durum	12.25/bu
Barley	11.00/bu
Corn grain RR/Bt	2.90/thou.kern.
Corn grain RR	2.60/thou.kern.
Soybean RR2	.37/thou.kern.
Dry Beans	.88/lb
Oil Sunflower	1.38/thou.kern.
Conf. Sunflower	2.42/thou.kern.
Canola	9.40/lb
Flax	18.00/bu
Field Peas	14.50/bu
Oats	6.50/bu
Mustard	1.70/lb
Buckwheat	.67/lb
Millet	.55/lb
Winter Wheat	11.25/bu
Rye	9.50/bu

### Fuel prices:

Diesel	3.40/gal
Gas	3.20/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, soybeans, corn, canola and sunflowers.

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

**Operating Interest:** Direct costs charged 4.60% 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

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	34	_____	34	_____
Market Price	8.78	_____	9.03*	_____
<b>MARKET INCOME</b>	<b>298.52</b>	_____	<b>307.02</b>	_____
<b>DIRECT COSTS</b>				
-Seed	19.80	_____	18.38	_____
-Herbicides	23.50	_____	23.50	_____
-Fungicides**	5.50	_____	5.50	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	53.97	_____	53.97	_____
-Crop Insurance	15.40	_____	17.20	_____
-Fuel & Lubrication	15.06	_____	15.06	_____
-Repairs	15.52	_____	15.52	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.00	_____	7.00	_____
-Operating Interest	3.58	_____	3.59	_____
<b>SUM OF LISTED DIRECT COSTS</b>	<b>159.32</b>	=====	<b>159.71</b>	=====
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	6.46	_____	6.46	_____
-Machinery Depreciation	18.29	_____	18.29	_____
-Machinery Investment	10.45	_____	10.45	_____
-Land Charge	51.80	_____	51.80	_____
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>87.00</b>	=====	<b>87.00</b>	=====
<b>SUM OF ALL LISTED COSTS</b>	<b>246.33</b>	_____	<b>246.71</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>52.19</b>	_____	<b>60.31</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(bu):</b>		<b>(bu):</b>	
-Direct Costs	4.69	_____	4.70	_____
-Indirect Costs	2.56	_____	2.56	_____
-Total Costs	7.24	_____	7.26	_____

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-\$4.50). 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 \$6.

## Malting Barley

## Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	57		98	
Market Price	6.58*		5.51	
<b>MARKET INCOME</b>	<b>375.06</b>		<b>539.98</b>	
<b>DIRECT COSTS</b>				
-Seed	16.50		69.58*	
-Herbicides	22.00		17.50	
-Fungicides	5.50**		0.00	
-Insecticides	0.00		0.00	
-Fertilizer	56.50		87.93	
-Crop Insurance	15.80		41.30	
-Fuel & Lubrication	18.82		24.10	
-Repairs	17.62		19.86	
-Drying	0.00		19.60	
-Miscellaneous	7.00		7.00	
-Operating Interest	3.67		6.60	
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>163.41</b>		<b>293.47</b>	
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	7.36		8.72	
-Machinery Depreciation	21.63		29.37	
-Machinery Investment	12.72		16.12	
-Land Charge	51.80		51.80	
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>93.51</b>		<b>106.01</b>	
<b>SUM OF ALL LISTED COSTS</b>	<b>256.92</b>		<b>399.48</b>	
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>118.14</b>		<b>140.50</b>	
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(bu):</b>		<b>(bu):</b>	
-Direct Costs	2.87		2.99	
-Indirect Costs	1.64		1.08	
-Total Costs	4.51		4.08	

**Barley notes:**

\*Use \$4.88 estimate for feed barley price.

\*\*Includes seed treatment (\$1.50-\$2.00) and early season foliar fungicide (\$2-\$4.50).

**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.

## Soybeans

## Drybeans\*

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	28	_____	1340	_____
Market Price	12.35	_____	0.32	_____
<b>MARKET INCOME</b>	<b>345.80</b>	_____	<b>428.80</b>	_____
<b>DIRECT COSTS</b>				
-Seed	64.75*	_____	44.00	_____
-Herbicides	17.50	_____	44.00**	_____
-Fungicides	0.00	_____	0.00***	_____
-Insecticides	7.00**	_____	0.00	_____
-Fertilizer	5.49	_____	39.09	_____
-Crop Insurance	22.00	_____	25.30	_____
-Fuel & Lubrication	15.09	_____	20.74	_____
-Repairs	15.97	_____	20.06	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.25	_____	12.25	_____
-Operating Interest	3.57	_____	4.73	_____
<b>SUM OF LISTED DIRECT COSTS</b>	<b>158.62</b>	=====	<b>210.16</b>	=====
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	6.49	_____	7.48	_____
-Machinery Depreciation	19.06	_____	25.18	_____
-Machinery Investment	10.75	_____	14.22	_____
-Land Charge	51.80	_____	51.80	_____
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>88.10</b>	=====	<b>98.68</b>	=====
<b>SUM OF ALL LISTED COSTS</b>	<b>246.72</b>	_____	<b>308.85</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>99.08</b>	_____	<b>119.95</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(bu):</b>		<b>(lb):</b>	
-Direct Costs	5.66	_____	0.16	_____
-Indirect Costs	3.15	_____	0.07	_____
-Total Costs	8.81	_____	0.23	_____

Soybean notes:

\*RR2 (glyphosate) resistant soybeans.

\*\*Soybean aphid and/or spider mite insecticide.

Drybean notes:

\*Acreage limitations existed under the 2008-2012 farm bill with possible forfeiture of government payments on base acres planted to drybeans. Rules for 2013 are unknown as of 12/15/2012.

\*\*Includes desiccant prior to straight cutting.

\*\*\*Fungicide for white mold would cost about \$18 plus application. 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	1470		1400	
Market Price	0.241		0.316	
<b>MARKET INCOME</b>	<b>354.27</b>		<b>442.40</b>	
<b>DIRECT COSTS</b>				
-Seed	30.36*		43.56*	
-Herbicides	31.40		33.50	
-Fungicides	0.00**		0.00**	
-Insecticides	7.00***		14.00***	
-Fertilizer	44.38		41.27	
-Crop Insurance	18.80		27.50	
-Fuel & Lubrication	17.46		17.29	
-Repairs	16.38		16.32	
-Drying	2.94		2.80	
-Miscellaneous	14.50		22.00	
-Operating Interest	4.21		5.02	
<b>SUM OF LISTED DIRECT COSTS</b>	<b>187.43</b>		<b>223.26</b>	
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	7.10		7.07	
-Machinery Depreciation	20.98		20.88	
-Machinery Investment	12.20		12.15	
-Land Charge	51.80		51.80	
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>92.09</b>		<b>91.89</b>	
<b>SUM OF ALL LISTED COSTS</b>	<b>279.52</b>		<b>315.16</b>	
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>74.75</b>		<b>127.24</b>	
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(lb):</b>		<b>(lb):</b>	
-Direct Costs	0.13		0.16	
-Indirect Costs	0.06		0.07	
-Total Costs	0.19		0.23	

**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 \$7.50 is under "Miscellaneous." Insecticide treatment for cutworms would cost about \$5 plus application (usually tank mixed with herbicide).

**Confectionery Sunflower notes:**

\*Cost includes seed treatment for control of wireworm and flea beetle.

\*\*Fungicide for rust would cost \$4 plus application.

\*\*\*Two sprayings for head feeding insects (red seed weevil, lygus bug and banded moths) at about \$7 per application. Each custom application cost of \$7.50 is under "Miscellaneous." Insecticide treatment for cutworms would cost about \$5 plus application (usually tank mixed with herbicide).

# Canola

# Flax

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1400	_____	18	_____
Market Price	0.241	_____	13.16	_____
<b>MARKET INCOME</b>	<b>337.40</b>	_____	<b>236.88</b>	_____
<b>DIRECT COSTS</b>				
-Seed	47.00*	_____	12.60	_____
-Herbicides	19.00	_____	24.50	_____
-Fungicides	0.00**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	73.07	_____	26.08	_____
-Crop Insurance	13.40	_____	10.70	_____
-Fuel & Lubrication	15.72	_____	15.84	_____
-Repairs	16.11	_____	16.62	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.00	_____	1.50	_____
-Operating Interest	4.40	_____	2.48	_____
<b>SUM OF LISTED DIRECT COSTS</b>	<b>195.69</b>	=====	<b>110.32</b>	=====
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	6.61	_____	6.70	_____
-Machinery Depreciation	19.51	_____	19.80	_____
-Machinery Investment	11.20	_____	11.75	_____
-Land Charge	51.80	_____	51.80	_____
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>89.12</b>	=====	<b>90.04</b>	=====
<b>SUM OF ALL LISTED COSTS</b>	<b>284.81</b>	_____	<b>200.36</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>52.59</b>	_____	<b>36.52</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(lb):</b>		<b>(bu):</b>	
-Direct Costs	0.14	_____	6.13	_____
-Indirect Costs	0.06	_____	5.00	_____
-Total Costs	0.20	_____	11.13	_____

Canola notes:

\*Cost includes insecticide seed treatment for flea beetles.

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

## Field Peas

## Oats

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	34		59	
Market Price	8.52*		3.34	
<b>MARKET INCOME</b>	<b>289.68</b>		<b>197.06</b>	
<b>DIRECT COSTS</b>				
-Seed	43.50**		13.00	
-Herbicides	30.50		8.50	
-Fungicides	1.50		0.00	
-Insecticides	0.00***		0.00	
-Fertilizer	9.93		47.92	
-Crop Insurance	9.10		13.70	
-Fuel & Lubrication	17.07		18.97	
-Repairs	17.41		17.68	
-Drying	0.00		0.00	
-Miscellaneous	9.25		7.00	
-Operating Interest	3.18		2.92	
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>141.44</b>		<b>129.68</b>	
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	6.82		7.40	
-Machinery Depreciation	21.26		21.72	
-Machinery Investment	11.64		12.77	
-Land Charge	51.80		51.80	
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>91.51</b>		<b>93.69</b>	
<b>SUM OF ALL LISTED COSTS</b>	<b>232.95</b>		<b>223.37</b>	
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>56.73</b>		<b>(26.31)</b>	
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(bu):</b>		<b>(bu):</b>	
-Direct Costs	4.16		2.20	
-Indirect Costs	2.69		1.59	
-Total Costs	6.85		3.79	

Field Pea notes:

\*Yellow pea food quality price. Use \$10 for green pea food quality and about \$6.50 for feed quality peas.

\*\*Yellow pea seed cost, use \$54 per acre for green peas.

\*\*\*Insecticide treatment for cutworms and/or pea aphids would cost about \$5 per acre plus application.



## Yellow Mustard

## Buckwheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	900	_____	900	_____
Market Price	0.389	_____	0.283	_____
<b>MARKET INCOME</b>	<b>350.10</b>	_____	<b>254.70</b>	_____
<b>DIRECT COSTS</b>				
-Seed	20.40	_____	33.50	_____
-Herbicides	18.50	_____	16.50	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	33.09	_____	17.49	_____
-Crop Insurance	0.00*	_____	16.90*	_____
-Fuel & Lubrication	15.69	_____	15.21	_____
-Repairs	16.57	_____	15.94	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.00	_____	1.50	_____
-Operating Interest	2.56	_____	2.69	_____
<b>SUM OF LISTED DIRECT COSTS</b>	<b>113.80</b>	=====	<b>119.73</b>	=====
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	6.66	_____	6.50	_____
-Machinery Depreciation	19.71	_____	19.19	_____
-Machinery Investment	11.70	_____	11.03	_____
-Land Charge	51.80	_____	51.80	_____
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>89.87</b>	=====	<b>88.53</b>	=====
<b>SUM OF ALL LISTED COSTS</b>	<b>203.68</b>	_____	<b>208.26</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>146.42</b>	_____	<b>46.44</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(lb):</b>		<b>(lb):</b>	
-Direct Costs	0.13	_____	0.13	_____
-Indirect Costs	0.10	_____	0.10	_____
-Total Costs	0.23	_____	0.23	_____

Yellow Mustard notes:

\*Crop insurance is not available in this region.

Buckwheat notes:

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

## Millet

## Winter Wheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1500	_____	45*	_____
Market Price	0.185	_____	8.05	_____
<b>MARKET INCOME</b>	<b>277.50</b>	_____	<b>362.25</b>	_____
<b>DIRECT COSTS</b>				
-Seed	13.75	_____	11.25	_____
-Herbicides	8.50	_____	20.80	_____
-Fungicides	0.00	_____	9.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	26.01	_____	78.18	_____
-Crop Insurance	0.00	_____	18.40	_____
-Fuel & Lubrication	16.76	_____	15.19	_____
-Repairs	16.93	_____	15.09	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	7.00	_____	7.00	_____
-Operating Interest	2.05	_____	4.02	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>90.99</b>	_____	<b>178.93</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	6.90	_____	6.43	_____
-Machinery Depreciation	20.36	_____	17.96	_____
-Machinery Investment	12.04	_____	10.00	_____
-Land Charge	51.80	_____	51.80	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>91.11</b>	_____	<b>86.19</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>182.10</b>	_____	<b>265.12</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>95.40</b>	_____	<b>97.13</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(lb):</b>		<b>(bu):</b>	
-Direct Costs	0.06	_____	3.98	_____
-Indirect Costs	0.06	_____	1.92	_____
-Total Costs	0.12	_____	5.89	_____

Winter Wheat notes:

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

# Rye

	Per Acre	Your Figures
Market Yield	41	_____
Market Price	7.18	_____
<b>MARKET INCOME</b>	<b>294.38</b>	_____
<b>DIRECT COSTS</b>		
-Seed	11.40	_____
-Herbicides	5.50	_____
-Fungicides	0.00	_____
-Insecticides	0.00	_____
-Fertilizer	69.38	_____
-Crop Insurance	9.90	_____
-Fuel & Lubrication	15.11	_____
-Repairs	14.96	_____
-Drying	0.00	_____
-Miscellaneous	7.00	_____
-Operating Interest	3.06	_____
	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>136.30</b>	_____
<b>INDIRECT (FIXED) COSTS</b>		
-Misc. Overhead	6.44	_____
-Machinery Depreciation	18.00	_____
-Machinery Investment	10.17	_____
-Land Charge	51.80	_____
	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>86.41</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>222.71</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>71.67</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(bu):</b>	
-Direct Costs	3.32	_____
-Indirect Costs	2.11	_____
-Total Costs	5.43	_____

notes:

# 2013 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
FWA 120HP Tractor	122500	400hr	20	37244	10.66 /hr	8.99 /hr	11.76 /hr	
FWA 180HP Tractor	166000	500hr	15	46377	15.95 /hr	9.56 /hr	15.96 /hr	
4WD 330HP Tractor	218800	500hr	15	61022	21.04 /hr	12.59 /hr	12.00 /hr	
SP Combine (base unit)	268400	250hr	12	62943	68.49 /hr	29.82 /hr	41.08 /hr	
Tandem Truck (used)	36600	150hr	15	11700	11.07 /hr	7.25 /hr	7.33 /hr	
Semi & Trailer (used)	41000	150hr	10	11800	19.47 /hr	7.92 /hr	8.93 /hr	
Pick-up Truck	28900	300hr	10	5700	7.47 /hr	2.60 /hr	3.30 /hr	
Swather 25 ft	23100	1000ac	20	5460	0.88 /ac	0.64 /ac	0.40 /ac	12.1
Sprayer 90 ft	36600	5000ac	10	18179	0.37 /ac	0.25 /ac	0.47 /ac	42.5
Heavy Harrow 70 ft	29200	2000ac	20	17060	0.30 /ac	0.52 /ac	0.33 /ac	39.7
Air Seeder 40 ft	170400	2400ac	12	80295	3.12 /ac	2.35 /ac	5.89 /ac	17.0
Planter 16-30	106300	1400ac	15	44178	2.96 /ac	2.42 /ac	4.41 /ac	14.2
Corn head	55300	800ac	12	15834	4.10 /ac	2.00 /ac	1.28 /ac	6.8
Grain head w/pu	14700	800ac	15	3064	0.97 /ac	0.50 /ac	0.28 /ac	8.5
Grain str. cut 30 ft	24500	2000ac	8	9890	0.91 /ac	0.39 /ac	0.38 /ac	10.2
Head w/sunf pans 30 ft	29500	600ac	20	3018	2.20 /ac	1.22 /ac	0.46 /ac	10.2
Soybeans str. cut 30 ft	36300	1000ac	20	3330	1.65 /ac	0.89 /ac	0.56 /ac	10.2
Rock picker	21000	50hr	20	6712	0.48 /ac	0.42 /ac	0.31 /ac	29.1
Grain Cart	28700	100hr	20	4900	11.90 /hr	7.56 /hr	7.20 /hr	
Grain auger	12000	50hr	20	700	11.30 /hr	5.72 /hr	4.50 /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				0.71	0.72
2	Spray (burn-down)	90	6.0	42.5	0.48	0.74
3	Plant	40	5.0	17.0	3.35	6.61
4	Spray	90	6.0	42.5	0.48	0.74
5	Combine	30	4.0	10.2	4.56	4.41
6	Heavy Harrow	70	5.5	39.7	0.78	0.73
	Grain Cart*				0.89	0.23
	Trucks*				1.71	0.65
	Grain auger (pto)				0.23	0.09
	Pickup truck allocation				1.86	0.71
				Total	15.06	15.52

\* Truck costs will vary between crops.

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