

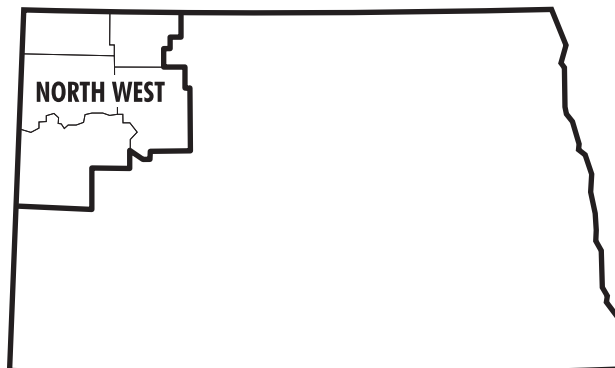
Farm Management Planning Guide



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Projected 2011 Crop Budgets North West North Dakota

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The 2011 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 2011 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.

NDSU
Extension Service

North Dakota State University, Fargo, ND 58108

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.

Direct and counter-cyclical payments under the Farm Bill are 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 are \$7.50 per acre when averaged over all crop acreage. Counter-cyclical payments, which occur if the national average price of program crops are below a certain level, are not 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 2003-2009, 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 - 32 lb
 Phosphorus - 6 ppm
 Potassium - 328 ppm

Fertilizer prices:

Nitrogen - .48/lb
 Phosphorus - .56/lb
 Potassium - .46/lb

Seed Prices:

Spring Wheat 11.00/bu
 Durum 10.50/bu
 Barley 7.50/bu
 Corn grain RR 2.15/thou.kern.
 Oil Sunflower 1.30/thou.kern.
 Canola 8.50/lb
 Flax 17.50/bu
 Field Peas 10.50/bu
 Oats 5.75/bu
 Lentils .43/lb
 Mustard 1.10/lb
 Safflower .40/lb
 Buckwheat .54/lb
 Millet .26/lb
 Small Chickpeas .58/lb
 Winter Wheat 9.50/bu
 Rye 6.00/bu

Fuel prices:

Diesel 3.00/gal
 Gas 3.00/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, soybeans, canola and sunflowers.

Miscellaneous: soil testing, machinery rent and custom work.

Operating Interest: Direct costs charged 5.00% 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	29		29	
Market Price	7.00		7.31*	
MARKET INCOME	203.00		211.99	
DIRECT COSTS				
-Seed	13.75		15.75	
-Herbicides	20.00		20.00	
-Fungicides**	1.50		1.50	
-Insecticides***	0.00		0.00	
-Fertilizer	44.00		44.00	
-Crop Insurance	12.50		13.40	
-Fuel & Lubrication	11.29		11.29	
-Repairs	12.87		12.87	
-Drying	0.00		0.00	
-Miscellaneous	6.50		6.50	
-Operating Interest	3.06		3.13	
SUM OF LISTED DIRECT COSTS	125.47		128.45	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	5.68		5.68	
-Machinery Depreciation	14.56		14.56	
-Machinery Investment	8.07		8.07	
-Land Charge	31.30		31.30	
SUM OF LISTED INDIRECT COSTS	59.62		59.62	
SUM OF ALL LISTED COSTS	185.09		188.06	
RETURN TO LABOR & MANAGEMENT	17.91		23.93	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	4.33		4.43	
-Indirect Costs	2.06		2.06	
-Total Costs	6.38		6.48	

Wheat notes:

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

**Early season foliar fungicide would cost about \$3-\$4.50 and late season fungicide would cost about \$4-\$14 per acre, plus application. Trials consistently show yield response of 5-10% with early season fungicide, IF wheat planted into residue, and 15-20% with late application IF weather favors disease development.

***Wheat midge and/or cereal grain aphid insecticide would cost about \$6 per acre plus application.

Malting Barley

Corn Grain

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	49	_____	73	_____
Market Price	5.05*	_____	4.71	_____
MARKET INCOME	247.45	_____	343.83	_____
DIRECT COSTS				
-Seed	9.38	_____	40.85*	_____
-Herbicides	18.50	_____	14.50	_____
-Fungicides	1.50	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	47.80	_____	62.47	_____
-Crop Insurance	8.00	_____	0.00**	_____
-Fuel & Lubrication	13.69	_____	14.27	_____
-Repairs	14.23	_____	13.72	_____
-Drying	0.00	_____	14.60	_____
-Miscellaneous	6.50	_____	6.50	_____
-Operating Interest	2.99	_____	4.17	_____
SUM OF LISTED DIRECT COSTS	122.59	=====	171.09	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.34	_____	6.86	_____
-Machinery Depreciation	16.89	_____	19.93	_____
-Machinery Investment	9.64	_____	10.81	_____
-Land Charge	31.30	_____	31.30	_____
SUM OF LISTED INDIRECT COSTS	64.17	=====	68.90	=====
SUM OF ALL LISTED COSTS	186.76	_____	239.99	_____
RETURN TO LABOR & MANAGEMENT	60.69	_____	103.84	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	2.50	_____	2.34	_____
-Indirect Costs	1.31	_____	0.94	_____
-Total Costs	3.81	_____	3.29	_____

Barley notes:

*On average, about 35% of production is feed quality. Use \$3.76 estimate for feed barley price.

Corn notes:

*Roundup (glyphosate) resistant corn. Cost includes insecticide seed treatment for wireworm, rootworm, white grub and suppression of cutworm.

**Crop insurance only available by written agreement.

Oil Sunflower

Canola

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1260	_____	1310	_____
Market Price	0.187	_____	0.221	_____
MARKET INCOME	235.62	_____	289.51	_____
DIRECT COSTS				
-Seed	30.55*	_____	42.50*	_____
-Herbicides	27.50	_____	16.00	_____
-Fungicides	0.00**	_____	0.00	_____
-Insecticides	6.00***	_____	0.00	_____
-Fertilizer	36.89	_____	65.52	_____
-Crop Insurance	19.80	_____	9.80	_____
-Fuel & Lubrication	12.09	_____	12.59	_____
-Repairs	13.69	_____	13.80	_____
-Drying	2.52	_____	0.00	_____
-Miscellaneous	13.50	_____	6.50	_____
-Operating Interest	4.06	_____	4.17	_____
SUM OF LISTED DIRECT COSTS	166.60	=====	170.88	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.16	_____	5.99	_____
-Machinery Depreciation	16.56	_____	16.09	_____
-Machinery Investment	9.33	_____	9.24	_____
-Land Charge	31.30	_____	31.30	_____
SUM OF LISTED INDIRECT COSTS	63.34	=====	62.62	=====
SUM OF ALL LISTED COSTS	229.94	_____	233.50	_____
RETURN TO LABOR & MANAGEMENT	5.68	_____	56.01	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.13	_____	0.13	_____
-Indirect Costs	0.05	_____	0.05	_____
-Total Costs	0.18	_____	0.18	_____

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

Canola notes:

*Cost includes insecticide seed treatment for flea beetles.

Flax

Field Peas

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	17		30	
Market Price	11.49		6.30*	
MARKET INCOME	195.33		189.00	
DIRECT COSTS				
-Seed	10.50		31.50	
-Herbicides	25.00		26.00	
-Fungicides	0.00		1.50	
-Insecticides	0.00		0.00**	
-Fertilizer	25.52		13.76	
-Crop Insurance	6.70		5.70	
-Fuel & Lubrication	11.55		13.61	
-Repairs	13.52		15.08	
-Drying	0.00		0.00	
-Miscellaneous	1.50		8.00	
-Operating Interest	2.36		2.88	
SUM OF LISTED DIRECT COSTS	96.65		118.02	
INDIRECT (FIXED) COSTS				
-Misc. Overhead	5.76		6.18	
-Machinery Depreciation	14.93		17.58	
-Machinery Investment	8.67		9.68	
-Land Charge	31.30		31.30	
SUM OF LISTED INDIRECT COSTS	60.65		64.74	
SUM OF ALL LISTED COSTS	157.30		182.76	
RETURN TO LABOR & MANAGEMENT	38.03		6.24	
LISTED COSTS PER BUDGET UNIT	(bu):		(bu):	
-Direct Costs	5.69		3.93	
-Indirect Costs	3.57		2.16	
-Total Costs	9.25		6.09	

Field Pea notes:

*Food quality price. Use \$3.50 price estimate for feed quality peas.

**Insecticide treatment for cutworms would cost about \$5 per acre plus application.

Oats

Lentils

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	52	_____	1270	_____
Market Price	2.82	_____	0.23	_____
MARKET INCOME	146.64	_____	292.10	_____
DIRECT COSTS				
-Seed	11.50	_____	30.10	_____
-Herbicides	7.70	_____	33.00*	_____
-Fungicides	0.00	_____	0.00**	_____
-Insecticides	0.00	_____	0.00***	_____
-Fertilizer	41.89	_____	9.71	_____
-Crop Insurance	10.20	_____	15.50	_____
-Fuel & Lubrication	13.82	_____	13.57	_____
-Repairs	14.28	_____	15.51	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	6.50	_____	8.00	_____
-Operating Interest	2.65	_____	3.13	_____
SUM OF LISTED DIRECT COSTS	108.54	=====	128.52	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.38	_____	6.15	_____
-Machinery Depreciation	16.99	_____	17.75	_____
-Machinery Investment	9.69	_____	9.87	_____
-Land Charge	31.30	_____	31.30	_____
SUM OF LISTED INDIRECT COSTS	64.36	=====	65.07	=====
SUM OF ALL LISTED COSTS	172.90	_____	193.59	_____
RETURN TO LABOR & MANAGEMENT	(26.26)	_____	98.51	_____
LISTED COSTS PER BUDGET UNIT	(bu):		(lb):	
-Direct Costs	2.09	_____	0.10	_____
-Indirect Costs	1.24	_____	0.05	_____
-Total Costs	3.33	_____	0.15	_____

Lentil notes:

*Includes pre-harvest dessicant.

**Fungicide treatment for ascochyta would cost about \$16 plus application.

***Insecticide treatment for cutworms would cost about \$5 per acre plus application.

Yellow Mustard

Safflower

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	900	_____	950	_____
Market Price	0.238	_____	0.18	_____
MARKET INCOME	214.20	_____	171.00	_____
DIRECT COSTS				
-Seed	11.00	_____	10.00	_____
-Herbicides	15.50	_____	18.00	_____
-Fungicides	0.00	_____	0.00*	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	36.08	_____	25.90	_____
-Crop Insurance	11.40	_____	12.60	_____
-Fuel & Lubrication	12.84	_____	11.12	_____
-Repairs	14.23	_____	12.80	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	6.50	_____	6.50	_____
-Operating Interest	2.69	_____	2.42	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	110.24	_____	99.33	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.07	_____	5.63	_____
-Machinery Depreciation	16.33	_____	14.43	_____
-Machinery Investment	9.73	_____	8.00	_____
-Land Charge	31.30	_____	31.30	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	63.43	_____	59.36	_____
SUM OF ALL LISTED COSTS	173.67	_____	158.70	_____
RETURN TO LABOR & MANAGEMENT	40.53	_____	12.30	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.12	_____	0.10	_____
-Indirect Costs	0.07	_____	0.06	_____
-Total Costs	0.19	_____	0.17	_____

Safflower notes:

*Fungicide for aternaria leaf spot would cost \$17 plus application.

Buckwheat

Millet

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	850	_____	1300	_____
Market Price	0.231	_____	0.075	_____
MARKET INCOME	196.35	_____	97.50	_____
DIRECT COSTS				
-Seed	27.00	_____	6.50	_____
-Herbicides	14.00	_____	6.20	_____
-Fungicides	0.00	_____	0.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	19.55	_____	22.97	_____
-Crop Insurance	12.00	_____	0.00	_____
-Fuel & Lubrication	12.36	_____	12.67	_____
-Repairs	13.70	_____	13.83	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	1.50	_____	6.50	_____
-Operating Interest	2.50	_____	1.72	_____
SUM OF LISTED DIRECT COSTS	102.61	=====	70.39	=====
INDIRECT (FIXED) COSTS				
-Misc. Overhead	5.92	_____	6.02	_____
-Machinery Depreciation	15.90	_____	16.13	_____
-Machinery Investment	9.15	_____	9.26	_____
-Land Charge	31.30	_____	31.30	_____
SUM OF LISTED INDIRECT COSTS	62.26	=====	62.71	=====
SUM OF ALL LISTED COSTS	164.87	_____	133.10	_____
RETURN TO LABOR & MANAGEMENT	31.48	_____	(35.60)	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(lb):	
-Direct Costs	0.12	_____	0.05	_____
-Indirect Costs	0.07	_____	0.05	_____
-Total Costs	0.19	_____	0.10	_____

notes:

Small Chickpeas*

Winter Wheat

	Per Acre	Your Figures	Per Acre	Your Figures
Market Yield	1500	_____	38*	_____
Market Price	0.245	_____	6.06	_____
MARKET INCOME	367.50	_____	230.28	_____
DIRECT COSTS				
-Seed	69.60	_____	9.50	_____
-Herbicides	33.00	_____	16.50	_____
-Fungicides	18.00**	_____	9.00	_____
-Insecticides	0.00	_____	0.00	_____
-Fertilizer	23.79	_____	62.43	_____
-Crop Insurance	12.30	_____	14.40	_____
-Fuel & Lubrication	15.31	_____	11.53	_____
-Repairs	17.63	_____	13.10	_____
-Drying	0.00	_____	0.00	_____
-Miscellaneous	8.00	_____	6.50	_____
-Operating Interest	4.94	_____	3.57	_____
	=====	=====	=====	=====
SUM OF LISTED DIRECT COSTS	202.57	_____	146.52	_____
INDIRECT (FIXED) COSTS				
-Misc. Overhead	6.61	_____	5.75	_____
-Machinery Depreciation	20.73	_____	14.70	_____
-Machinery Investment	11.28	_____	8.01	_____
-Land Charge	31.30	_____	31.30	_____
	=====	=====	=====	=====
SUM OF LISTED INDIRECT COSTS	69.92	_____	59.76	_____
SUM OF ALL LISTED COSTS	272.49	_____	206.29	_____
RETURN TO LABOR & MANAGEMENT	95.01	_____	23.99	_____
LISTED COSTS PER BUDGET UNIT	(lb):		(bu):	
-Direct Costs	0.14	_____	3.86	_____
-Indirect Costs	0.05	_____	1.57	_____
-Total Costs	0.18	_____	5.43	_____

Small Chickpea notes:

*A kabula variety with medium size seed, about 7-8mm, which has better ascochyta resistance than large kabula's.

**Fungicide treatment for ascochyta blight. A second treatment may be necessary.

Winter Wheat notes:

*Yield is per harvested acre, 2003-2009 acreage abandonment averaged 7%.

Rye

	Per Acre	Your Figures
Market Yield	36.0	_____
Market Price	3.930	_____
MARKET INCOME	141.48	_____
DIRECT COSTS		
-Seed	7.20	_____
-Herbicides	3.50	_____
-Fungicides	0.00	_____
-Insecticides	0.00	_____
-Fertilizer	58.33	_____
-Crop Insurance	4.30	_____
-Fuel & Lubrication	11.25	_____
-Repairs	12.41	_____
-Drying	0.00	_____
-Miscellaneous	6.50	_____
-Operating Interest	2.59	_____
	=====	=====
SUM OF LISTED DIRECT COSTS	106.08	_____
INDIRECT (FIXED) COSTS		
-Misc. Overhead	5.68	_____
-Machinery Depreciation	14.34	_____
-Machinery Investment	7.85	_____
-Land Charge	31.30	_____
	=====	=====
SUM OF LISTED INDIRECT COSTS	59.17	_____
SUM OF ALL LISTED COSTS	165.24	_____
RETURN TO LABOR & MANAGEMENT	(23.76)	_____
LISTED COSTS PER BUDGET UNIT	(bu):	
-Direct Costs	2.95	_____
-Indirect Costs	1.64	_____
-Total Costs	4.59	_____

notes:

2011 Machinery List

Machine	Purch. Price	Annual Use	Years to trade	Trade in	Deprec.	Invest.	Repairs	Ac/hr
2WD 100HP Tractor	62100	400hr	20	20032	5.26 /hr	4.62 /hr	6.33 /hr	
2WD 160HP Tractor	105600	500hr	15	31268	9.91 /hr	6.16 /hr	10.76 /hr	
4WD 330HP Tractor	183300	500hr	15	54237	17.21 /hr	10.69 /hr	10.67 /hr	
SP Combine (base unit)	231800	250hr	12	57648	58.05 /hr	26.05 /hr	37.62 /hr	
Tandem Truck (used)	34000	150hr	15	10800	10.31 /hr	6.72 /hr	6.67 /hr	
Semi & Trailer (used)	38100	150hr	10	10900	18.13 /hr	7.35 /hr	8.27 /hr	
Pick-up Truck	25500	300hr	10	5000	6.83 /hr	2.29 /hr	3.03 /hr	
Swather 25 ft	21100	1000ac	20	4997	0.81 /ac	0.59 /ac	0.37 /ac	12.1
Sprayer 90 ft	33500	5000ac	10	15176	0.31 /ac	0.22 /ac	0.43 /ac	42.5
Heavy Harrow 70 ft	26800	2000ac	20	15602	0.28 /ac	0.48 /ac	0.30 /ac	39.7
Air Seeder 40 ft	156000	2400ac	12	73524	2.86 /ac	2.15 /ac	5.40 /ac	17.0
Planter 12-30	49200	800ac	20	16360	2.05 /ac	1.84 /ac	2.72 /ac	10.6
Corn head	42200	600ac	20	3977	3.18 /ac	1.73 /ac	0.98 /ac	6.8
Grain head w/pt	13500	800ac	15	2803	0.89 /ac	0.46 /ac	0.25 /ac	8.5
Grain str. cut 30 ft	22500	2000ac	8	9066	0.84 /ac	0.35 /ac	0.35 /ac	10.2
Head w/sunf pans 30 ft	27000	600ac	20	2758	2.02 /ac	1.11 /ac	0.42 /ac	10.2
Rock picker	19300	50hr	20	6139	0.44 /ac	0.38 /ac	0.29 /ac	29.1
Grain auger	8400	50hr	20	610	7.79 /hr	4.05 /hr	4.20 /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				0.52	0.50
2	Spray (burn-down)	90	6.0	42.5	0.36	0.58
3	Plant	40	5.0	17.0	2.95	6.03
4	Spray	90	6.0	42.5	0.36	0.58
5	Combine	30	4.0	10.2	3.88	4.04
	Trucks*				1.28	0.51
	Grain auger (pto)				0.21	0.08
	Pickup truck allocation				1.74	0.55
	Total				11.29	12.87

* Truck costs will vary between crops.

For more information on this and other topics, see: www.ag.ndsu.edu