

AgriProfit\$

**Cost and Return Profiles for
Selected Crops, 2003
*Irrigated Crops***

July, 2005

Alberta
AGRICULTURE, FOOD AND
RURAL DEVELOPMENT



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2003 Irrigated Soil Zones

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OVERVIEW

2003 Irrigated Soil Zone

The AgriProfit\$ Cost and Return study is a provincial overview of costs and returns for various annual field crops and forages grown throughout the province. Participating farmers are surveyed throughout the winter and the Alberta Agriculture Economics Unit compiles all the information into this summary package. This detailed and world-class database is used for extension and research purposes.

In this package you will find a brief summary of various field crops and forages grown in the irrigated soil zone. Where numbers warrant, there are two levels of analysis – the group average and the top third. The top third analysis is based on the top third of fields that have the highest return to equity.

The map on the upper right illustrates the Irrigated Soil Zone area of Alberta. In the case of irrigation, only farms in southern Alberta are included in the sample.

The map on the lower right highlights the locations of participating farmers for the 2003 survey season.

For questions regarding this document please contact:

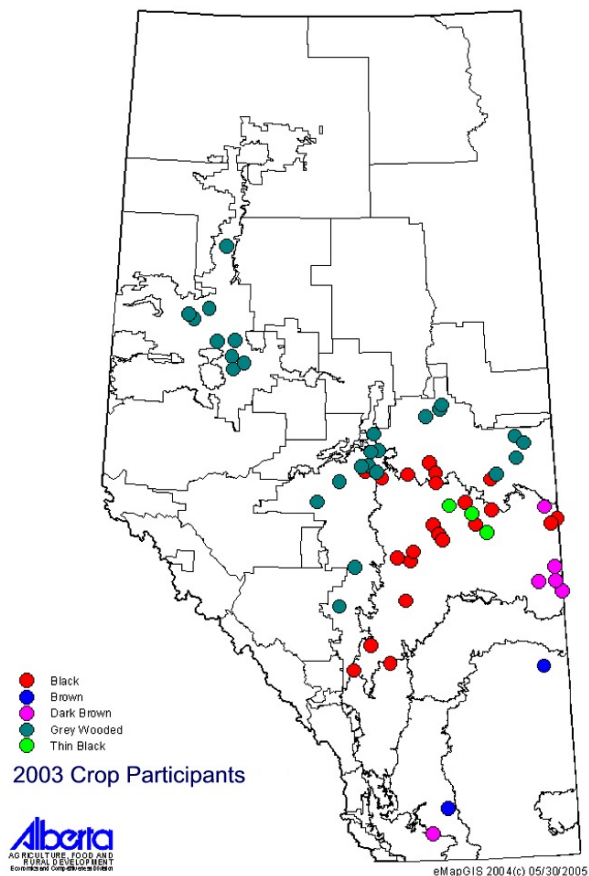
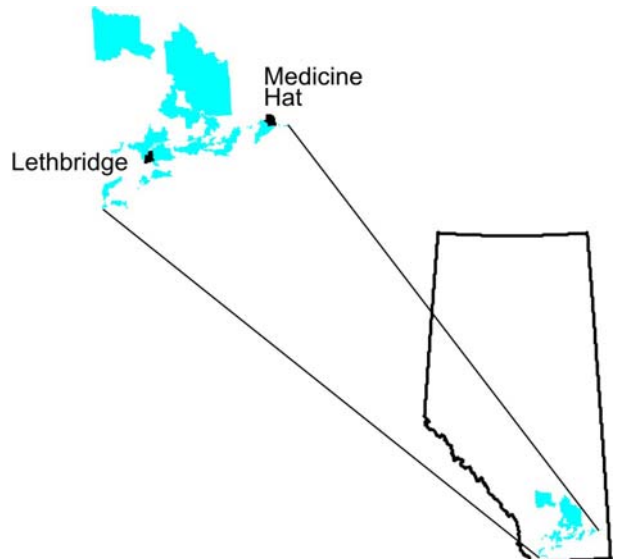
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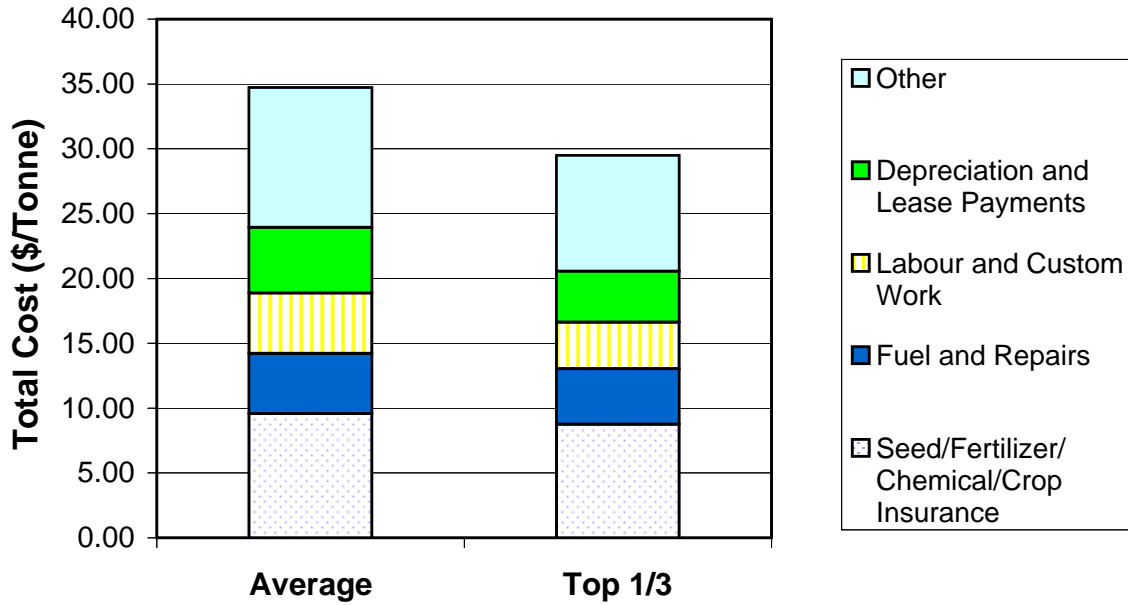
Acknowledgements:

Renn Breitreuz, Dale Kaliel, Pauline Van Biert, Shukun Guan, Guangzhi Liu, Nabi Chaudhary, Sean Royer, Ted Darling, Interviewers and Participants



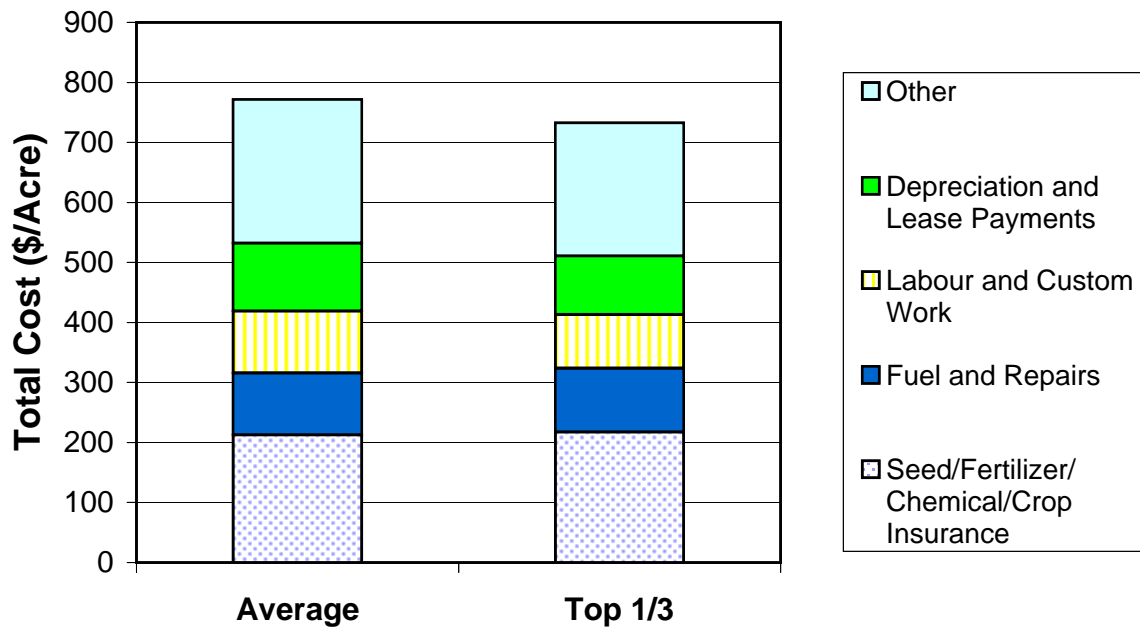
2003 Sugar Beets on Irrigated Soil

Total Cost (\$/Tonne)



2003 Sugar Beets on Irrigated Soil

Total Cost (\$/Acre)



2003 Crop Enterprise Analysis

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Crop: Spring Wheat - All
Soil Zone: - Irrigated
Unit: Bushel

		----- \$/Acre -----		----- \$/Bushel -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	408.35	--	4.88	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	15.91	--	0.19	--
	Gross Receipts	424.26	0.00	5.07	0.00
(B)	Cost Items				
	1. Seed	22.16	--	0.26	--
	2. Fertilizer	58.19	--	0.69	--
	3. Chemical	17.17	--	0.20	--
	4. Hail/Crop Insurance Premium	11.41	--	0.14	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	17.77	--	0.21	--
	7. Irrigation Fuel and Electricity	13.21	--	0.16	--
	8. Repairs - Machinery	12.63	--	0.15	--
	9. Repairs - Buildings	8.17	--	0.10	--
	10. Utilities and Miscellaneous	19.63	--	0.23	--
	11. Custom Work	9.00	--	0.11	--
	12. Operating Interest Paid	5.63	--	0.07	--
	13. Paid Labour	9.70	--	0.12	--
	14. Unpaid Labour	9.61	--	0.11	--
	Variable Costs	214.28	0.00	2.56	0.00
(C)	1. Cash/ Share Land Rent	36.30	--	0.43	--
	2. Taxes, Water Rates, License & Ins.	17.97	--	0.21	--
	3. Equipment and Building:				
	a) Depreciation	53.36	--	0.64	--
b) Lease Payments	1.86	--	0.02	--	
4. Paid Capital Interest	14.74	--	0.18	--	
	Capital Costs	124.22	0.00	1.48	0.00
(D)	Cash Costs	(B+C-B14-C3a)	275.54	--	3.29
(E)	Total Production Costs	(B+C)	338.50	--	4.04
	Gross Margin	(A-D)	148.72	--	1.78
	Return to Unpaid Labour	(A-E+B14)	95.37	--	1.14
	Return to Investment	(A-E+C4)	100.49	--	1.20
	Return to Equity	(A-E)	85.76	--	1.02

Investment

Buildings	84.20	--
Machinery	355.90	--
Irrigation Machinery	172.27	--
Total (incl. Land)	2127.52	--

Management

Average Yield	(Bushel/acre)	83.75	--
Expected Market Price	(\$/Bushel)	4.88	--

2003 Crop Enterprise Analysis

AgriProfit\$

Crop: **Spring Wheat - Own**
 Soil Zone: **- Irrigated**
 Unit: **Bushel**

		----- \$/Acre -----		----- \$/Bushel -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	438.07	--	4.86	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	15.20	--	0.17	--
	Gross Receipts	453.26	0.00	5.03	0.00
(B) Cost Items					
	1. Seed	20.60	--	0.23	--
	2. Fertilizer	47.03	--	0.52	--
	3. Chemical	17.13	--	0.19	--
	4. Hail/Crop Insurance Premium	11.40	--	0.13	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	17.67	--	0.20	--
	7. Irrigation Fuel and Electricity	13.93	--	0.15	--
	8. Repairs - Machinery	13.45	--	0.15	--
	9. Repairs - Buildings	7.74	--	0.09	--
	10. Utilities and Miscellaneous	19.66	--	0.22	--
	11. Custom Work	8.53	--	0.09	--
	12. Operating Interest Paid	5.53	--	0.06	--
	13. Paid Labour	9.19	--	0.10	--
	14. Unpaid Labour	10.27	--	0.11	--
	Variable Costs	202.12	0.00	2.24	0.00
(C)	1. Cash/ Share Land Rent	0.00	--	0.00	--
	2. Taxes, Water Rates, License & Ins.	25.56	--	0.28	--
	3. Equipment and Building:				
	a) Depreciation	65.84	--	0.73	--
b) Lease Payments	1.76	--	0.02	--	
4. Paid Capital Interest	17.83	--	0.20	--	
	Capital Costs	110.98	0.00	1.23	0.00
(D)	Cash Costs	(B+C-B14-C3a)	237.00	--	2.63
(E)	Total Production Costs	(B+C)	313.11	--	3.47
	Gross Margin	(A-D)	216.27	--	2.40
	Return to Unpaid Labour	(A-E+B14)	150.43	--	1.67
	Return to Investment	(A-E+C4)	157.99	--	1.75
	Return to Equity	(A-E)	140.16	--	1.55

Investment

Buildings	87.67	--
Machinery	354.63	--
Irrigation Machinery	284.25	--
Total (incl. Land)	3226.55	--

Management

Average Yield	(Bushel/acre)	90.19	--
Expected Market Price	(\$/Bushel)	4.86	--

2003 Crop Enterprise Analysis

AgriProfit\$

Crop: *Feed Barley - All*
Soil Zone: *- Irrigated*
Unit: *Bushel*

		----- \$/Acre -----		----- \$/Bushel -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	260.04	--	2.73	--
	2. Crop Insurance Receipts	65.19	--	0.68	--
	3. Other Receipts	25.52	--	0.27	--
Gross Receipts		350.75	0.00	3.68	0.00
(B)	Cost Items				
	1. Seed	10.00	--	0.11	--
	2. Fertilizer	62.78	--	0.66	--
	3. Chemical	18.35	--	0.19	--
	4. Hail/Crop Insurance Premium	9.04	--	0.09	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	13.99	--	0.15	--
	7. Irrigation Fuel and Electricity	10.53	--	0.11	--
	8. Repairs - Machinery	15.55	--	0.16	--
	9. Repairs - Buildings	5.07	--	0.05	--
	10. Utilities and Miscellaneous	17.36	--	0.18	--
	11. Custom Work	12.04	--	0.13	--
	12. Operating Interest Paid	3.62	--	0.04	--
	13. Paid Labour	7.82	--	0.08	--
	14. Unpaid Labour	19.96	--	0.21	--
Variable Costs		206.11	0.00	2.17	0.00
(C)	Capital Costs				
	1. Cash/ Share Land Rent	73.76	--	0.77	--
	2. Taxes, Water Rates, License & Ins.	10.09	--	0.11	--
	3. Equipment and Building: a) Depreciation	36.69	--	0.39	--
	b) Lease Payments	0.91	--	0.01	--
	4. Paid Capital Interest	11.30	--	0.12	--
Capital Costs		132.76	0.00	1.39	0.00
(D)	Cash Costs	(B+C-B14-C3a)	282.22	--	2.96
(E)	Total Production Costs	(B+C)	338.87	--	3.56
	Gross Margin	(A-D)	68.53	--	0.72
	Return to Unpaid Labour	(A-E+B14)	31.84	--	0.33
	Return to Investment	(A-E+C4)	23.18	--	0.24
	Return to Equity	(A-E)	11.88	--	0.12

Investment

Buildings	103.11	--	
Machinery	311.24	--	
Irrigation Machinery	51.25	--	
Total (incl. Land)	757.74	--	

Management

Average Yield	(Bushel/acre)	95.19	--
Expected Market Price	(\$/Bushel)	2.73	--

2003 Crop Enterprise Analysis

AgriProfit\$

Crop: **Feed Barley - Rent**
 Soil Zone: **- Irrigated**
 Unit: **Bushel**

		----- \$/Acre -----		----- \$/Bushel -----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	249.66	--	2.71	--	
	2. Crop Insurance Receipts	72.22	--	0.79	--	
	3. Other Receipts	23.47	--	0.26	--	
	Gross Receipts	345.35	0.00	3.75	0.00	
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(B)	Cost Items					
	1. Seed	10.00	--	0.11	--	
	2. Fertilizer	66.03	--	0.72	--	
	3. Chemical	18.50	--	0.20	--	
	4. Hail/Crop Insurance Premium	9.23	--	0.10	--	
	5. Trucking and Marketing	0.00	--	0.00	--	
	6. Fuel	14.53	--	0.16	--	
	7. Irrigation Fuel and Electricity	10.39	--	0.11	--	
	8. Repairs - Machinery	15.50	--	0.17	--	
	9. Repairs - Buildings	5.37	--	0.06	--	
	10. Utilities and Miscellaneous	17.76	--	0.19	--	
	11. Custom Work	10.95	--	0.12	--	
	12. Operating Interest Paid	3.87	--	0.04	--	
	13. Paid Labour	7.97	--	0.09	--	
	14. Unpaid Labour	18.99	--	0.21	--	
Variable Costs	209.08	0.00	2.27	0.00		
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(C)	1. Cash/ Share Land Rent	81.72	--	0.89	--	
	2. Taxes, Water Rates, License & Ins.	6.64	--	0.07	--	
	3. Equipment and Building:	a) Depreciation	32.91	--	0.36	--
		b) Lease Payments	1.00	--	0.01	--
	4. Paid Capital Interest	9.09	--	0.10	--	
Capital Costs	131.37	0.00	1.43	0.00		
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(D)	Cash Costs	(B+C-B14-C3a)	288.56	--	3.14	
(E)	Total Production Costs	(B+C)	340.45	--	3.70	
	Gross Margin	(A-D)	56.80	--	0.62	
	Return to Unpaid Labour	(A-E+B14)	23.89	--	0.26	
	Return to Investment	(A-E+C4)	13.99	--	0.15	
	Return to Equity	(A-E)	4.90	--	0.05	

Investment

Buildings	102.37	--
Machinery	318.48	--
Irrigation Machinery	0.00	--
Total (incl. Land)	420.85	--

Management

Average Yield	(Bushel/acre)	91.98	--
Expected Market Price	(\$/Bushel)	2.71	--

2003 Crop Enterprise Analysis

AgriProfit\$

Crop: Sugar Beets - All
Soil Zone: - Irrigated
Unit: Tonne

		-----\$/Acre-----		-----\$/Tonne-----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	947.09	1058.61	42.62	42.62
	2. Crop Insurance Receipts	0.59	1.25	0.03	0.05
	3. Other Receipts	4.80	4.72	0.22	0.19
Gross Receipts		952.47	1064.58	42.86	42.86
(B)	Cost Items				
	1. Seed	57.29	57.29	2.58	2.31
	2. Fertilizer	54.00	57.83	2.43	2.33
	3. Chemical	89.44	90.88	4.03	3.66
	4. Hail/Crop Insurance Premium	12.14	11.53	0.55	0.46
	5. Trucking and Marketing	42.65	40.42	1.92	1.63
	6. Fuel	39.25	41.45	1.77	1.67
	7. Irrigation Fuel and Electricity	26.94	30.24	1.21	1.22
	8. Repairs - Machinery	57.78	61.21	2.60	2.46
	9. Repairs - Buildings	5.96	3.67	0.27	0.15
	10. Utilities and Miscellaneous	32.42	35.62	1.46	1.43
	11. Custom Work	38.75	34.59	1.74	1.39
	12. Operating Interest Paid	5.02	1.91	0.23	0.08
	13. Paid Labour	20.36	14.13	0.92	0.57
	14. Unpaid Labour	44.31	40.49	1.99	1.63
Variable Costs		526.31	521.26	23.68	20.99
(C)	1. Cash/ Share Land Rent	84.65	56.27	3.81	2.27
	2. Taxes, Water Rates, License & Ins.	22.91	30.29	1.03	1.22
	3. Equipment and Building: a) Depreciation	101.20	93.61	4.55	3.77
	b) Lease Payments	11.43	3.91	0.51	0.16
	4. Paid Capital Interest	24.95	27.30	1.12	8.51
Capital Costs		245.14	211.37	11.03	15.92
(D)	Cash Costs (B+C-B14-C3a)	625.94	598.53	28.17	31.51
(E)	Total Production Costs (B+C)	771.45	732.63	34.72	36.91
	Gross Margin (A-D)	326.53	466.05	14.69	11.35
	Return to Unpaid Labour (A-E+B14)	225.33	372.44	10.14	7.58
	Return to Investment (A-E+C4)	205.97	359.24	9.27	14.46
	Return to Equity (A-E)	181.02	331.94	8.15	5.95

Investment

Buildings	132.68	139.87
Machinery	715.73	654.39
Irrigation Machinery	327.76	316.09
Total (incl. Land)	2194.77	2621.12

Management

Average Yield	(Tonne/acre)	22.22	24.84
Expected Market Price	(\$/Tonne)	42.62	42.62

2003 Crop Enterprise Analysis

AgriProfit\$

Crop: Sugar Beets - Own
Soil Zone: - Irrigated
Unit: Tonne

		-----\$/Acre-----		-----\$/Tonne-----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	969.62	1046.90	42.62	42.62
	2. Crop Insurance Receipts	0.00	0.00	0.00	0.00
	3. Other Receipts	5.61	4.80	0.25	0.20
Gross Receipts		975.23	1051.70	42.87	42.82
(B)	Cost Items				
	1. Seed	57.29	57.29	2.52	2.33
	2. Fertilizer	54.84	54.01	2.41	2.20
	3. Chemical	90.14	88.53	3.96	3.60
	4. Hail/Crop Insurance Premium	11.48	11.76	0.50	0.48
	5. Trucking and Marketing	36.97	42.77	1.63	1.74
	6. Fuel	40.30	41.00	1.77	1.67
	7. Irrigation Fuel and Electricity	29.36	30.90	1.29	1.26
	8. Repairs - Machinery	58.43	55.63	2.57	2.26
	9. Repairs - Buildings	6.48	3.24	0.28	0.13
	10. Utilities and Miscellaneous	32.75	34.05	1.44	1.39
	11. Custom Work	39.90	36.58	1.75	1.49
	12. Operating Interest Paid	3.76	1.85	0.17	0.08
	13. Paid Labour	20.29	16.17	0.89	0.66
	14. Unpaid Labour	46.88	35.12	2.06	1.43
Variable Costs		528.87	508.90	23.25	20.72
(C)	1. Cash/ Share Land Rent	0.00	0.00	0.00	0.00
	2. Taxes, Water Rates, License & Ins.	35.74	38.72	1.57	1.58
	3. Equipment and Building: a) Depreciation	133.41	105.67	5.86	4.30
	b) Lease Payments	4.54	6.87	0.20	0.28
	4. Paid Capital Interest	42.73	42.20	1.88	7.88
Capital Costs		216.42	193.45	9.51	14.03
(D)	Cash Costs (B+C-B14-C3a)	565.01	561.57	24.84	29.02
(E)	Total Production Costs (B+C)	745.29	702.36	32.76	34.75
	Gross Margin (A-D)	410.22	490.13	18.03	13.80
	Return to Unpaid Labour (A-E+B14)	276.81	384.47	12.17	9.49
	Return to Investment (A-E+C4)	272.67	391.54	11.99	15.94
	Return to Equity (A-E)	229.93	349.34	10.11	8.06

Investment

Buildings	143.19	133.48
Machinery	716.04	616.17
Irrigation Machinery	681.20	512.46
Total (incl. Land)	3657.43	3560.20

Management

Average Yield	(Tonne/acre)	22.75	24.56
Expected Market Price	(\$/Tonne)	42.62	42.62

2003 Crop Enterprise Analysis

AgriProfit\$

Crop: Sugar Beets - Rent
Soil Zone: - Irrigated
Unit: Tonne

		-----\$/Acre-----		-----\$/Tonne-----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	926.19	1048.67	42.62	42.62
	2. Crop Insurance Receipts	1.13	2.28	0.05	0.09
	3. Other Receipts	4.04	5.75	0.19	0.23
Gross Receipts		931.36	1056.70	42.86	42.95
(B)	Cost Items				
	1. Seed	57.29	57.29	2.64	2.33
	2. Fertilizer	53.22	56.88	2.45	2.31
	3. Chemical	88.80	97.26	4.09	3.95
	4. Hail/Crop Insurance Premium	12.75	13.19	0.59	0.54
	5. Trucking and Marketing	47.91	36.28	2.20	1.47
	6. Fuel	38.27	39.12	1.76	1.59
	7. Irrigation Fuel and Electricity	24.70	20.04	1.14	0.81
	8. Repairs - Machinery	57.18	62.83	2.63	2.55
	9. Repairs - Buildings	5.48	4.35	0.25	0.18
	10. Utilities and Miscellaneous	32.12	34.38	1.48	1.40
	11. Custom Work	37.68	37.73	1.73	1.53
	12. Operating Interest Paid	6.20	3.46	0.29	0.14
	13. Paid Labour	20.42	13.72	0.94	0.56
	14. Unpaid Labour	41.93	33.54	1.93	1.36
Variable Costs		523.93	510.07	24.11	20.73
(C)	1. Cash/ Share Land Rent	163.16	173.04	7.51	7.03
	2. Taxes, Water Rates, License & Ins.	11.02	11.35	0.51	0.46
	3. Equipment and Building: a) Depreciation	71.33	83.39	3.28	3.39
	b) Lease Payments	17.81	0.00	0.82	0.00
	4. Paid Capital Interest	8.46	7.88	0.39	11.20
Capital Costs		271.78	275.66	12.51	22.09
(D)	Cash Costs (B+C-B14-C3a)	682.45	668.80	31.40	38.06
(E)	Total Production Costs (B+C)	795.71	785.72	36.62	42.82
	Gross Margin (A-D)	248.91	387.91	11.45	4.88
	Return to Unpaid Labour (A-E+B14)	177.58	304.52	8.17	1.49
	Return to Investment (A-E+C4)	144.12	278.85	6.63	11.33
	Return to Equity (A-E)	135.66	270.98	6.24	0.13

Investment

Buildings	122.94	115.22
Machinery	715.43	827.80
Irrigation Machinery	0.00	0.00
Total (incl. Land)	838.37	943.03

Management

Average Yield	(Tonne/acre)	21.73	24.60
Expected Market Price	(\$/Tonne)	42.62	42.62

2003 Crop Enterprise Analysis

AgriProfit\$

Crop: *Alfalfa Hay - All*
 Soil Zone: *- Irrigated*
 Unit: *Tonne*

		-----\$/Acre-----		-----\$/Tonne-----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	325.00	--	65.00	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	2.38	--	0.48	--
Gross Receipts		327.38	0.00	65.48	0.00
(B)	Cost Items				
	1. Seed	13.00	--	2.60	--
	2. Fertilizer	18.15	--	3.63	--
	3. Chemical	0.00	--	0.00	--
	4. Hail/Crop Insurance Premium	0.00	--	0.00	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	21.61	--	4.32	--
	7. Irrigation Fuel and Electricity	19.43	--	3.89	--
	8. Repairs - Machinery	38.50	--	7.70	--
	9. Repairs - Buildings	0.00	--	0.00	--
	10. Utilities and Miscellaneous	32.06	--	6.41	--
	11. Custom Work	28.95	--	5.79	--
	12. Operating Interest Paid	5.81	--	1.16	--
	13. Paid Labour	0.00	--	0.00	--
	14. Unpaid Labour	32.83	--	6.57	--
Variable Costs		210.33	0.00	42.07	0.00
(C)	1. Cash/ Share Land Rent	26.77	--	5.35	--
	2. Taxes, Water Rates, License & Ins.	18.18	--	3.64	--
	3. Equipment and Building: a) Depreciation	75.50	--	15.10	--
	b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	29.15	--	5.83	--
Capital Costs		149.60	0.00	29.92	0.00
(D)	Cash Costs (B+C-B14-C3a)	251.61	--	50.32	--
(E)	Total Production Costs (B+C)	359.93	--	71.99	--
	Gross Margin (A-D)	75.78	--	15.16	--
	Return to Unpaid Labour (A-E+B14)	0.28	--	0.06	--
	Return to Investment (A-E+C4)	(3.39)	--	(0.68)	--
	Return to Equity (A-E)	(32.55)	--	(6.51)	--

Investment

Buildings	141.13	--
Machinery	517.78	--
Irrigation Machinery	125.89	--
Total (incl. Land)	1188.02	--

Management

Average Yield	(Tonne/acre)	5.00	--
Expected Market Price	(\$/Tonne)	65.00	--

DEFINITIONS AND ALLOCATIONS

I INCOME

- A Imputed Value of Production** – total of estimated yields/acre X estimated final prices
- B Crop Insurance Receipts** – added regardless of when payment is received
- C Miscellaneous Receipts** – such as patronage dividends or input rebates
- D Government Program Receipts** – allocated to all cropped acres equally
- E Straw/Aftermath Grazing Revenue** – value of straw + imputed value of grazing

II EXPENSES

- A Crop Specific Inputs** – allocated by producer to each crop as documented on the survey form
 1. **Seed**
 2. **Fertilizer**
 3. **Chemical**
 4. **Hail and Crop Insurance**
 5. **Custom Work and Specialized Labour**
 6. **Land Rent** – cash rent or crop share (converted to a cash basis)
- B Allocated Crop Inputs** – allocation ratios based on research from AAFRD
 1. **Irrigation to Dryland Ratio** – allocated to crops at a 3:1 ratio
 2. **Trucking and Marketing** – allocated to specific cropping acres by producer
 3. **Fuel** – Summerfallow – allocation of 0.3:1 compared to crop acres; Sugar beets – allocation of 2.96:1 compared to other irrigated crop acres
 4. **Irrigation Fuel** – allocation based on total pumping hours for each crop
 5. **Machinery Repairs** – allocated equally to all acres except summerfallow (0.3:1) and special crops (as specified by producer)
 6. **Building Repairs** – allocated to all acres equally except for special crops buildings
 7. **Operating Interest** – interest paid on operating loans allocated equally
 8. **Paid Labour** – based on allocations between crops as specified by producer
 9. **Unpaid and Operator Labour** – operator - \$10/hour, other unpaid labour - \$7.50/hour
 10. **Land Taxes** – allocated equally to all owned cropped acres
 11. **Water Rates** – allocated equally to all owned irrigated acres
 12. **Water Rates** – allocated equally to all owned irrigated acres
 13. **Equipment Depreciation** – imputed at 8.5% for power equipment, 11% for non-power, based on current market value

- 14. **Insurance and Licenses** – allocated to all cropped acres equally
- 15. **Building Depreciation** – imputed at 5% on the current market value
- 16. **Paid Capital Interest** – allocated to all owned cropped acres equally except summerfallow (0.25:1)

III CAPITAL INVESTMENT

- A Land** – producer estimate of bare land value for both irrigated and dryland owned acreage
- B Buildings** – allocated equally to all acreage except special crops buildings (allocated to the crop)
- C Equipment**
 1. **General Use** – allocated to all acres equally, except summerfallow (0.3:1)
 2. **Crop Specific** – allocated by producer to each crop based on percentage of use
 3. **Irrigation** – allocated according to pumping hours as specified by producer

IV SUMMARY CALCULATION

- A Gross Return** = imputed value of production + crop insurance receipts + miscellaneous receipts + government program payments + straw/grazing revenue
- B Variable Costs** = seed + fertilizer + chemicals + crop insurance + trucking and marketing + fuel + machinery and building repairs + utilities + miscellaneous overhead + custom work + operating interest + paid and unpaid labour
- C Total Capital Costs** = land rent + land taxes + water rates + insurance + depreciation + paid capital interest
- D Cash Costs** = variable costs + capital costs – unpaid labour – depreciation
- E Total Production Costs** = variable costs + total capital costs
- F Gross Margin** (returns left to cover total capital costs and operator equity) = gross return – total cash costs
- G Return to Unpaid Labour** (funds remaining after all expenses have been paid except unpaid labour) = gross return – total production costs + unpaid labour
- H Return to Investment** (shows the operation's ability to earn a return on its total assets) = gross return – total production costs + paid capital interest
- I Return to Equity** (amount remaining from operations used to provide a return to individual or shareholder equity) = gross return – total production costs