

AgriProfit\$

**Cost and Return Profiles for
Selected Crops, 2001
*Irrigated Crops***

August, 2005

Alberta
AGRICULTURE, FOOD AND
RURAL DEVELOPMENT



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2001 Irrigated Soil Zones

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OVERVIEW

2001 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 2001 survey season.

For questions regarding this document please contact:

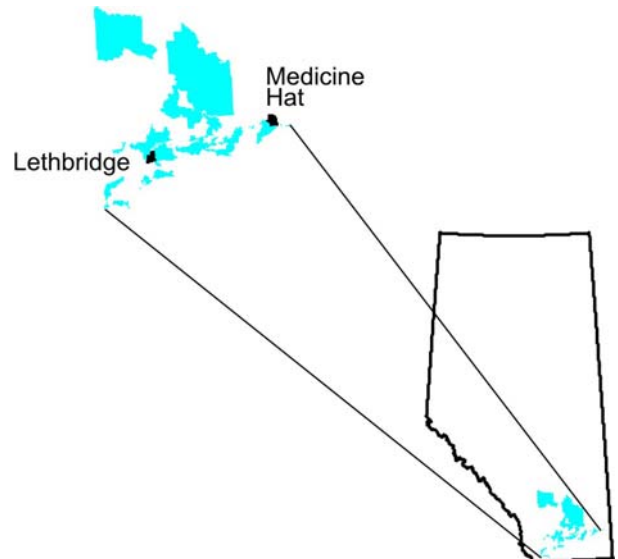
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Acknowledgements:

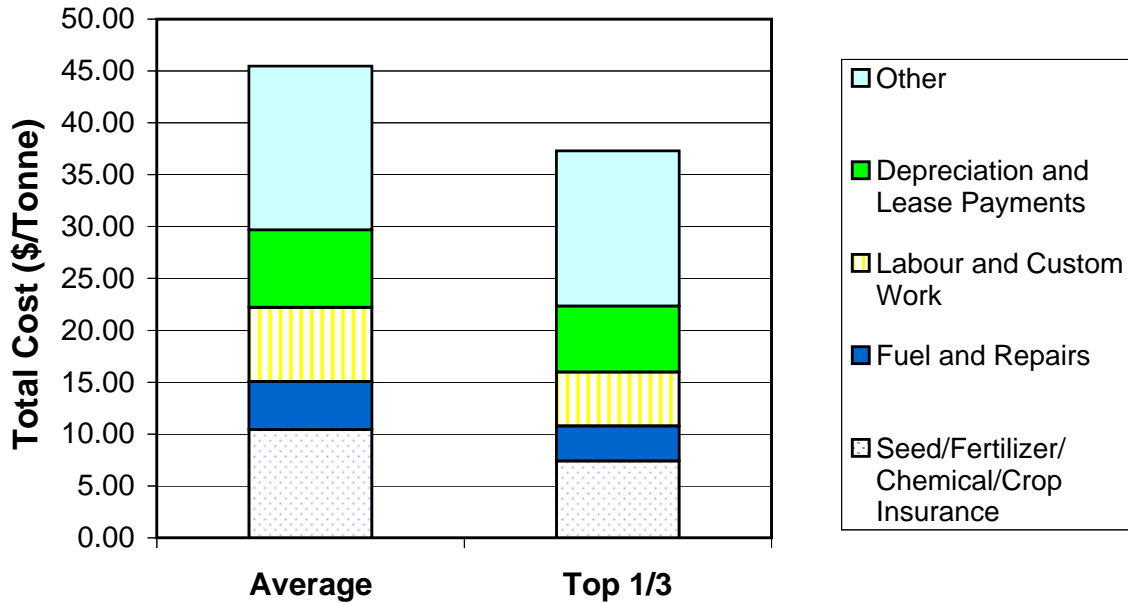
Renn Breitreuz, Dale Kaliel, Pauline Van Biert, Shukun Guan, Guangzhi Liu, Nabi Chaudhary, Sean Royer, Ted Darling, Interviewers and Participants



2001 Participant Map coming soon

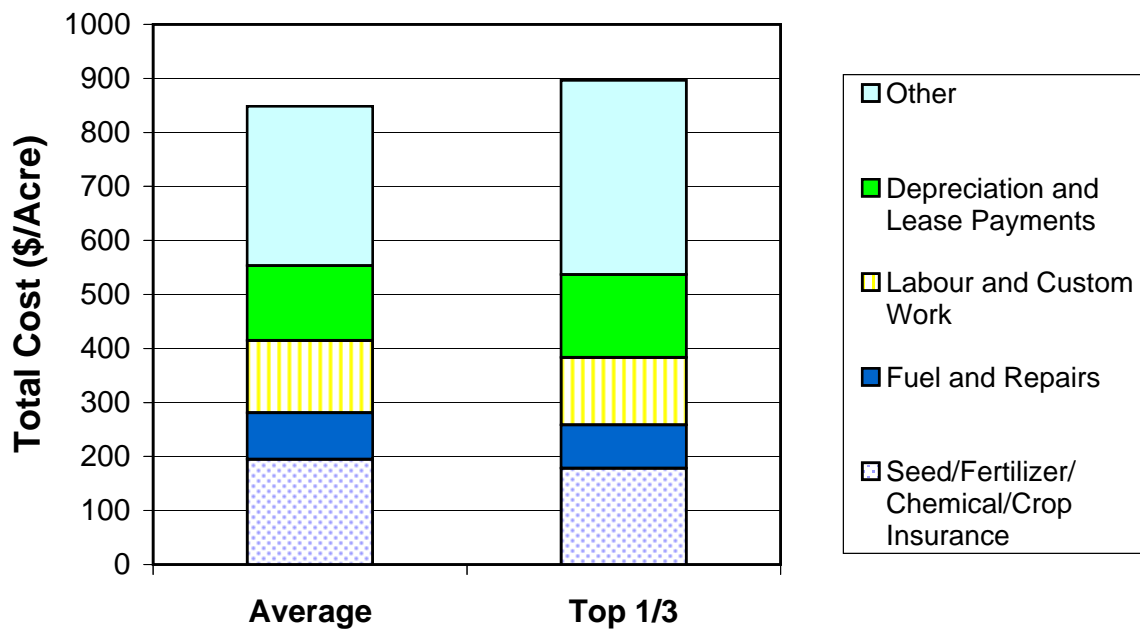
2001 Sugar Beets on Irrigated Soil

Total Cost (\$/Tonne)



2001 Sugar Beets on Irrigated Soil

Total Cost (\$/Acre)



2001 Crop Enterprise Analysis

AgriProfit\$

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

		----- \$/Acre -----		----- \$/Bushel -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	340.52	--	4.52	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	41.89	--	0.56	--
Gross Receipts		382.42	0.00	5.08	0.00
(B)	Cost Items				
	1. Seed	15.95	--	0.21	--
	2. Fertilizer	40.77	--	0.54	--
	3. Chemical	21.79	--	0.29	--
	4. Hail/Crop Insurance Premium	6.24	--	0.08	--
	5. Trucking and Marketing	1.15	--	0.02	--
	6. Fuel	12.74	--	0.17	--
	7. Irrigation Fuel and Electricity	17.80	--	0.24	--
	8. Repairs - Machinery	26.51	--	0.35	--
	9. Repairs - Buildings	2.33	--	0.03	--
	10. Utilities and Miscellaneous	35.28	--	0.47	--
	11. Custom Work	8.86	--	0.12	--
	12. Operating Interest Paid	3.84	--	0.05	--
	13. Paid Labour	4.74	--	0.06	--
	14. Unpaid Labour	55.91	--	0.74	--
Variable Costs		253.92	0.00	3.37	0.00
(C)	1. Cash/ Share Land Rent	32.20	--	0.43	--
	2. Taxes, Water Rates, License & Ins.	11.11	--	0.15	--
	3. Equipment and Building: a) Depreciation	43.30	--	0.58	--
	b) Lease Payments	11.02	--	0.15	--
	4. Paid Capital Interest	5.48	--	0.07	--
Capital Costs		103.11	0.00	1.37	0.00
(D)	Cash Costs	(B+C-B14-C3a)	257.81	--	3.42
(E)	Total Production Costs	(B+C)	357.03	--	4.74
	Gross Margin	(A-D)	124.60	--	1.66
	Return to Unpaid Labour	(A-E+B14)	81.31	--	1.08
	Return to Investment	(A-E+C4)	30.87	--	0.41
	Return to Equity	(A-E)	25.39	--	0.34

Investment

Buildings	132.37	--
Machinery	219.58	--
Irrigation Machinery	163.33	--
Total (incl. Land)	1138.66	--

Management

Average Yield	(Bushel/acre)	75.29	--
Expected Market Price	(\$/Bushel)	4.52	--

2001 Crop Enterprise Analysis

AgriProfit\$

Crop: *Durum - All*
 Soil Zone: *- Irrigated*
 Unit: *Bushel*

		----- \$/Acre -----		----- \$/Bushel -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	624.82	--	6.58	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	38.24	--	0.40	--
Gross Receipts		663.06	0.00	6.99	0.00
(B)	Cost Items				
	1. Seed	17.49	--	0.18	--
	2. Fertilizer	48.92	--	0.52	--
	3. Chemical	7.84	--	0.08	--
	4. Hail/Crop Insurance Premium	12.55	--	0.13	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	10.24	--	0.11	--
	7. Irrigation Fuel and Electricity	17.27	--	0.18	--
	8. Repairs - Machinery	13.31	--	0.14	--
	9. Repairs - Buildings	3.12	--	0.03	--
	10. Utilities and Miscellaneous	10.23	--	0.11	--
	11. Custom Work	14.69	--	0.15	--
	12. Operating Interest Paid	3.02	--	0.03	--
	13. Paid Labour	2.20	--	0.02	--
	14. Unpaid Labour	18.78	--	0.20	--
Variable Costs		179.67	0.00	1.89	0.00
(C)	Capital Costs				
	1. Cash/ Share Land Rent	22.92	--	0.24	--
	2. Taxes, Water Rates, License & Ins.	12.47	--	0.13	--
	3. Equipment and Building: a) Depreciation	66.36	--	0.70	--
	b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	20.31	--	0.21	--
Capital Costs		122.06	0.00	1.29	0.00
(D)	Cash Costs (B+C-B14-C3a)	216.59	--	2.28	--
(E)	Total Production Costs (B+C)	301.73	--	3.18	--
	Gross Margin (A-D)	446.46	--	4.70	--
	Return to Unpaid Labour (A-E+B14)	380.11	--	4.00	--
	Return to Investment (A-E+C4)	381.64	--	4.02	--
	Return to Equity (A-E)	361.33	--	3.81	--

Investment

Buildings	75.13	--	
Machinery	354.02	--	
Irrigation Machinery	366.67	--	
Total (incl. Land)	2898.81	--	

Management

Average Yield	(Bushel/acre)	94.92	--
Expected Market Price	(\$/Bushel)	6.58	--

2001 Crop Enterprise Analysis

AgriProfit\$

Crop: *Durum - Own*
Soil Zone: *- Irrigated*
Unit: *Bushel*

		----- \$/Acre -----		----- \$/Bushel -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	662.42	--	6.57	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	43.65	--	0.43	--
Gross Receipts		706.07	0.00	7.00	0.00
(B)	Cost Items				
	1. Seed	18.02	--	0.18	--
	2. Fertilizer	46.18	--	0.46	--
	3. Chemical	5.88	--	0.06	--
	4. Hail/Crop Insurance Premium	12.81	--	0.13	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	9.87	--	0.10	--
	7. Irrigation Fuel and Electricity	17.94	--	0.18	--
	8. Repairs - Machinery	12.21	--	0.12	--
	9. Repairs - Buildings	3.46	--	0.03	--
	10. Utilities and Miscellaneous	9.41	--	0.09	--
	11. Custom Work	15.44	--	0.15	--
	12. Operating Interest Paid	2.13	--	0.02	--
	13. Paid Labour	1.69	--	0.02	--
	14. Unpaid Labour	16.28	--	0.16	--
Variable Costs		171.30	0.00	1.70	0.00
(C)	1. Cash/ Share Land Rent	0.00	--	0.00	--
	2. Taxes, Water Rates, License & Ins.	15.75	--	0.16	--
	3. Equipment and Building: a) Depreciation	78.43	--	0.78	--
	b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	27.17	--	0.27	--
Capital Costs		121.35	0.00	1.20	0.00
(D)	Cash Costs	(B+C-B14-C3a)	197.95	--	1.96
(E)	Total Production Costs	(B+C)	292.65	--	2.90
	Gross Margin	(A-D)	508.13	--	5.04
	Return to Unpaid Labour	(A-E+B14)	429.70	--	4.26
	Return to Investment	(A-E+C4)	440.59	--	4.37
	Return to Equity	(A-E)	413.42	--	4.10

Investment

Buildings	35.59	--
Machinery	366.55	--
Irrigation Machinery	523.07	--
Total (incl. Land)	3925.21	--

Management

Average Yield	(Bushel/acre)	100.81	--
Expected Market Price	(\$/Bushel)	6.57	--

2001 Crop Enterprise Analysis

AgriProfit\$

Crop: *Durum - Rent*
Soil Zone: *- Irrigated*
Unit: *Bushel*

		----- \$/Acre -----		----- \$/Bushel -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	536.67	--	6.62	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	25.55	--	0.32	--
Gross Receipts		562.22	0.00	6.93	0.00
(B)	Cost Items				
	1. Seed	16.25	--	0.20	--
	2. Fertilizer	55.36	--	0.68	--
	3. Chemical	12.43	--	0.15	--
	4. Hail/Crop Insurance Premium	11.94	--	0.15	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	11.11	--	0.14	--
	7. Irrigation Fuel and Electricity	15.72	--	0.19	--
	8. Repairs - Machinery	15.89	--	0.20	--
	9. Repairs - Buildings	2.33	--	0.03	--
	10. Utilities and Miscellaneous	12.17	--	0.15	--
	11. Custom Work	12.95	--	0.16	--
	12. Operating Interest Paid	5.08	--	0.06	--
	13. Paid Labour	3.40	--	0.04	--
	14. Unpaid Labour	24.64	--	0.30	--
Variable Costs		199.28	0.00	2.46	0.00
(C)	Capital Costs				
	1. Cash/ Share Land Rent	76.67	--	0.95	--
	2. Taxes, Water Rates, License & Ins.	4.79	--	0.06	--
	3. Equipment and Building: a) Depreciation	38.05	--	0.47	--
	b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	4.22	--	0.05	--
Capital Costs		123.72	0.00	1.53	0.00
(D)	Cash Costs	(B+C-B14-C3a)	260.32	--	3.21
(E)	Total Production Costs	(B+C)	323.00	--	3.98
	Gross Margin	(A-D)	301.91	--	3.72
	Return to Unpaid Labour	(A-E+B14)	263.86	--	3.25
	Return to Investment	(A-E+C4)	243.43	--	3.00
	Return to Equity	(A-E)	239.22	--	2.95

Investment

Buildings	167.81	--	
Machinery	324.66	--	
Irrigation Machinery	0.00	--	
Total (incl. Land)	492.46	--	

Management

Average Yield	(Bushel/acre)	81.11	--
Expected Market Price	(\$/Bushel)	6.62	--

2001 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	348.65	--	3.42	--
	2. Crop Insurance Receipts	24.52	--	0.24	--
	3. Other Receipts	65.61	--	0.64	--
Gross Receipts		438.77	0.00	4.31	0.00
(B)	Cost Items				
	1. Seed	18.27	--	0.18	--
	2. Fertilizer	40.44	--	0.40	--
	3. Chemical	23.18	--	0.23	--
	4. Hail/Crop Insurance Premium	9.30	--	0.09	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	15.53	--	0.15	--
	7. Irrigation Fuel and Electricity	22.93	--	0.23	--
	8. Repairs - Machinery	32.03	--	0.31	--
	9. Repairs - Buildings	3.87	--	0.04	--
	10. Utilities and Miscellaneous	21.15	--	0.21	--
	11. Custom Work	14.35	--	0.14	--
	12. Operating Interest Paid	2.10	--	0.02	--
	13. Paid Labour	3.42	--	0.03	--
	14. Unpaid Labour	30.60	--	0.30	--
Variable Costs		237.16	0.00	2.33	0.00
(C)	1. Cash/ Share Land Rent	39.68	--	0.39	--
	2. Taxes, Water Rates, License & Ins.	14.14	--	0.14	--
	3. Equipment and Building: a) Depreciation	54.78	--	0.54	--
	b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	21.52	--	0.21	--
Capital Costs		130.12	0.00	1.28	0.00
(D)	Cash Costs	(B+C-B14-C3a)	281.90	--	2.77
(E)	Total Production Costs	(B+C)	367.28	--	3.61
	Gross Margin	(A-D)	156.87	--	1.54
	Return to Unpaid Labour	(A-E+B14)	102.09	--	1.00
	Return to Investment	(A-E+C4)	93.01	--	0.91
	Return to Equity	(A-E)	71.49	--	0.70

Investment

Buildings	132.73	--
Machinery	365.19	--
Irrigation Machinery	179.54	--
Total (incl. Land)	1703.77	--

Management

Average Yield	(Bushel/acre)	101.84	--
Expected Market Price	(\$/Bushel)	3.42	--

2001 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	862.16	1110.24	46.21	46.21
	2. Crop Insurance Receipts	48.82	32.01	2.62	1.33
	3. Other Receipts	10.54	21.13	0.57	0.88
Gross Receipts		921.52	1163.38	49.39	48.42
(B)	Cost Items				
	1. Seed	58.68	58.68	3.15	2.44
	2. Fertilizer	39.66	33.36	2.13	1.39
	3. Chemical	75.15	63.83	4.03	2.66
	4. Hail/Crop Insurance Premium	21.29	22.36	1.14	0.93
	5. Trucking and Marketing	88.91	171.92	4.77	7.16
	6. Fuel	34.58	36.59	1.85	1.52
	7. Irrigation Fuel and Electricity	32.95	42.07	1.77	1.75
	8. Repairs - Machinery	47.57	37.31	2.55	1.55
	9. Repairs - Buildings	4.13	6.25	0.22	0.26
	10. Utilities and Miscellaneous	33.61	32.12	1.80	1.34
	11. Custom Work	24.23	12.47	1.30	0.52
	12. Operating Interest Paid	7.96	10.21	0.43	0.43
	13. Paid Labour	36.49	14.29	1.96	0.59
	14. Unpaid Labour	72.65	98.43	3.89	4.10
Variable Costs		577.88	639.90	30.97	26.63
(C)	1. Cash/ Share Land Rent	82.52	60.53	4.42	2.52
	2. Taxes, Water Rates, License & Ins.	20.19	18.31	1.08	0.76
	3. Equipment and Building: a) Depreciation	115.92	98.95	6.21	4.12
	b) Lease Payments	23.21	54.36	1.24	2.26
	4. Paid Capital Interest	28.83	24.18	1.55	10.67
Capital Costs		270.68	256.32	14.51	20.33
(D)	Cash Costs (B+C-B14-C3a)	659.99	698.85	35.37	38.75
(E)	Total Production Costs (B+C)	848.56	896.22	45.48	46.96
	Gross Margin (A-D)	261.53	464.53	14.02	9.67
	Return to Unpaid Labour (A-E+B14)	145.61	365.58	7.80	5.55
	Return to Investment (A-E+C4)	101.79	291.33	5.46	12.13
	Return to Equity (A-E)	72.96	267.15	3.91	1.46

Investment

Buildings	158.61	167.31
Machinery	878.02	808.88
Irrigation Machinery	341.19	287.26
Total (incl. Land)	2136.77	1851.08

Management

Average Yield	(Tonne/acre)	18.66	24.03
Expected Market Price	(\$/Tonne)	46.21	46.21

2001 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	902.74	--	46.21	--
	2. Crop Insurance Receipts	19.82	--	1.01	--
	3. Other Receipts	13.75	--	0.70	--
Gross Receipts		936.31	0.00	47.93	0.00
(B)	Cost Items				
	1. Seed	58.68	--	3.00	--
	2. Fertilizer	51.09	--	2.62	--
	3. Chemical	75.15	--	3.85	--
	4. Hail/Crop Insurance Premium	22.10	--	1.13	--
	5. Trucking and Marketing	77.77	--	3.98	--
	6. Fuel	38.07	--	1.95	--
	7. Irrigation Fuel and Electricity	34.83	--	1.78	--
	8. Repairs - Machinery	47.70	--	2.44	--
	9. Repairs - Buildings	3.93	--	0.20	--
	10. Utilities and Miscellaneous	38.02	--	1.95	--
	11. Custom Work	15.66	--	0.80	--
	12. Operating Interest Paid	4.22	--	0.22	--
	13. Paid Labour	19.59	--	1.00	--
	14. Unpaid Labour	92.48	--	4.73	--
Variable Costs		579.28	0.00	29.65	0.00
(C)	1. Cash/ Share Land Rent	0.00	--	0.00	--
	2. Taxes, Water Rates, License & Ins.	33.55	--	1.72	--
	3. Equipment and Building: a) Depreciation	164.90	--	8.44	--
	b) Lease Payments	6.90	--	0.35	--
	4. Paid Capital Interest	51.36	--	2.63	--
Capital Costs		256.71	0.00	13.14	0.00
(D)	Cash Costs (B+C-B14-C3a)	578.61	--	29.62	--
(E)	Total Production Costs (B+C)	835.99	--	42.79	--
	Gross Margin (A-D)	357.70	--	18.31	--
	Return to Unpaid Labour (A-E+B14)	192.80	--	9.87	--
	Return to Investment (A-E+C4)	151.68	--	7.76	--
	Return to Equity (A-E)	100.32	--	5.14	--

Investment

Buildings	198.48	--
Machinery	844.26	--
Irrigation Machinery	858.55	--
Total (incl. Land)	3811.10	--

Management

Average Yield	(Tonne/acre)	19.54	--
Expected Market Price	(\$/Tonne)	46.21	--

2001 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	835.40	1086.13	46.21	46.21
	2. Crop Insurance Receipts	67.94	51.96	3.76	2.21
	3. Other Receipts	8.42	20.21	0.47	0.86
Gross Receipts		911.76	1158.30	50.43	49.28
(B)	Cost Items				
	1. Seed	58.68	58.68	3.25	2.50
	2. Fertilizer	32.13	34.72	1.78	1.48
	3. Chemical	75.15	76.23	4.16	3.24
	4. Hail/Crop Insurance Premium	20.76	21.06	1.15	0.90
	5. Trucking and Marketing	96.26	184.50	5.32	7.85
	6. Fuel	32.29	33.26	1.79	1.42
	7. Irrigation Fuel and Electricity	31.72	42.36	1.75	1.80
	8. Repairs - Machinery	47.49	33.64	2.63	1.43
	9. Repairs - Buildings	4.26	4.17	0.24	0.18
	10. Utilities and Miscellaneous	30.71	28.50	1.70	1.21
	11. Custom Work	29.89	20.24	1.65	0.86
	12. Operating Interest Paid	10.44	15.77	0.58	0.67
	13. Paid Labour	47.63	20.55	2.63	0.87
	14. Unpaid Labour	59.57	85.89	3.30	3.65
Variable Costs		576.96	659.56	31.91	28.06
(C)	1. Cash/ Share Land Rent	136.94	98.26	7.57	4.18
	2. Taxes, Water Rates, License & Ins.	11.38	8.77	0.63	0.37
	3. Equipment and Building: a) Depreciation	83.62	62.29	4.63	2.65
	b) Lease Payments	33.98	84.73	1.88	3.60
	4. Paid Capital Interest	13.98	22.28	0.77	11.76
Capital Costs		279.89	276.33	15.48	22.57
(D)	Cash Costs (B+C-B14-C3a)	713.66	787.71	39.48	44.32
(E)	Total Production Costs (B+C)	856.85	935.89	47.40	50.63
	Gross Margin (A-D)	198.10	370.58	10.96	4.96
	Return to Unpaid Labour (A-E+B14)	114.49	308.29	6.33	2.31
	Return to Investment (A-E+C4)	68.89	244.68	3.81	10.41
	Return to Equity (A-E)	54.92	222.41	3.04	(1.35)

Investment

Buildings	132.32	106.21
Machinery	900.27	811.27
Irrigation Machinery	0.00	0.00
Total (incl. Land)	1032.59	917.48

Management

Average Yield	(Tonne/acre)	18.08	23.50
Expected Market Price	(\$/Tonne)	46.21	46.21

2001 Crop Enterprise Analysis

AgriProfit\$

Crop: *Dry Beans - All*
Soil Zone: *- Irrigated*
Unit: *Pound*

		----- \$/Acre -----		----- \$/Pound -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	767.78	--	0.32	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	5.28	--	0.00	--
Gross Receipts		773.07	0.00	0.32	0.00
(B)	Cost Items				
	1. Seed	52.26	--	0.02	--
	2. Fertilizer	35.42	--	0.01	--
	3. Chemical	56.89	--	0.02	--
	4. Hail/Crop Insurance Premium	16.15	--	0.01	--
	5. Trucking and Marketing	3.39	--	0.00	--
	6. Fuel	18.02	--	0.01	--
	7. Irrigation Fuel and Electricity	23.97	--	0.01	--
	8. Repairs - Machinery	34.25	--	0.01	--
	9. Repairs - Buildings	4.23	--	0.00	--
	10. Utilities and Miscellaneous	23.19	--	0.01	--
	11. Custom Work	20.16	--	0.01	--
	12. Operating Interest Paid	12.50	--	0.01	--
	13. Paid Labour	10.26	--	0.00	--
	14. Unpaid Labour	68.97	--	0.03	--
Variable Costs		379.63	0.00	0.16	0.00
(C)	1. Cash/ Share Land Rent	47.04	--	0.02	--
	2. Taxes, Water Rates, License & Ins.	24.48	--	0.01	--
	3. Equipment and Building: a) Depreciation	67.91	--	0.03	--
	b) Lease Payments	14.79	--	0.01	--
	4. Paid Capital Interest	46.22	--	0.02	--
Capital Costs		200.44	0.00	0.08	0.00
(D)	Cash Costs	(B+C-B14-C3a)	443.19	--	0.18
(E)	Total Production Costs	(B+C)	580.07	--	0.24
	Gross Margin	(A-D)	329.88	--	0.14
	Return to Unpaid Labour	(A-E+B14)	261.97	--	0.11
	Return to Investment	(A-E+C4)	239.22	--	0.10
	Return to Equity	(A-E)	193.00	--	0.08

Investment

Buildings	205.79	--
Machinery	496.96	--
Irrigation Machinery	165.68	--
Total (incl. Land)	1843.78	--

Management

Average Yield	(Pound/acre)	2424.20	--
Expected Market Price	(\$/Pound)	0.32	--

2001 Crop Enterprise Analysis

AgriProfit\$

Crop: *Dry Beans - Rent*
 Soil Zone: *- Irrigated*
 Unit: *Pound*

		----- \$/Acre -----		----- \$/Pound -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	691.91	--	0.31	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	4.63	--	0.00	--
Gross Receipts		696.54	0.00	0.31	0.00
(B)	Cost Items				
	1. Seed	61.25	--	0.03	--
	2. Fertilizer	32.75	--	0.01	--
	3. Chemical	48.71	--	0.02	--
	4. Hail/Crop Insurance Premium	14.30	--	0.01	--
	5. Trucking and Marketing	5.11	--	0.00	--
	6. Fuel	15.37	--	0.01	--
	7. Irrigation Fuel and Electricity	25.60	--	0.01	--
	8. Repairs - Machinery	31.54	--	0.01	--
	9. Repairs - Buildings	2.69	--	0.00	--
	10. Utilities and Miscellaneous	21.39	--	0.01	--
	11. Custom Work	15.95	--	0.01	--
	12. Operating Interest Paid	12.09	--	0.01	--
	13. Paid Labour	12.79	--	0.01	--
	14. Unpaid Labour	81.84	--	0.04	--
Variable Costs		381.38	0.00	0.17	0.00
(C)	1. Cash/ Share Land Rent	71.06	--	0.03	--
	2. Taxes, Water Rates, License & Ins.	7.81	--	0.00	--
	3. Equipment and Building: a) Depreciation	49.19	--	0.02	--
	b) Lease Payments	22.34	--	0.01	--
	4. Paid Capital Interest	6.06	--	0.00	--
Capital Costs		156.46	0.00	0.07	0.00
(D)	Cash Costs	(B+C-B14-C3a)	406.81	--	0.18
(E)	Total Production Costs	(B+C)	537.84	--	0.24
	Gross Margin	(A-D)	289.73	--	0.13
	Return to Unpaid Labour	(A-E+B14)	240.54	--	0.11
	Return to Investment	(A-E+C4)	164.76	--	0.07
	Return to Equity	(A-E)	158.70	--	0.07

Investment

Buildings	186.64	--
Machinery	475.70	--
Irrigation Machinery	0.00	--
Total (incl. Land)	662.34	--

Management

Average Yield	(Pound/acre)	2233.57	--
Expected Market Price	(\$/Pound)	0.31	--

2001 Crop Enterprise Analysis

AgriProfit\$

Crop: *Grain Silage - All*
 Soil Zone: *- Irrigated*
 Unit: *Tonne*

		-----\$/Acre-----		-----\$/Tonne-----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	406.45	--	36.22	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	5.53	--	0.49	--
Gross Receipts		411.98	0.00	36.71	0.00
(B)	Cost Items				
	1. Seed	9.83	--	0.88	--
	2. Fertilizer	41.66	--	3.71	--
	3. Chemical	7.65	--	0.68	--
	4. Hail/Crop Insurance Premium	7.07	--	0.63	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	27.25	--	2.43	--
	7. Irrigation Fuel and Electricity	14.70	--	1.31	--
	8. Repairs - Machinery	28.69	--	2.56	--
	9. Repairs - Buildings	4.47	--	0.40	--
	10. Utilities and Miscellaneous	15.23	--	1.36	--
	11. Custom Work	1.76	--	0.16	--
	12. Operating Interest Paid	6.70	--	0.60	--
	13. Paid Labour	0.43	--	0.04	--
	14. Unpaid Labour	39.44	--	3.51	--
Variable Costs		204.88	0.00	18.26	0.00
(C)	1. Cash/ Share Land Rent	20.25	--	1.80	--
	2. Taxes, Water Rates, License & Ins.	33.75	--	3.01	--
	3. Equipment and Building: a) Depreciation	65.15	--	5.81	--
	b) Lease Payments	0.10	--	0.01	--
	4. Paid Capital Interest	25.55	--	2.28	--
Capital Costs		144.81	0.00	12.90	0.00
(D)	Cash Costs	(B+C-B14-C3a)	245.09	--	21.84
(E)	Total Production Costs	(B+C)	349.68	--	31.16
	Gross Margin	(A-D)	166.89	--	14.87
	Return to Unpaid Labour	(A-E+B14)	101.74	--	9.07
	Return to Investment	(A-E+C4)	87.85	--	7.83
	Return to Equity	(A-E)	62.29	--	5.55

Investment

Buildings	87.30	--
Machinery	385.22	--
Irrigation Machinery	311.67	--
Total (incl. Land)	2722.22	--

Management

Average Yield	(Tonne/acre)	11.22	--
Expected Market Price	(\$/Tonne)	36.22	--

2001 Crop Enterprise Analysis

AgriProfit\$

Crop: *Grain Silage - Own*
 Soil Zone: *- Irrigated*
 Unit: *Tonne*

		-----\$/Acre-----		-----\$/Tonne-----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	442.50	--	37.56	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	7.21	--	0.61	--
Gross Receipts		449.72	0.00	38.17	0.00
(B)	Cost Items				
	1. Seed	9.68	--	0.82	--
	2. Fertilizer	41.89	--	3.56	--
	3. Chemical	5.37	--	0.46	--
	4. Hail/Crop Insurance Premium	7.07	--	0.60	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	31.30	--	2.66	--
	7. Irrigation Fuel and Electricity	13.21	--	1.12	--
	8. Repairs - Machinery	32.83	--	2.79	--
	9. Repairs - Buildings	3.84	--	0.33	--
	10. Utilities and Miscellaneous	17.14	--	1.46	--
	11. Custom Work	1.15	--	0.10	--
	12. Operating Interest Paid	7.72	--	0.66	--
	13. Paid Labour	0.28	--	0.02	--
	14. Unpaid Labour	44.61	--	3.79	--
Variable Costs		216.08	0.00	18.34	0.00
(C)	1. Cash/ Share Land Rent	0.00	--	0.00	--
	2. Taxes, Water Rates, License & Ins.	42.48	--	3.61	--
	3. Equipment and Building: a) Depreciation	79.76	--	6.77	--
	b) Lease Payments	0.14	--	0.01	--
	4. Paid Capital Interest	31.91	--	2.71	--
Capital Costs		154.29	0.00	13.10	0.00
(D)	Cash Costs	(B+C-B14-C3a)	246.01	--	20.88
(E)	Total Production Costs	(B+C)	370.38	--	31.44
	Gross Margin	(A-D)	203.71	--	17.29
	Return to Unpaid Labour	(A-E+B14)	123.94	--	10.52
	Return to Investment	(A-E+C4)	111.25	--	9.44
	Return to Equity	(A-E)	79.34	--	6.73

Investment

Buildings	95.41	--
Machinery	454.69	--
Irrigation Machinery	407.28	--
Total (incl. Land)	3489.90	--

Management

Average Yield	(Tonne/acre)	11.78	--
Expected Market Price	(\$/Tonne)	37.56	--

FREQUENCY AND CUMULATIVE FREQUENCY DISTRIBUTION

Distribution charts organize data into pictures, which is a format that the human processing system (the brain) can better understand. Frequency distributions relate the percentage (or number) of observations falling in a specific range. Cumulative frequency distribution displays the same information as frequency distribution, but it is expressed as a “rate of change” (i.e. the steeper the slope the greater the change). Cumulative frequency also illustrates how many observations lie above or below certain values, rather than only recording the number of items within the intervals.

The frequency information in this benchmark report provides an indication of how crops performed, on a field-by-field basis, within the *AgriProfit\$* pool. Looking forward, this information can be used to evaluate how and why this crop might be included in future cropping plans based on these types of frequencies. In the following discussions, the sugar beet frequency distribution charts are used as an example of how to interpret the frequency information.

The first pair of charts provides the distribution of the sugar beet yield range under irrigation. From these charts a lot can be interpreted about yield performance:

- The low is greater than 14 tonnes per acre and the high is less than 26 tonnes per acre, and
- 70% of the sugar beet fields under irrigation yield between 14 and 22 bushels per acre

This detailed information provides a better understanding of yield variability. The average yield is 18.66 tonnes per acre as listed on page 8 of the sugar beet analysis. While the average (or mean) is important, consideration of both the mean and variability ultimately sets the stage for good decision-making and management practices.

The second set of graphs focuses on the distribution of cost totals. Understanding these provides a basis for cost control and managing for yield per dollar invested. It is important to look at cash costs for individual field analysis (as an indication of cash flow pressure points). Cash costs include all cash expenses accrued to the production of that crop. Total production costs are important when assessing all crops together for an overall enterprise analysis, relaying the longer term cost efficiency of each crop and the combined crop mix. Total production costs include the non-cash elements of unpaid labour and depreciation, in addition to cash costs. Looking at the charts, if the price of sugar beets was \$45 per tonne, then 85% of the fields are covering their cash costs and 45% of the fields are covering their total production costs. In the long run, the best mix of crops would cover total production costs and give a positive net return per acre.

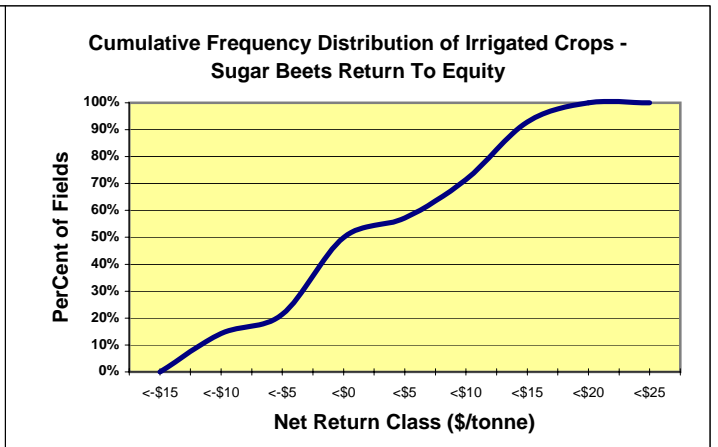
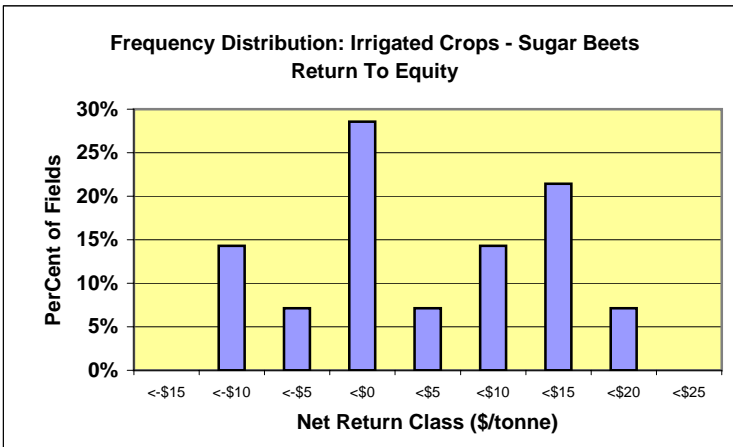
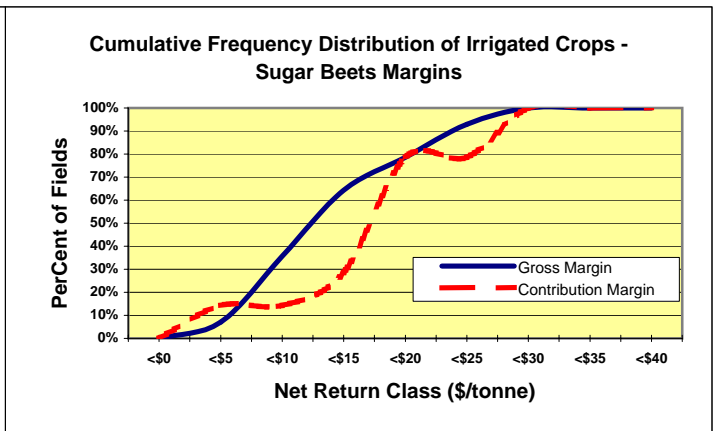
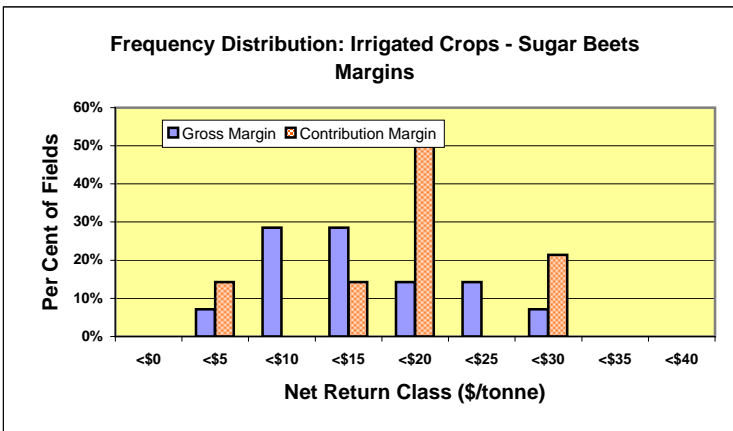
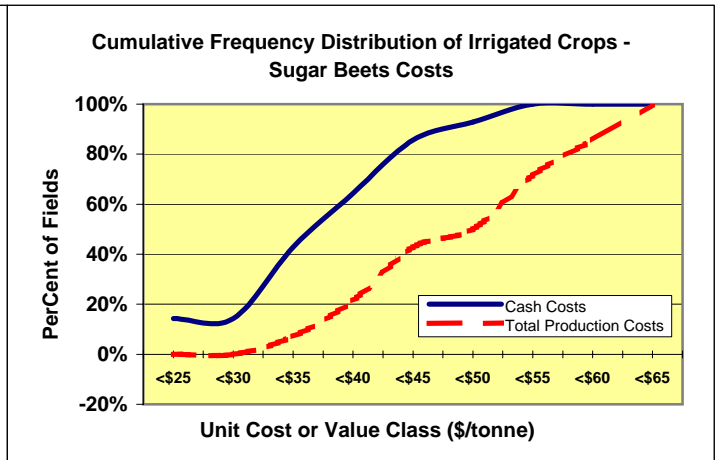
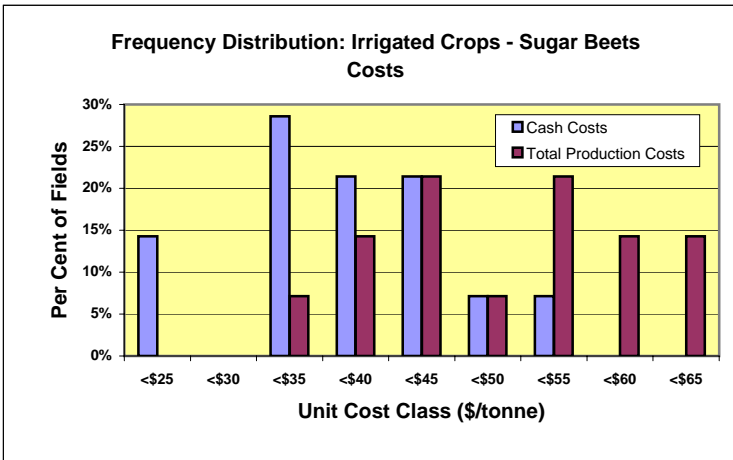
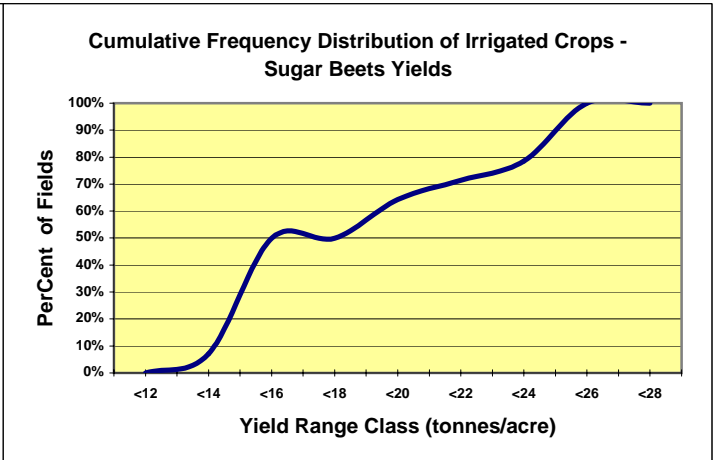
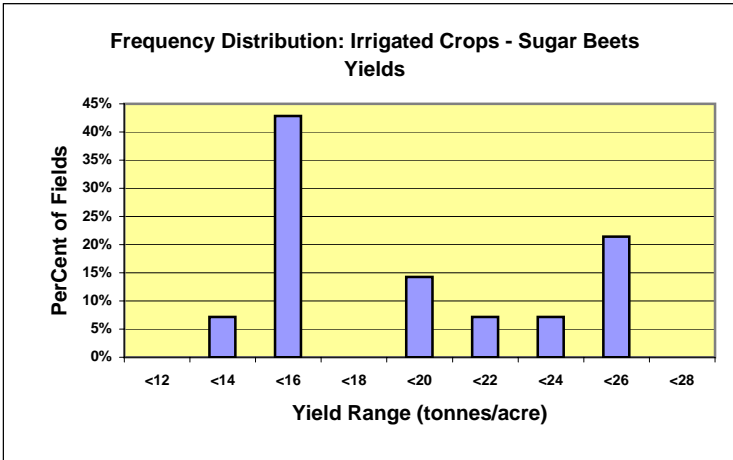
The third set of graphs highlights contribution and gross margins. Contribution margin is the return over variable costs, which are a combination of variable cash and non-cash (unpaid labour) costs. It is the best single indicator of profitability at the individual field level and it is used to compare and select crops to grow regardless of the fields being owned or rented. The first objective in setting up a crop plan is to select crops with a positive contribution margin; this will identify the most profitable crop mix over the long term. Gross margin is the return over total cash costs, which include fixed costs (land rent, taxes, water rights, licenses and capital interest). It is valuable in predicting each crop’s ability to generate cash flow for the year. From a cash flow point of view, the gross margin provides an indication of the crop’s ability to

contribute to principal payments and operator withdrawals. From a profitability perspective, gross margin is what is leftover to cover the non-cash costs and provide a return on investment.

The final set of graphs shows the distribution of returns to equity, or profit per unit of production. This example shows that 50% of the fields had a loss and 50% of the fields at least broke even. Return to equity can be used to compare the profitability of one crop versus another or one farm enterprise to another in the same industry.

Understanding these concepts in *AgriProfit\$* and evaluating historical performance on a per bushel basis can be very useful for other AAFRD applications. For example, [*CropChoice\\$*](#) is a tool that combines traditional crop planning with the ability to measure the riskiness of your plan. Producers can then creatively evaluate potential risk management strategies.

Irrigated Crops - Sugar Beets: 2001



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