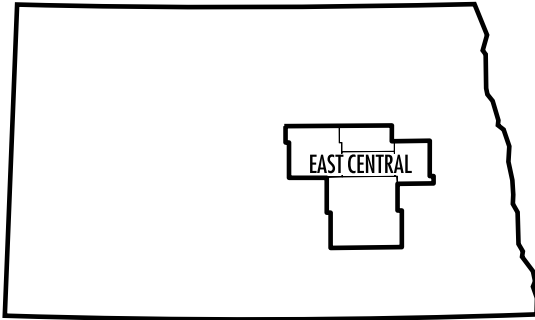




# FARM MANAGEMENT PLANNING GUIDE

February 2023

## Projected 2023 Crop Budgets



# East Central North Dakota

Ron Haugen, Farm Management Specialist

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

The 2023 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 2023 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.

**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 2015-2021, 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.

### Fertilizer prices:

Nitrogen	- .71/lb
Phosphorus	- .61/lb
Potassium	- .65/lb

### Seed Prices:

Spring Wheat	16.00/bu
Durum	18.00/bu
Barley	15.50/bu
Corn GM	2.96/thou.kern.
Soybean GM	.34/thou.kern.
Dry Beans	.75/thou.kern.
Oil Sunflower	1.71/thou.kern.
Conf. Sunflower	3.02/thou.kern.
Canola	14.80/lb
Flax	30.00/bu
Field Peas	20.00/bu
Oats	10.00/bu
Mustard	.98/lb
Buckwheat	.50/lb
Millet	.60/lb
Winter Wheat	13.50/bu
Rye	11.00/bu

### Fuel prices:

Diesel	3.90/gal
Gas	3.45/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 7.5% 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, \$5.00 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:** 4.0% 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	54	_____	55	_____
Market Price	8.08	_____	9.06*	_____
<b>MARKET REVENUE</b>	<b>436.32</b>	_____	<b>498.30</b>	_____
<b>DIRECT COSTS</b>				
-Seed	28.00	_____	31.50	_____
-Herbicides	30.90	_____	30.90	_____
-Fungicides**	18.50	_____	18.50	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	121.96	_____	124.59	_____
-Crop Insurance	7.50	_____	9.50	_____
-Fuel & Lubrication	25.10	_____	25.18	_____
-Repairs	21.54	_____	21.57	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.75	_____	1.75	_____
-Operating Interest	9.57	_____	9.88	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>264.82</b>	_____	<b>273.37</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	9.96	_____	9.98	_____
-Machinery Depreciation	25.09	_____	25.15	_____
-Machinery Investment	13.03	_____	13.06	_____
-Land Charge	70.00	_____	70.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>118.08</b>	_____	<b>118.19</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>382.90</b>	_____	<b>391.56</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>53.42</b>	_____	<b>106.74</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(bu):</b>		<b>(bu):</b>	
-Direct Costs	4.90	_____	4.97	_____
-Indirect Costs	2.19	_____	2.15	_____
-Total Costs	7.09	_____	7.12	_____

**Wheat notes:**

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

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

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

## Malting Barley

## Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	70	_____	141	_____
Market Price	6.43*	_____	5.25	_____
<b>MARKET REVENUE</b>	450.10	_____	740.25	_____
<b>DIRECT COSTS</b>				
-Seed	27.13	_____	93.24*	_____
-Herbicides	23.90	_____	48.90	_____
-Fungicides	18.50**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	93.86	_____	167.70	_____
-Crop Insurance	5.00	_____	12.50	_____
-Fuel & Lubrication	26.28	_____	38.80	_____
-Repairs	21.73	_____	29.11	_____
-Drying	0.00	_____	28.20	_____
-Miscellaneous	1.75	_____	1.75	_____
-Operating Interest	8.18	_____	15.76	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	226.33	_____	435.96	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	10.34	_____	13.68	_____
-Machinery Depreciation	26.35	_____	42.97	_____
-Machinery Investment	13.64	_____	21.61	_____
-Land Charge	70.00	_____	70.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	120.33	_____	148.26	_____
<b>SUM OF ALL LISTED COSTS</b>	346.66	_____	584.22	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	103.44	_____	156.03	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	(bu):		(bu):	
-Direct Costs	3.23	_____	3.09	_____
-Indirect Costs	1.72	_____	1.05	_____
-Total Costs	4.95	_____	4.14	_____

**Barley notes:**

\*There is risk of not making malting barley quality. Use \$4.50 for feed barley.

\*\*Includes seed treatment, an early season foliar fungicide, and a late season fungicide which is 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	34	_____	1580	_____
Market Price	12.25	_____	0.36	_____
<b>MARKET REVENUE</b>	<b>416.50</b>	_____	<b>568.80</b>	_____
<b>DIRECT COSTS</b>				
-Seed	65.80*	_____	61.88	_____
-Herbicides	50.40	_____	46.90*	_____
-Fungicides	0.00	_____	20.00**	_____
-Insecticides	4.00**	_____	0.00	_____
-Fertilizer	11.15	_____	45.78	_____
-Crop Insurance	6.00	_____	10.50	_____
-Fuel & Lubrication	21.31	_____	27.85	_____
-Repairs	20.37	_____	25.02	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	5.25	_____	14.25	_____
-Operating Interest	6.91	_____	9.46	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>191.19</b>	_____	<b>261.64</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	9.59	_____	10.66	_____
-Machinery Depreciation	24.48	_____	30.56	_____
-Machinery Investment	12.56	_____	15.94	_____
-Land Charge	70.00	_____	70.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>116.63</b>	_____	<b>127.16</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>307.82</b>	_____	<b>388.80</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>108.68</b>	_____	<b>180.00</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(bu):</b>		<b>(lb):</b>	
-Direct Costs	5.62	_____	0.166	_____
-Indirect Costs	3.43	_____	0.080	_____
-Total Costs	9.05	_____	0.246	_____

**Soybean notes:**

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

\*\*Insecticide for soybean aphid, spider mite or foliar-feeding caterpillars.

**Drybean notes:**

\*Includes dessicant prior to straight cutting.

\*\*Fungicide for white mold. A second treatment may be necessary. Fungicide for rust at \$4-\$12 plus application maybe necessary.

## Oil Sunflower

## Confection Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1890	_____	1570	_____
Market Price	0.253	_____	0.354	_____
<b>MARKET REVENUE</b>	<b>478.17</b>	_____	<b>555.78</b>	_____
<b>DIRECT COSTS</b>				
-Seed	37.62	_____	57.38	_____
-Herbicides	35.90	_____	39.00	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	5.00**	_____	10.00**	_____
-Fertilizer	80.27	_____	63.32	_____
-Crop Insurance	10.00	_____	15.50	_____
-Fuel & Lubrication	26.67	_____	25.80	_____
-Repairs	21.97	_____	21.68	_____
-Drying	5.49	_____	4.05	_____
-Miscellaneous	10.75	_____	19.75	_____
-Operating Interest	8.76	_____	9.62	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>242.43</b>	_____	<b>266.10</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	10.74	_____	10.55	_____
-Machinery Depreciation	27.89	_____	27.30	_____
-Machinery Investment	15.18	_____	14.91	_____
-Land Charge	70.00	_____	70.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>123.81</b>	_____	<b>122.76</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>366.24</b>	_____	<b>388.86</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>111.93</b>	_____	<b>166.92</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(lb):</b>		<b>(lb):</b>	
-Direct Costs	0.128	_____	0.169	_____
-Indirect Costs	0.066	_____	0.078	_____
-Total Costs	0.194	_____	0.248	_____

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."

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."

## Canola

## Flax

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1660	_____	18	_____
Market Price	0.261	_____	14.16	_____
<b>MARKET REVENUE</b>	<b>433.26</b>	_____	<b>254.88</b>	_____
<b>DIRECT COSTS</b>				
-Seed	74.00	_____	30.00	_____
-Herbicides	28.00	_____	34.30	_____
-Fungicides	0.00*	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	112.17	_____	36.09	_____
-Crop Insurance	8.00	_____	12.00	_____
-Fuel & Lubrication	24.21	_____	23.75	_____
-Repairs	21.24	_____	22.06	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.75	_____	1.75	_____
-Operating Interest	10.10	_____	6.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>279.47</b>	_____	<b>165.95</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	9.70	_____	9.76	_____
-Machinery Depreciation	25.57	_____	25.74	_____
-Machinery Investment	12.97	_____	13.54	_____
-Land Charge	70.00	_____	70.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>118.24</b>	_____	<b>119.04</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>397.71</b>	_____	<b>284.99</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>35.55</b>	_____	<b>(30.11)</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(lb):</b>		<b>(bu):</b>	
-Direct Costs	0.168	_____	9.22	_____
-Indirect Costs	0.071	_____	6.61	_____
-Total Costs	0.240	_____	15.83	_____

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	32	_____	80	_____
Market Price	9.00	_____	2.95	_____
<b>MARKET REVENUE</b>	<b>288.00</b>	_____	<b>236</b>	_____
<b>DIRECT COSTS</b>				
-Seed	60.00	_____	20.00	_____
-Herbicides	42.50	_____	6.50	_____
-Fungicides	3.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	12.02	_____	91.70	_____
-Crop Insurance	6.00	_____	12.00	_____
-Fuel & Lubrication	24.87	_____	29.54	_____
-Repairs	22.69	_____	23.37	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.75	_____	1.75	_____
-Operating Interest	6.78	_____	6.93	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>187.61</b>	_____	<b>191.79</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	10.00	_____	10.93	_____
-Machinery Depreciation	27.15	_____	28.84	_____
-Machinery Investment	13.85	_____	15.07	_____
-Land Charge	70.00	_____	70.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>121.00</b>	_____	<b>124.84</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>308.61</b>	_____	<b>316.63</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>(20.61)</b>	_____	<b>(80.63)</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>				
	(bu):		(bu):	
-Direct Costs	5.86	_____	2.40	_____
-Indirect Costs	3.78	_____	1.56	_____
-Total Costs	9.64	_____	3.96	_____

Field Pea notes:

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



## Yellow Mustard

## Buckwheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	800	_____	950	_____
Market Price	0.55	_____	0.364	_____
<b>MARKET REVENUE</b>	<b>440.00</b>	_____	<b>345.80</b>	_____
<b>DIRECT COSTS</b>				
-Seed	13.72	_____	25.00	_____
-Herbicides	19.40	_____	14.30	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	6.00*	_____	0.00	_____
-Fertilizer	37.49	_____	28.66	_____
-Crop Insurance	0.00**	_____	9.50*	_____
-Fuel & Lubrication	22.77	_____	23.16	_____
-Repairs	21.11	_____	21.25	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.75	_____	1.75	_____
-Operating Interest	4.58	_____	4.64	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>126.82</b>	_____	<b>128.26</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	9.59	_____	9.71	_____
-Machinery Depreciation	24.61	_____	24.92	_____
-Machinery Investment	13.17	_____	13.29	_____
-Land Charge	70.00	_____	70.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>117.37</b>	_____	<b>117.92</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>244.19</b>	_____	<b>246.18</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>195.81</b>	_____	<b>99.62</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(lb):</b>		<b>(lb):</b>	
-Direct Costs	0.159	_____	0.135	_____
-Indirect Costs	0.147	_____	0.124	_____
-Total Costs	0.305	_____	0.259	_____

### Yellow Mustard notes:

\*Insecticide seed treatment for flea beetles.

\*\*Crop insurance is not available in this region.

### Buckwheat notes:

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

## Millet

## Winter Wheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1700	_____	59*	_____
Market Price	0.19	_____	7.07	_____
<b>MARKET INCOME</b>	<b>323.00</b>	_____	<b>417.13</b>	_____
<b>DIRECT COSTS</b>				
-Seed	15.00	_____	16.20	_____
-Herbicides	4.10	_____	34.00	_____
-Fungicides	0.00	_____	10.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	43.69	_____	135.09	_____
-Crop Insurance	0.00	_____	7.50	_____
-Fuel & Lubrication	25.59	_____	21.87	_____
-Repairs	22.04	_____	19.13	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.75	_____	8.75	_____
-Operating Interest	4.21	_____	9.47	_____
	=====	=====	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>116.38</b>	_____	<b>262.01</b>	_____
<b>INDIRECT (FIXED) COSTS</b>				
-Misc. Overhead	10.04	_____	9.39	_____
-Machinery Depreciation	26.16	_____	22.74	_____
-Machinery Investment	13.86	_____	11.17	_____
-Land Charge	70.00	_____	70.00	_____
	=====	=====	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>120.06</b>	_____	<b>113.30</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>236.44</b>	_____	<b>375.31</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>86.56</b>	_____	<b>41.82</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	<b>(lb):</b>		<b>(bu):</b>	
-Direct Costs	0.068	_____	4.44	_____
-Indirect Costs	0.071	_____	1.92	_____
-Total Costs	0.139	_____	6.36	_____

Winter Wheat notes:

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

# Rye

	Per Acre	Your Figures
Market Yield	47	_____
Market Price	7.15	_____
<b>MARKET REVENUE</b>	<b>336.05</b>	_____
<b>DIRECT COSTS</b>		
-Seed	13.20	_____
-Herbicides	10.00	_____
-Fungicides	0.00	_____
-Insecticides	0.00	_____
-Fertilizer	103.57	_____
-Crop Insurance	14.00	_____
-Fuel & Lubrication	20.94	_____
-Repairs	18.48	_____
-Drying	0.00	_____
-Miscellaneous	8.75	_____
-Operating Interest	7.09	_____
	=====	=====
<b>SUM OF LISTED DIRECT COSTS</b>	<b>196.03</b>	_____
<b>INDIRECT (FIXED) COSTS</b>		
-Misc. Overhead	9.20	_____
-Machinery Depreciation	22.09	_____
-Machinery Investment	11.00	_____
-Land Charge	70.00	_____
	=====	=====
<b>SUM OF LISTED INDIRECT COSTS</b>	<b>112.29</b>	_____
<b>SUM OF ALL LISTED COSTS</b>	<b>308.32</b>	_____
<b>RETURN TO LABOR &amp; MANAGEMENT</b>	<b>27.73</b>	_____
<b>LISTED COSTS PER BUDGET UNIT</b>	(bu):	
-Direct Costs	4.17	_____
-Indirect Costs	2.39	_____
-Total Costs	6.56	_____

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