

**PERFORMANCE OF DRYLAND ROTATIONS AT THE  
DAKOTA LAKES RESEARCH FARM – EAST FARM  
1993-2001**

WINTER WHEAT  
CORN  
COOL SEASON BROADLEAF

	WINTER WHEAT	CORN	FLAX/ CHICKPEA <sup>1</sup>
1993	83	131	30
1994	41	105	22
1995	51	90	18
1996	60	95	17
1997	65	127	1650 <sup>1</sup>
1998	85	102	2187 <sup>1</sup>
1999	78	95	1169 <sup>1</sup>
2000	81	66	705 <sup>1</sup>
2001	56 <sup>3</sup>	86	2364 <sup>1</sup>
AVE	67	100	22/1615 <sup>1</sup>

<sup>1</sup> 1997-2001 Broadleaf Crop – Lbs/Acre

<sup>3</sup> Spring Wheat – Due to winter kill

CROP	COST <sup>2</sup>	INCOME	PROFIT
WINTER WHEAT	\$134	\$188	\$ 54
CORN	\$178	\$191	\$ 13
FLAX (1993-1996)	\$112	\$ 92	\$(20)
CHICKPEA (1997-2001)	\$168	\$238	\$ 70
ROTATION-FX/CP	\$141/160	\$157/206	\$16/46

<sup>2</sup> Used 1997 production costs (except flax) for calculating 1993-1997 average profit per acre.

**PERFORMANCE OF DRYLAND ROTATIONS AT THE  
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SPRING WHEAT  
WINTER WHEAT  
CORN/SORGHUM  
WARM SEASON BROADLEAF

	SPRING WHEAT	WINTER WHEAT	CORN	SOYBEAN/ SUNFLOWER
1993	69	72	120	33/1670
1994	32	41	120	28/950
1995	51	56	111	36/1700
1996	58	58	105	24/1698
1997	49	71	115	43/1912
1998	64	84	137	29/1608
1999	66	77	121	45/1678
2000	32	53	68	23/1800
2001	56	54 <sup>3</sup>	91	24/1804
AVE	53	63	108	32/1646

<sup>3</sup> Spring Wheat – Due to winter kill

CROP	COST <sup>2</sup>	INCOME	PROFIT
SPRING WHEAT	\$118	\$159	\$41
WINTER WHEAT	\$134	\$179	\$45
CORN	\$179	\$210	\$31
SB/SUNFLOWER	\$123/137	\$154/149	\$31/12
ROTATION-SB/Sunf	\$139/142	\$176/174	\$37/32

<sup>2</sup> Used 1997 production costs for calculating 1993-1997 average profit per acre.

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WINTER WHEAT  
WARM SEASON BROADLEAF  
CORN/SORGHUM  
COOL SEASON BROADLEAF

	WINTER WHEAT	SOYBEAN/ SUNFLOWER	CORN	LENTIL/ F. PEA <sup>4</sup>
1993	54	41/1580	120	1150
1994	32	28/1050	65	1200
1995	60	32/1140	108	800
1996	58	24/2135	75	1000
1997	45	47/1960	142	0/42
1998	94	34/1843	114	-/20
1999	92	43/1634	119	-/63
2000	81	26/1900	50	-/33
2001	51 <sup>3</sup>	24/1560	86	-/37
AVE	63	33/1645	98	830/39

<sup>3</sup> Spring Wheat – Due to winter kill

<sup>4</sup> Field Peas in Bushels/Acre. Lentils were not planted in 1998-2001.

CROP	COST <sup>2</sup>	INCOME	PROFIT
WINTER WHEAT	\$142	\$176	\$34
SB/SUNFLOWER	\$145/157	\$162/149	\$17/(8)
CORN	\$153	\$187	\$34
Field Pea (1997-2001)	\$130	\$110	\$(20)
ROTATION-SB/Sunf	\$143/146	\$159/156	\$16/10

<sup>2</sup> Used 1997 production costs for calculating 1993-1997 average profit per acre.

<sup>2</sup> 1997 - 2001 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 <sup>5</sup>	
Three Year Rotation – 1,800 Acres	\$ 6.87
Four Year Rotation – 2,400 Acres	\$ 5.15

**1998 costs include:**

<u>ITEM</u>	<u>AMOUNT/ACRE</u>
Land Charges	\$30.00
Insecticide Treatment on Corn, Sunflower, Soybean and Spring Wheat Acres	\$ 8.60
Amortized Costs <sup>5</sup>	
Three Year Rotation – 1,800 Acres	\$ 6.87
Four Year Rotation – 2,400 Acres	\$ 5.15

**1999 - 2001 costs include:**

<u>ITEM</u>	<u>AMOUNT/ACRE</u>
Land Charges	\$30.00
Amortized Costs <sup>5</sup>	
Three Year Rotation – 1,800 Acres	\$ 6.87
Four Year Rotation – 2,400 Acres	\$ 5.15

**<sup>5</sup> 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	\$ 7,700
<b>TOTAL</b>	<b>\$50,000</b>

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

**Prices used for 1998 income calculations are as follows:**

<u>Crop</u>	<u>\$/Unit</u>
Corn	1.78 per bushel
Winter Wheat	2.60 per bushel
Spring Wheat	2.71 per bushel
Soybeans	4.72 per bushel
Field Peas	3.00 per bushel
Sunflower	8.50 per CWT
Chickpea	0.18 per pound

**Prices used for 1999 - 2000 income calculations are the same as 1998 except for the following crops:** Field Peas at \$2.05 per bushel, Sunflower at \$9.18 per CWT, Chickpea at \$0.18 per pound, and Canola at \$9.29 per CWT.

**Prices used for 2001 income calculations are the same as 1999-2000 except for the following crops:** Field Peas at \$2.50 per bushel and Chickpea at \$0.11 per pound.