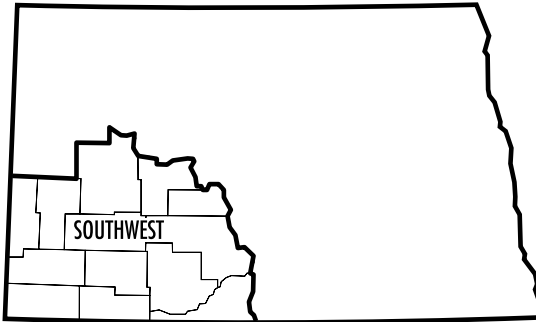




FARM MANAGEMENT PLANNING GUIDE

February 2024

Projected 2024 Crop Budgets



South West North Dakota

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Note: This region consists of thirteen counties:
Adams, Billings, Bowman, Dunn, Golden Valley, Grant,
Hettinger, Mercer, Morton, Oliver, Sioux, Slope and Stark.

The 2024 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 2024 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 2016-2022, 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	- .53/lb
Phosphorus	- .67/lb
Potassium	- .44/lb

Seed Prices:

Spring Wheat	15.00/bu
Durum	17.00/bu
Barley	12.00/bu
Corn GM	3.00/thou.kern.
Soybean GM	.34/thou.kern.
Oil Sunflower	1.71/thou.kern.
Conf. Sunflower	3.02/thou.kern.
Canola	15.80/lb
Flax	20.00/bu
Field Peas	20.00/bu
Oats	9.00/bu
Lentils	.30/lb
Mustard	.98/lb
Safflower	.51/lb
Buckwheat	.52/lb
Millet	.60/lb
Large Chickpeas	.70/lb
Winter Wheat	13.00/bu
Rye	11.00/bu

Fuel prices:

Diesel	3.55/gal
Gasoline	2.90/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 8.0% 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	35	_____	35	_____
Market Price	6.91	_____	8.19*	_____
MARKET REVENUE	241.85	_____	286.65	_____
DIRECT COSTS				
-Seed	22.50	_____	29.75	_____
-Herbicides	28.70	_____	28.70	_____
-Fungicides**	6.50	_____	6.50	_____
-Insecticides***	0.00	_____	0.00	_____
-Fertilizer	51.70	_____	51.70	_____
-Crop Insurance	5.30	_____	6.70	_____
-Fuel & Lubrication	16.06	_____	16.06	_____
-Repairs	18.82	_____	18.82	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	9.50	_____
-Operating Interest	6.36	_____	6.71	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	165.44	_____	174.44	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.03	_____	9.03	_____
-Machinery Depreciation	22.44	_____	22.44	_____
-Machinery Investment	10.86	_____	10.86	_____
-Land Charge	40.00	_____	40.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	82.33	_____	82.33	_____
SUM OF ALL LISTED COSTS	247.77	_____	256.77	_____
RETURN TO LABOR & MANAGEMENT	(5.92)	_____	29.88	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.73	_____	4.98	_____
-Indirect Costs	2.35	_____	2.35	_____
-Total Costs	7.08	_____	7.34	_____

Wheat notes:

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

**Includes seed treatment and early season foliar fungicide. Although late season fungicides are often not common in this region, prothioconazole, metconazole, or pydiflumetofen containing products are recommended for fusarium head blight (scab) control when conditions are favorable for infection.

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

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	50	_____	74	_____
Market Price	5.32*	_____	4.40	_____
MARKET REVENUE	266	_____	325.60	_____
DIRECT COSTS				
-Seed	16.20	_____	69.00*	_____
-Herbicides	27.90	_____	23.60	_____
-Fungicides	6.50**	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	43.60	_____	56.92	_____
-Crop Insurance	5.50	_____	10.50**	_____
-Fuel & Lubrication	17.24	_____	21.47	_____
-Repairs	19.30	_____	22.81	_____
-Drying	0.00	_____	14.80	_____
-Miscellaneous	9.50	_____	9.50	_____
-Operating Interest	5.83	_____	9.14	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	151.57	_____	237.74	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.33	_____	11.43	_____
-Machinery Depreciation	23.43	_____	35.18	_____
-Machinery Investment	11.29	_____	16.89	_____
-Land Charge	40.00	_____	40.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	84.05	_____	103.50	_____
SUM OF ALL LISTED COSTS	235.62	_____	341.24	_____
RETURN TO LABOR & MANAGEMENT	30.38	_____	(15.64)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	3.03	_____	3.21	_____
-Indirect Costs	1.68	_____	1.40	_____
-Total Costs	4.71	_____	4.61	_____

Barley notes:

*There is risk of not making malting barley quality. Use \$3.75 for feed barley.

**Includes seed treatment and early season foliar fungicide. Although late season fungicides are often not common in this region, prothioconazole, metconazole, or pydiflumetofen containing products are recommended for fusarium head blight (scab) control when conditions are favorable for infection.

Corn notes:

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

**Crop insurance is only available in Billings county by written agreement.

Soybeans

Oil Sunflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	27	_____	1600	_____
Market Price	10.85	_____	0.198	_____
MARKET REVENUE	292.95	_____	316.80	_____
DIRECT COSTS				
-Seed	62.40*	_____	35.91	_____
-Herbicides	14.70	_____	37.20	_____
-Fungicides	0.00	_____	0.00*	_____
-Insecticides	0.00	_____	5.00**	_____
-Fertilizer	3.39	_____	46.37	_____
-Crop Insurance	6.20**	_____	7.50	_____
-Fuel & Lubrication	16.35	_____	17.97	_____
-Repairs	19.35	_____	20.42	_____
-Drying	0.00	_____	6.40	_____
-Miscellaneous	5.50	_____	19.00	_____
-Operating Interest	5.12	_____	7.83	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	133.01	_____	203.60	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.24	_____	9.91	_____
-Machinery Depreciation	23.97	_____	26.33	_____
-Machinery Investment	11.72	_____	12.99	_____
-Land Charge	40.00	_____	40.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	84.93	_____	89.23	_____
SUM OF ALL LISTED COSTS	217.94	_____	292.83	_____
RETURN TO LABOR & MANAGEMENT	75.01	_____	23.97	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	4.93	_____	0.127	_____
-Indirect Costs	3.15	_____	0.056	_____
-Total Costs	8.07	_____	0.183	_____

Soybean notes:

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

**Crop insurance is only available by written agreement in some counties of region.

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

Canola

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1660	_____	1620	_____
Market Price	0.306	_____	0.21	_____
MARKET REVENUE	507.96	_____	340.20	_____
DIRECT COSTS				
-Seed	54.36	_____	79.00	_____
-Herbicides	40.20	_____	15.60	_____
-Fungicides	0.00*	_____	0.00*	_____
-Insecticides	10.00**	_____	0.00	_____
-Fertilizer	48.78	_____	83.94	_____
-Crop Insurance	17.00	_____	11.50	_____
-Fuel & Lubrication	18.12	_____	17.45	_____
-Repairs	20.48	_____	20.32	_____
-Drying	6.64	_____	0.00	_____
-Miscellaneous	28.50	_____	9.50	_____
-Operating Interest	9.76	_____	9.49	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	253.84	_____	246.80	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.94	_____	9.35	_____
-Machinery Depreciation	26.46	_____	25.03	_____
-Machinery Investment	13.04	_____	11.96	_____
-Land Charge	40.00	_____	40.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	89.44	_____	86.34	_____
SUM OF ALL LISTED COSTS	343.28	_____	333.14	_____
RETURN TO LABOR & MANAGEMENT	164.68	_____	7.06	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.153	_____	0.152	_____
-Indirect Costs	0.054	_____	0.053	_____
-Total Costs	0.207	_____	0.206	_____

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 notes:

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

Flax

Field Peas

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	18	_____	31	_____
Market Price	11.08	_____	8.52	_____
MARKET REVENUE	199.44	_____	264.12	_____
DIRECT COSTS				
-Seed	16.00	_____	60.00	_____
-Herbicides	29.00	_____	39.70	_____
-Fungicides	0.00	_____	3.00	_____
-Insecticides	0.00	_____	6.00*	_____
-Fertilizer	24.39	_____	9.50	_____
-Crop Insurance	11.50	_____	7.50	_____
-Fuel & Lubrication	16.89	_____	17.34	_____
-Repairs	20.74	_____	21.34	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	2.00	_____	6.50	_____
-Operating Interest	4.82	_____	6.84	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	125.34	_____	177.72	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.35	_____	9.58	_____
-Machinery Depreciation	24.82	_____	26.16	_____
-Machinery Investment	12.34	_____	12.61	_____
-Land Charge	40.00	_____	40.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	86.51	_____	88.35	_____
SUM OF ALL LISTED COSTS	211.85	_____	266.07	_____
RETURN TO LABOR & MANAGEMENT	(12.41)	_____	(1.95)	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	6.96	_____	5.73	_____
-Indirect Costs	4.81	_____	2.85	_____
-Total Costs	11.77	_____	8.58	_____

Field Pea notes:

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

Oats

Lentils

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	59	_____	1300	_____
Market Price	2.96	_____	0.30	_____
MARKET REVENUE	174.64	_____	390.00	_____
DIRECT COSTS				
-Seed	18.00	_____	21.00	_____
-Herbicides	12.30	_____	39.20*	_____
-Fungicides	0.00	_____	16.00**	_____
-Insecticides	0.00	_____	0.00***	_____
-Fertilizer	44.36	_____	6.64	_____
-Crop Insurance	12.50	_____	9.50	_____
-Fuel & Lubrication	20.33	_____	20.52	_____
-Repairs	21.43	_____	24.95	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	10.00	_____
-Operating Interest	5.54	_____	5.91	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	143.96	_____	153.72	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.17	_____	10.14	_____
-Machinery Depreciation	26.73	_____	30.41	_____
-Machinery Investment	13.50	_____	14.57	_____
-Land Charge	40.00	_____	40.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	90.40	_____	95.12	_____
SUM OF ALL LISTED COSTS	234.36	_____	248.84	_____
RETURN TO LABOR & MANAGEMENT	(59.72)	_____	141.16	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	2.44	_____	0.118	_____
-Indirect Costs	1.53	_____	0.073	_____
-Total Costs	3.97	_____	0.191	_____

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

Safflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	750	_____	1050	_____
Market Price	0.45	_____	0.27	_____
MARKET REVENUE	337.50	_____	283.50	_____
DIRECT COSTS				
-Seed	11.27	_____	12.75	_____
-Herbicides	22.60	_____	16.40	_____
-Fungicides	0.00	_____	18.00*	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	23.07	_____	25.56	_____
-Crop Insurance	25.50*	_____	15.00	_____
-Fuel & Lubrication	17.32	_____	15.45	_____
-Repairs	20.85	_____	19.37	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.50	_____	9.50	_____
-Operating Interest	5.20	_____	5.28	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	135.31	_____	137.31	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.52	_____	8.99	_____
-Machinery Depreciation	24.44	_____	22.36	_____
-Machinery Investment	12.99	_____	10.97	_____
-Land Charge	40.00	_____	40.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	86.95	_____	82.32	_____
SUM OF ALL LISTED COSTS	222.26	_____	219.63	_____
RETURN TO LABOR & MANAGEMENT	115.24	_____	63.87	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.180	_____	0.131	_____
-Indirect Costs	0.116	_____	0.078	_____
-Total Costs	0.296	_____	0.209	_____

Yellow Mustard notes:

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

Safflower notes:

*Fungicide for alternaria leaf spot.

Buckwheat

Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	850	_____	1400	_____
Market Price	0.319	_____	0.11	_____
MARKET REVENUE	271.15	_____	154.00	_____
DIRECT COSTS				
-Seed	26.00	_____	15.00	_____
-Herbicides	20.70	_____	11.10	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	15.06	_____	21.59	_____
-Crop Insurance	7.50*	_____	0.00	_____
-Fuel & Lubrication	16.70	_____	17.90	_____
-Repairs	20.01	_____	20.44	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	2.00	_____	9.50	_____
-Operating Interest	4.32	_____	3.82	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	112.29	_____	99.35	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	9.32	_____	9.55	_____
-Machinery Depreciation	23.80	_____	24.68	_____
-Machinery Investment	12.21	_____	12.62	_____
-Land Charge	40.00	_____	40.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	85.33	_____	86.85	_____
SUM OF ALL LISTED COSTS	197.62	_____	186.20	_____
RETURN TO LABOR & MANAGEMENT	73.53	_____	(32.20)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.132	_____	0.071	_____
-Indirect Costs	0.100	_____	0.062	_____
-Total Costs	0.232	_____	0.133	_____

Buckwheat notes:

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

Large Chickpea Winter Wheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1400	_____	39*	_____
Market Price	0.32	_____	5.90	_____
MARKET REVENUE	448.00	_____	230.10	_____
DIRECT COSTS				
-Seed	98.00	_____	13.00	_____
-Herbicides	47.90	_____	24.60	_____
-Fungicides	36.00*	_____	10.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	20.57	_____	59.67	_____
-Crop Insurance	9.50	_____	5.30	_____
-Fuel & Lubrication	21.29	_____	16.06	_____
-Repairs	25.99	_____	18.98	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	9.00	_____	9.50	_____
-Operating Interest	10.73	_____	6.29	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	278.98	_____	163.40	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	10.36	_____	9.01	_____
-Machinery Depreciation	31.31	_____	22.40	_____
-Machinery Investment	15.15	_____	10.66	_____
-Land Charge	40.00	_____	40.00	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	96.82	_____	82.07	_____
SUM OF ALL LISTED COSTS	375.80	_____	245.47	_____
RETURN TO LABOR & MANAGEMENT	72.20	_____	(15.37)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.199	_____	4.19	_____
-Indirect Costs	0.069	_____	2.10	_____
-Total Costs	0.268	_____	6.29	_____

Large Chickpea notes:

*Two fungicide treatments for ascochyta blight. Additional treatments may be necessary.

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	6.11	_____
MARKET REVENUE	250.51	_____
DIRECT COSTS		
-Seed	13.20	_____
-Herbicides	4.00	_____
-Fungicides	0.00	_____
-Insecticides	0.00	_____
-Fertilizer	63.66	_____
-Crop Insurance	11.00	_____
-Fuel & Lubrication	15.86	_____
-Repairs	18.01	_____
-Drying	0.00	_____
-Miscellaneous	9.50	_____
-Operating Interest	5.41	_____
	=====	=====
SUM OF LISTED DIRECT COSTS	140.64	_____
INDIRECT (FIXED) COSTS		
-Misc. Overhead	8.97	_____
-Machinery Depreciation	22.02	_____
-Machinery Investment	10.49	_____
-Land Charge	40.00	_____
	=====	=====
SUM OF LISTED INDIRECT COSTS	81.48	_____
SUM OF ALL LISTED COSTS	222.12	_____
RETURN TO LABOR & MANAGEMENT	28.39	_____
LISTED COSTS PER BUDGET UNIT	(bu):	
-Direct Costs	3.43	_____
-Indirect Costs	1.99	_____
-Total Costs	5.42	_____

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