

1997 - Crop Inputs and Rotation Summaries - Dakota Lakes East Farm

Crop: W.Wheat

Yield: 71.4 bu/ac

Previous Crop: S.Wheat

Rotation: W.Wheat - Warm Season Grass - Warm Season Broadleaf - S.Wheat

Workload capability for this rotation is 2,400 acres.*

I. Detailed Operations Cost

Date	Machinery Or Input	Units Applied	Owner-ship	Oper-ating	Labor	Total Costs	Cost/Acre	Cost per Unit
07/25/96	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.37	0.23	0.61	1.22	1.22	0.017
	Sprayer PT 37.5' 4yr-4800		0.62	0.24	0.04	0.89	0.89	0.013
	Roundup Ultra RT	1.5 Pints				7.50	7.50	0.105
TOTAL Operation Cost						9.61	9.61	0.135
09/30/96	Tractor 110 hp DL 2400 ac	0.2 Hrs(1.0 Times)	2.29	1.16	2.06	5.51	5.51	0.077
	No-Till Drill,12.5'-1200		4.43	0.56	0.15	5.13	5.13	0.072
	Wheat Seed - Jagger	130.0 Pounds				22.10	22.10	0.310
	18-46-0 (DAP)	70.0 Pounds				8.40	8.40	0.118
	Vitavax-Thiram-Linda	3.0 Ounces				1.11	1.11	0.016
TOTAL Operation Cost						42.25	42.25	0.592
05/09/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.37	0.23	0.61	1.22	1.22	0.017
	Sprayer PT 37.5' 4yr-4800		0.62	0.24	0.04	0.89	0.89	0.013
	Bronate 2+2E	1.0 Pints				5.75	5.75	0.081
TOTAL Operation Cost						7.86	7.86	0.110
05/12/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.21	0.13	0.35	0.69	0.69	0.010
	Fertilizer Sprd. 37.5'-24		0.17	0.07	0.02	0.27	0.27	0.004
	46-0-0	180.0 Pounds				19.44	19.44	0.272
TOTAL Operation Cost						20.40	20.40	0.286
07/17/97	Combine 4420 4yr-2400 acr	0.2 Hrs(1.0 Times)	1.76	1.41	2.89	6.07	6.07	0.085
	Combine Head-Stripper 14'		2.05	0.24	0.19	2.48	2.48	0.035
	TOTAL Operation Cost						8.54	8.54
07/18/97	Custom(add rate from I-O	0.0 Hrs(1.0 Times)	0.00	0.00	0.01	0.01	0.01	0.000
	Amort cost/2400 acre	1.0 Acres				5.14	5.14	0.072
	TOTAL Operation Cost						5.15	5.15
TOTAL Machinery Cost						24.38	24.38	0.341
TOTAL Input Cost						69.44	69.44	0.973
TOTAL Budget Cost						93.82	93.82	1.314

Income or Expense Item	SubTotal	Total	Amount Per Acre	Amount Per Unit
1. Gross Revenues				
1.1 Winter Wheat	214.20			
1.2 Total Crop Revenue		214.20	214.20	3.000
2. Machinery Cost				
2.1 Ownership Cost	12.89		12.89	0.180
2.2 Operating Cost	2.75		2.75	0.038
2.3 Total Machinery Cost		15.63	15.63	0.219
3. Materials Cost				
3.1 Materials	69.44		69.44	0.973
3.2 Fuel Cost	1.77		1.77	0.025
3.3 Labor Wages	6.98		6.98	0.098
3.4 Total Materials Cost		78.19	78.19	1.095
4. Capital Costs		8.28	8.28	0.116
5. Drying Costs		0.00	0.00	0.000
6. Land Charges		30.00	30.00	0.420
7. Management Fees		0.00	0.00	0.000
Gross Revenues		214.20	214.20	3.00
Total Costs		132.10	132.10	1.85
Net Profit or Loss		82.10	82.10	1.15

*Workload capability is based on a 12.5' drill or planter and seeding 6 acres/hour.
 6 acres/hour X 10 hours/day X 10 days/crop = 600 acres per crop.

1997 - Crop Inputs and Rotation Summaries - Dakota Lakes East Farm

Crop: Corn Yield: 115 bu/ac Previous Crop: W.Wheat

Rotation: W.Wheat - Warm Season Grass - Warm Season Broadleaf - S.Wheat

Workload capability for this rotation is 2,400 acres.*

I. Detailed Operations Cost

Date	Machinery Or Input	Units Applied	Owner-ship	Oper-ating	Labor	Total Costs	Cost/ Acre	Cost per Unit
07/22/96	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.37	0.23	0.61	1.22	1.22	0.011
	Sprayer PT 37.5' 4yr-4800		0.62	0.24	0.04	0.89	0.89	0.008
	Roundup Ultra RT	1.5 Pints				7.50	7.50	0.065
TOTAL Operation Cost						9.61	9.61	0.084
10/05/96	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.37	0.23	0.61	1.22	1.22	0.011
	Sprayer PT 37.5' 4yr-4800		0.62	0.24	0.04	0.89	0.89	0.008
	Roundup Ultra RT	1.0 Pints				5.00	5.00	0.043
	2,4-D 5.7E	0.4 Pints				0.87	0.87	0.008
	Atrazine 90DF	1.0 Pounds				2.75	2.75	0.024
TOTAL Operation Cost						10.73	10.73	0.093
05/17/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.37	0.23	0.61	1.22	1.22	0.011
	Sprayer PT 37.5' 4yr-4800		0.62	0.24	0.04	0.89	0.89	0.008
	Roundup Ultra RT	1.3 Pints				6.25	6.25	0.054
TOTAL Operation Cost						8.36	8.36	0.073
05/19/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.21	0.13	0.35	0.69	0.69	0.006
	Fertilizer Sprd. 37.5'-24		0.17	0.07	0.02	0.27	0.27	0.002
	46-0-0	180.0 Pounds				19.44	19.44	0.169
TOTAL Operation Cost						20.40	20.40	0.177
05/22/97	Tractor 110 hp DL 2400 ac	0.2 Hrs(1.0 Times)	2.32	1.18	2.09	5.59	5.59	0.049
	Planter NT 10-15 DL 1200		4.38	0.58	0.15	5.11	5.11	0.044
	Corn Seed, Pio 3751	24.0 Thousands				26.64	26.64	0.232
	10-50-0	100.0 Pounds				12.00	12.00	0.104
TOTAL Operation Cost						49.34	49.34	0.429
06/28/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.37	0.23	0.61	1.22	1.22	0.011
	Sprayer PT 37.5' 4yr-4800		0.62	0.24	0.04	0.89	0.89	0.008
	Accent 75DF	0.5 Ounces				13.50	13.50	0.117
	Crop Oil Concentrate	0.2 Gallons				0.64	0.64	0.006
	28-0-0	0.5 Gallons				0.38	0.38	0.003
TOTAL Operation Cost						16.63	16.63	0.145
07/12/97	Custom(add rate from I-O	0.0 Hrs(1.0 Times)	0.00	0.00	0.01	0.01	0.01	0.000
	Custom Asana 5.8oz/A	1.0 Acres				9.44	9.44	0.082
TOTAL Operation Cost						9.45	9.45	0.082
08/05/97	Custom(add rate from I-O	0.0 Hrs(1.0 Times)	0.00	0.00	0.01	0.01	0.01	0.000
	Amort cost/2400 acre	1.0 Acres				5.14	5.14	0.045
TOTAL Operation Cost						5.15	5.15	0.045
11/03/97	Combine 4420 4yr-2400 acr	0.3 Hrs(1.0 Times)	2.64	2.12	4.34	9.10	9.10	0.079
	Combine Hd Corn 10-15"-2		3.72	0.64	0.28	4.65	4.65	0.040
	TOTAL Operation Cost						13.75	13.75
TOTAL Machinery Cost						33.88	33.88	0.295
TOTAL Input Cost						109.54	109.54	0.953
TOTAL Budget Cost						143.42	143.42	1.247

Net Returns Calculations

Income or Expense Item	SubTotal	Total	Amount Per Acre	Amount Per Unit
1. Gross Revenues				
1.1 Corn Grain	230.00			
1.2 Total Crop Revenue		230.00	230.00	2.000
2. Machinery Cost				
2.1 Ownership Cost	17.40		17.40	0.151
2.2 Operating Cost	4.17		4.17	0.036
2.3 Total Machinery Cost		21.57	21.57	0.188
3. Materials Cost				
3.1 Materials	109.54		109.54	0.953
3.2 Fuel Cost	2.44		2.44	0.021
3.3 Labor Wages	9.87		9.87	0.086
3.4 Total Materials Cost		121.85	121.85	1.060
4. Capital Costs		8.63	8.63	0.075
5. Drying Costs		0.00	0.00	0.000
6. Land Charges		30.00	30.00	0.261
7. Management Fees		0.00	0.00	0.000
Gross Revenues		230.00	230.00	2.00
Total Costs		182.05	182.05	1.58
Net Profit or Loss		47.95	47.95	0.42

*Workload capability is based on a 12.5' drill or planter and seeding 6 acres/hour.
 6 acres/hour X 10 hours/day X 10 days/crop = 600 acres per crop.

1997 - Crop Inputs and Rotation Summaries - Dakota Lakes East Farm

Crop: Soybeans Yield: 43 bu/ac Previous Crop: Corn

Rotation: W.Wheat - Warm Season Grass - Warm Season Broadleaf - S.Wheat

Workload capability for this rotation is 2,400 acres.*

I. Detailed Operations Cost

Date	Machinery Or Input	Units Applied	Owner-ship	Oper-ating	Labor	Total Costs	Cost/Acre	Cost per Unit
05/17/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.37	0.23	0.61	1.22	1.22	0.028
	Sprayer PT 37.5' 4yr-4800		0.62	0.24	0.04	0.89	0.89	0.021
	Roundup Ultra RT	1.3 Pints				6.25	6.25	0.145
TOTAL Operation Cost						8.36	8.36	0.194
06/10/97	Tractor 110 hp DL 2400 ac	0.2 Hrs(1.0 Times)	2.32	1.18	2.09	5.59	5.59	0.130
	Planter NT 10-15 DL 1200		4.38	0.58	0.15	5.11	5.11	0.119
	SB Stine 186 RR	180.0 Thousands				32.40	32.40	0.753
	10-50-0	50.0 Pounds				6.00	6.00	0.140
	Inoculant, Soybeans	1.2 Bushels				1.06	1.06	0.025
TOTAL Operation Cost						50.15	50.15	1.166
06/23/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.37	0.23	0.61	1.22	1.22	0.028
	Sprayer PT 37.5' 4yr-4800		0.62	0.24	0.04	0.89	0.89	0.021
	Roundup Ultra RT	1.5 Pints				7.50	7.50	0.174
TOTAL Operation Cost						9.61	9.61	0.224
08/05/97	Custom(add rate from I-O	0.0 Hrs(1.0 Times)	0.00	0.00	0.01	0.01	0.01	0.000
	Amort cost/2400 acre	1.0 Acres				5.14	5.14	0.120
TOTAL Operation Cost						5.15	5.15	0.120
10/20/97	Combine 4420 4yr-2400 acr	0.4 Hrs(1.0 Times)	3.17	2.54	5.20	10.92	10.92	0.254
	Combine Head Flexhead-12.		1.88	0.19	0.34	2.42	2.42	0.056
TOTAL Operation Cost						13.34	13.34	0.310
TOTAL Machinery Cost						28.27	28.27	0.658
TOTAL Input Cost						58.35	58.35	1.357
TOTAL Budget Cost						86.62	86.62	2.014

Income or Expense Item	SubTotal	Total	Amount Per Acre	Amount Per Unit
1. Gross Revenues				
1.1 Soybeans	215.00			
1.2 Total Crop Revenue		215.00	215.00	5.000
2. Machinery Cost				
2.1 Ownership Cost	13.73		13.73	0.319
2.2 Operating Cost	3.18		3.18	0.074
2.3 Total Machinery Cost		16.92	16.92	0.393
3. Materials Cost				
3.1 Materials	58.35		58.35	1.357
3.2 Fuel Cost	2.26		2.26	0.052
3.3 Labor Wages	9.10		9.10	0.212
3.4 Total Materials Cost		69.70	69.70	1.621
4. Capital Costs		3.79	3.79	0.088
5. Drying Costs		0.00	0.00	0.000
6. Land Charges		30.00	30.00	0.698
7. Management Fees		0.00	0.00	0.000
Gross Revenues		215.00	215.00	5.00
Total Costs		120.41	120.41	2.80
Net Profit or Loss		94.59	94.59	2.20

*Workload capability is based on a 12.5' drill or planter and seeding 6 acres/hour.
6 acres/hour X 10 hours/day X 10 days/crop = 600 acres per crop.

1997 - Crop Inputs and Rotation Summaries - Dakota Lakes East Farm

Crop: Sunflower Yield 1,912 lbs/ac Previous Crop: Corn

Rotation: W.Wheat - Warm Season Grass - Warm Season Broadleaf - S.Wheat

Workload capability for this rotation is 2,400 acres.*

I. Detailed Operations Cost

Date	Machinery Or Input	Units Applied	Owner-ship	Oper-ating	Labor	Total Costs	Cost/Acre	Cost per Unit
05/15/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.21	0.13	0.35	0.69	0.69	0.037
	Fertilizer Sprd. 37.5'-24		0.17	0.07	0.02	0.27	0.27	0.014
	46-0-0	150.0 Pounds				16.20	16.20	0.865
	TOTAL Operation Cost					17.16	17.16	0.917
05/17/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.37	0.23	0.61	1.22	1.22	0.065
	Sprayer PT 37.5' 4yr-4800		0.62	0.24	0.04	0.89	0.89	0.048
	Roundup Ultra RT	1.3 Pints				6.25	6.25	0.334
	TOTAL Operation Cost					8.36	8.36	0.447
06/20/97	Tractor 110 hp DL 2400 ac	0.2 Hrs(1.0 Times)	2.32	1.18	2.09	5.59	5.59	0.299
	Planter NT 10-15 DL 1200		4.38	0.58	0.15	5.11	5.11	0.273
	Sunflower Sd CG 128A	25.0 Thousands				18.25	18.25	0.975
	10-50-0	50.0 Pounds				6.00	6.00	0.321
	TOTAL Operation Cost					34.95	34.95	1.867
06/23/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.37	0.23	0.61	1.22	1.22	0.065
	Sprayer PT 37.5' 4yr-4800		0.62	0.24	0.04	0.89	0.89	0.048
	Roundup Ultra RT	1.5 Pints				7.50	7.50	0.401
	TOTAL Operation Cost					9.61	9.61	0.514
07/12/97	Custom(add rate from I-0	0.0 Hrs(1.0 Times)	0.00	0.00	0.01	0.01	0.01	0.001
	Custom Asana 5.8oz/A	1.0 Acres				9.44	9.44	0.504
	TOTAL Operation Cost					9.45	9.45	0.505
08/05/97	Custom(add rate from I-0	0.0 Hrs(1.0 Times)	0.00	0.00	0.01	0.01	0.01	0.001
	Amort cost/2400 acre	1.0 Acres				5.14	5.14	0.275
	TOTAL Operation Cost					5.15	5.15	0.275
11/07/97	Combine 4420 4yr-2400 acr	0.4 Hrs(1.0 Times)	3.17	2.54	5.20	10.92	10.92	0.583
	Combine Head Sunflowers,		3.07	0.36	0.34	3.77	3.77	0.201
	TOTAL Operation Cost					14.69	14.69	0.785
	TOTAL Machinery Cost					30.60	30.60	1.635
	TOTAL Input Cost					68.78	68.78	3.674
	TOTAL Budget Cost					99.38	99.38	5.309

Income or Expense Item	SubTotal	Total	Amount Per Acre	Amount Per Unit
1. Gross Revenues				
1.1 Sunflowers	172.08			
1.2 Total Crop Revenue		172.08	172.08	9.000
2. Machinery Cost				
2.1 Ownership Cost	15.30		15.30	0.817
2.2 Operating Cost	3.47		3.47	0.185
2.3 Total Machinery Cost		18.77	18.77	1.003
3. Materials Cost				
3.1 Materials	68.78		68.78	3.674
3.2 Fuel Cost	2.34		2.34	0.125
3.3 Labor Wages	9.49		9.49	0.507
3.4 Total Materials Cost		80.61	80.61	4.306
4. Capital Costs		4.34	4.34	0.232
5. Drying Costs		0.00	0.00	0.000
6. Land Charges		30.00	30.00	1.603
7. Management Fees		0.00	0.00	0.000
Gross Revenues		172.08	172.08	9.00
Total Costs		133.72	133.72	7.14
Net Profit or Loss		38.36	38.36	1.86

*Workload capability is based on a 12.5' drill or planter and seeding 6 acres/hour.
6 acres/hour X 10 hours/day X 10 days/crop = 600 acres per crop.

1997 - Crop Inputs and Rotation Summaries - Dakota Lakes East Farm

Crop: S.Wheat

Yield: 48.9 bu/ac

Previous Crop: Sunflower

Rotation: W.Wheat - Warm Season Grass - Warm Season Broadleaf - S.Wheat

Workload capability for this rotation is 2,400 acres.*

I. Detailed Operations Cost

Date	Machinery Or Input	Units Applied	Owner-ship	Oper-ating	Labor	Total Costs	Cost/Acre	Cost per Unit
04/01/97	Tractor 110 hp DL 2400 ac	0.2 Hrs(1.0 Times)	2.29	1.16	2.06	5.51	5.51	0.113
	No-Till Drill,12.5'-1200		4.43	0.56	0.15	5.13	5.13	0.105
	Wheat Seed - Russ	2.3 Bushels				15.52	15.52	0.317
	18-46-0 (DAP)	70.0 Pounds				8.40	8.40	0.172
	TOTAL Operation Cost					34.56	34.56	0.707
05/14/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.21	0.13	0.35	0.69	0.69	0.014
	Fertilizer Sprd. 37.5'-24		0.17	0.07	0.02	0.27	0.27	0.005
	46-0-0	180.0 Pounds				19.44	19.44	0.398
	TOTAL Operation Cost					20.40	20.40	0.417
05/31/97	Tractor 085 hp 4yr-4800 a	0.0 Hrs(1.0 Times)	0.37	0.23	0.61	1.22	1.22	0.025
	Sprayer PT 37.5' 4yr-4800		0.62	0.24	0.04	0.89	0.89	0.018
	Bronate 2+2E	1.0 Pints				5.75	5.75	0.118
	TOTAL Operation Cost					7.86	7.86	0.161
08/04/97	Combine 4420 4yr-2400 acr	0.2 Hrs(1.0 Times)	1.76	1.41	2.89	6.07	6.07	0.124
	Combine Head-Stripper 14'		2.05	0.24	0.19	2.48	2.48	0.051
	TOTAL Operation Cost					8.54	8.54	0.175
08/05/97	Custom(add rate from I-O	0.0 Hrs(1.0 Times)	0.00	0.00	0.01	0.01	0.01	0.000
	Amort cost/2400 acre	1.0 Acres				5.14	5.14	0.105
	TOTAL Operation Cost					5.15	5.15	0.105
	TOTAL Machinery Cost					22.27	22.27	0.455
	TOTAL Input Cost					54.25	54.25	1.110
	TOTAL Budget Cost					76.52	76.52	1.565

Income or Expense Item	SubTotal	Total	Amount Per Acre	Amount Per Unit
1. Gross Revenues				
1.1 Spring Wheat - Russ	156.48			
1.2 Total Crop Revenue		156.48	156.48	3.200
2. Machinery Cost				
2.1 Ownership Cost	11.90		11.90	0.243
2.2 Operating Cost	2.43		2.43	0.050
2.3 Total Machinery Cost		14.33	14.33	0.293
3. Materials Cost				
3.1 Materials	54.25		54.25	1.110
3.2 Fuel Cost	1.62		1.62	0.033
3.3 Labor Wages	6.32		6.32	0.129
3.4 Total Materials Cost		62.19	62.19	1.272
4. Capital Costs		4.28	4.28	0.088
5. Drying Costs		0.00	0.00	0.000
6. Land Charges		30.00	30.00	0.613
7. Management Fees		0.00	0.00	0.000
Gross Revenues		156.48	156.48	3.20
Total Costs		110.81	110.81	2.27
Net Profit or Loss		45.67	45.67	0.93

*Workload capability is based on a 12.5' drill or planter and seeding 6 acres/hour.
6 acres/hour X 10 hours/day X 10 days/crop = 600 acres per crop.

1997 Production Costs were calculated using “Cost And Return Estimator (CARE)”. CARE calculates ownership, operating, labor, and fuel costs for each field operation. CARE also calculates capital costs (interest on materials), drying costs, and land charges.

1997 costs include:

<u>ITEM</u>	<u>AMOUNT/ACRE</u>
Land Charges	\$30.00
Insecticide Treatment on Corn & Sunflower Acres	\$ 9.45
Amortized Costs ⁵	
Three Year Rotation – 1,800 Acres	\$ 6.87
Four Year Rotation – 2,400 Acres	\$ 5.15

⁵ Amortization Cost For Dakota Lakes Research Farm

Items amortized include:

<u>Item</u>	<u>Value</u>
Semi-tractor	\$ 7,000
Grain trailer	\$15,300
Bins w/dryers	\$20,000
Grain Cart	<u>\$ 7,700</u>
TOTAL	\$50,000

Overhead costs include semi-tractor, grain trailer, grain cart, grain bins and Operation and Maintenance (O&M) cost of this equipment. Semi-tractor, trailer, and grain cart costs are amortized over 10 years and 10% interest. The cost of the grain bins and drying facilities are amortized over 20 years and 10% interest. The yearly amortized cost is then divided by the potential number of acres that could be farmed in a given rotation.

Semi-tractor, grain trailer, grain cart = \$30,000 O&M = \$3,000.
 Amortization Factor for 10 years @ 10% interest is .163.
 Yearly amount = \$7,890

Grain bins and drying facilities = \$20,000 O&M = \$2,141.
 Amortization Factor for 20 years @ 10% interest is .117.
 Yearly amount = \$4,481

Total Annual Amortized Cost for the above equipment = \$12,371

Prices used for income (1993-1997) calculations are as follows:

<u>Crop</u>	<u>\$/Unit</u>
Corn	2.00 per bushel
Winter Wheat	3.00 per bushel
Spring Wheat	3.20 per bushel
Flax	4.20 per bushel
Soybeans	5.00 per bushel
Field Peas	4.50 per bushel
Sunflower	9.00 per CWT
Popcorn	0.12 per pound
Chickpea	0.12 per pound
Lentils	0.14 per pound

Government Farm Program Benefits Were NOT Included As Income.