

AgriProfit\$

**Cost and Return Profiles for
Selected Crops, 2006**
Irrigated Crops

Alberta



April 2008

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2006 Irrigated Soil Zones

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OVERVIEW

2006 Irrigated Soil Zones

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 interviewed throughout the winter and the Alberta Agriculture and Rural Development (ARD), 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 zones. 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 areas in Alberta. Please note that farms highlighted within this zone may contain characteristics of neighbouring soil zones, however, this is the grouping method used for this study.

The map on the lower right highlights the locations of participating farmers for the AgriProfits program season, for January 2006 to December 2006.

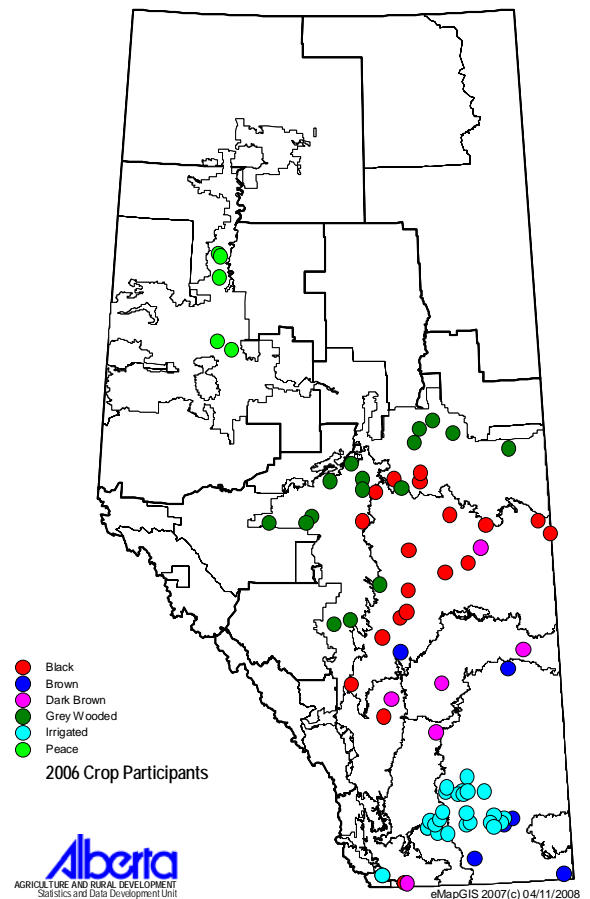
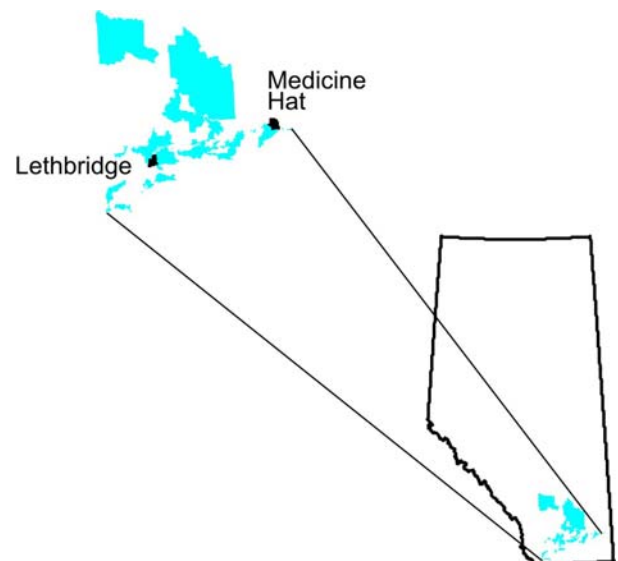
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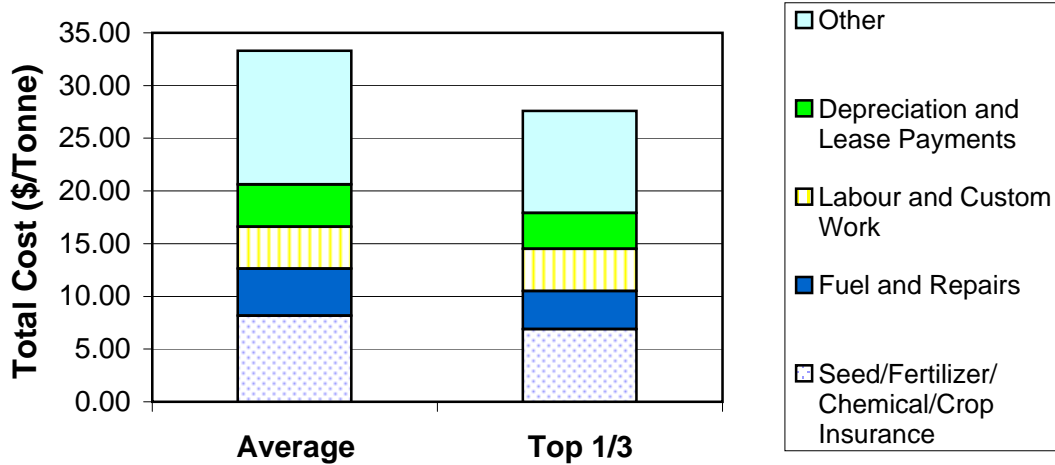
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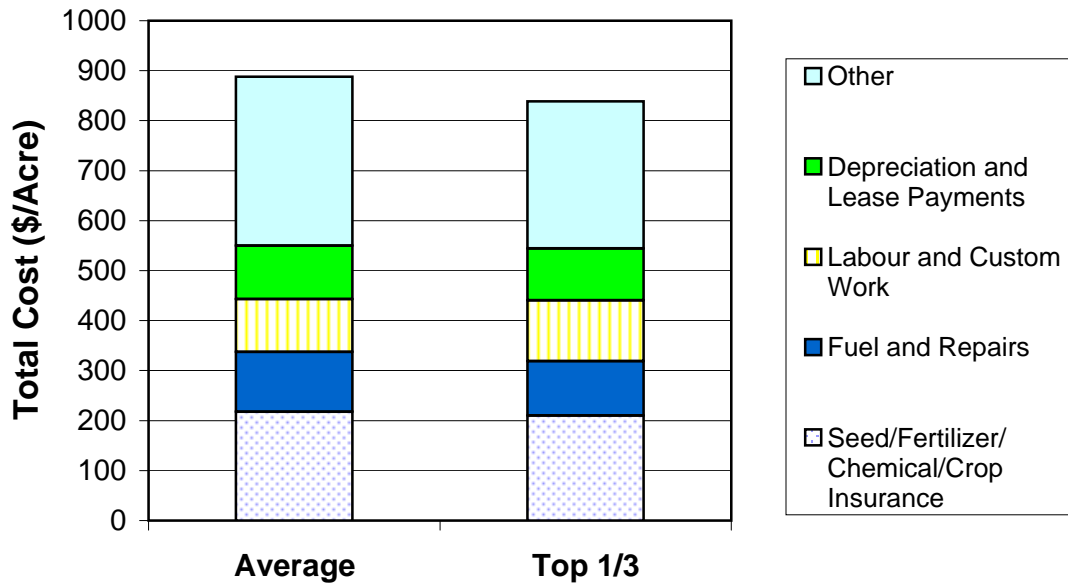
Dale Kaliel, Pauline Van Biert, Shukun Guan, Guangzhi Liu, Nabi Chaudhary, Karla Bergstrom, Interviewers and Participants.



2006 Sugar Beets in Irrigated Soil Zones (on Stubble)



2006 Sugar Beets in Irrigated Soil Zones (on Stubble)



2006 Crop Enterprise Analysis

AgriProfit\$

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

		----- \$/Acre -----		---- \$/Bushel ----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	460.71	--	3.59	--	
	2. Crop Insurance Receipts	0.00	--	0.00	--	
	3. Other Receipts	57.76	--	0.45	--	
	Gross Receipts	518.47	0.00	4.04	0.00	
(B)	Cost Items					
	1. Seed	10.10	--	0.08	--	
	2. Fertilizer	55.05	--	0.43	--	
	3. Chemical	25.12	--	0.20	--	
	4. Hail/Crop Insurance Premium	8.34	--	0.06	--	
	5. Trucking and Marketing	59.65	--	0.46	--	
	6. Fuel	23.74	--	0.18	--	
	7. Irrigation Fuel and Electricity	6.78	--	0.05	--	
	8. Repairs - Machinery	21.47	--	0.17	--	
	9. Repairs - Buildings	2.80	--	0.02	--	
	10. Utilities and Miscellaneous	20.69	--	0.16	--	
	11. Custom Work	17.40	--	0.14	--	
	12. Operating Interest Paid	3.75	--	0.03	--	
	13. Paid Labour	3.63	--	0.03	--	
	14. Unpaid Labour	21.79	--	0.17	--	
Variable Costs	280.30	0.00	2.18	0.00		
(C)	1. Cash/ Share Land Rent	84.06	--	0.65	--	
	2. Taxes, Water Rates, License & Ins.	18.39	--	0.14	--	
	3. Equipment and Building:	a) Depreciation	72.27	--	0.56	--
		b) Lease Payments	1.35	--	0.01	--
	4. Paid Capital Interest	16.39	--	0.13	--	
Capital Costs	192.46	0.00	1.50	0.00		
(D)	Cash Costs	378.71	--	2.95	--	
(E)	Total Production Costs	472.77	--	3.68	--	
	Gross Margin	139.76	--	1.09	--	
	Return to Unpaid Labour	67.49	--	0.53	--	
	Return to Investment	62.10	--	0.48	--	
	Return to Equity	45.70	--	0.36	--	

Investment

Buildings	127.60	--
Machinery	619.03	--
Irrigation Machinery	131.57	--
Total (incl. Land)	1851.96	--

Management

Average Yield	(Bushel/acre)	128.34	--
Expected Market Price	(\$/Bushel)	3.59	--

2006 Crop Enterprise Analysis

AgriProfit\$

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

		----- \$/Acre -----		----- \$/Pound -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	489.36	--	0.25	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	0.00	--	0.00	--
	Gross Receipts	489.36	0.00	0.25	0.00
(B)	Cost Items				
	1. Seed	42.28	--	0.02	--
	2. Fertilizer	34.75	--	0.02	--
	3. Chemical	64.20	--	0.03	--
	4. Hail/Crop Insurance Premium	12.28	--	0.01	--
	5. Trucking and Marketing	13.84	--	0.01	--
	6. Fuel	29.26	--	0.01	--
	7. Irrigation Fuel and Electricity	8.50	--	0.00	--
	8. Repairs - Machinery	15.94	--	0.01	--
	9. Repairs - Buildings	0.00	--	0.00	--
	10. Utilities and Miscellaneous	4.77	--	0.00	--
	11. Custom Work	0.00	--	0.00	--
	12. Operating Interest Paid	10.03	--	0.01	--
	13. Paid Labour	17.31	--	0.01	--
14. Unpaid Labour	9.21	--	0.00	--	
	Variable Costs	262.38	0.00	0.13	0.00
(C)	1. Cash/ Share Land Rent	73.47	--	0.04	--
	2. Taxes, Water Rates, License & Ins.	1.02	--	0.00	--
	3. Equipment and Building: a) Depreciation	15.78	--	0.01	--
	b) Lease Payments	52.55	--	0.03	--
4. Paid Capital Interest	7.28	--	0.00	--	
	Capital Costs	150.09	0.00	0.08	0.00
(D)	Cash Costs	(B+C-B14-C3a)	387.48	--	0.20
(E)	Total Production Costs	(B+C)	412.47	--	0.21
	Gross Margin	(A-D)	101.89	--	0.05
	Return to Unpaid Labour	(A-E+B14)	86.11	--	0.04
	Return to Investment	(A-E+C4)	84.17	--	0.04
	Return to Equity	(A-E)	76.90	--	0.04

Investment

Buildings	10.86	--
Machinery	299.35	--
Irrigation Machinery	0.00	--
Total (incl. Land)	310.21	--

Management

Average Yield	(Pound/acre)	1973.59	--
Expected Market Price	(\$/Pound)	0.25	--

2006 Crop Enterprise Analysis

AgriProfit\$

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

		----- \$/Acre -----		----- \$/Tonne -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	1084.44	1241.36	40.66	40.84
	2. Crop Insurance Receipts	29.03	24.43	1.09	0.80
	3. Other Receipts	5.53	4.92	0.21	0.16
	Gross Receipts	1119.01	1270.71	41.95	41.81
(B)	Cost Items				
	1. Seed	48.26	49.55	1.81	1.63
	2. Fertilizer	54.90	62.36	2.06	2.05
	3. Chemical	88.10	71.30	3.30	2.35
	4. Hail/Crop Insurance Premium	26.53	26.67	0.99	0.88
	5. Trucking and Marketing	121.68	135.13	4.56	4.45
	6. Fuel	63.37	58.31	2.38	1.92
	7. Irrigation Fuel and Electricity	39.79	32.22	1.49	1.06
	8. Repairs - Machinery	51.19	42.76	1.92	1.41
	9. Repairs - Buildings	4.89	7.87	0.18	0.26
	10. Utilities and Miscellaneous	26.62	25.92	1.00	0.85
	11. Custom Work	12.96	18.27	0.49	0.60
	12. Operating Interest Paid	7.55	2.95	0.28	0.10
	13. Paid Labour	43.62	47.45	1.64	1.56
	14. Unpaid Labour	49.23	56.23	1.85	1.85
	Variable Costs	638.68	636.99	23.94	20.96
(C)	1. Cash/ Share Land Rent	100.36	61.39	3.76	2.02
	2. Taxes, Water Rates, License & Ins.	17.72	20.16	0.66	0.66
	3. Equipment and Building: a) Depreciation	89.39	101.60	3.35	3.34
	b) Lease Payments	17.31	1.81	0.65	0.06
4. Paid Capital Interest	24.49	16.95	0.92	0.56	
	Capital Costs	249.28	201.90	9.35	6.64
(D)	Cash Costs (B+C-B14-C3a)	749.33	681.07	28.09	22.41
(E)	Total Production Costs (B+C)	887.96	838.89	33.29	27.60
	Gross Margin (A-D)	369.68	589.65	13.86	19.40
	Return to Unpaid Labour (A-E+B14)	280.29	488.05	10.51	16.06
	Return to Investment (A-E+C4)	255.55	448.77	9.58	14.77
	Return to Equity (A-E)	231.05	431.82	8.66	14.21

Investment

Buildings	128.77	187.25
Machinery	681.22	783.99
Irrigation Machinery	264.07	245.05
Total (incl. Land)	2240.17	2818.54

Management

Average Yield	(Tonne/acre)	26.67	30.39
Expected Market Price	(\$/Tonne)	40.66	40.84

2006 Crop Enterprise Analysis

AgriProfit\$

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

		----- \$/Acre -----		----- \$/Tonne -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	1123.73	1224.17	40.81	41.22
	2. Crop Insurance Receipts	16.17	15.30	0.59	0.52
	3. Other Receipts	4.10	0.85	0.15	0.03
	Gross Receipts	1144.00	1240.31	41.54	41.76
(B)	Cost Items				
	1. Seed	49.12	51.88	1.78	1.75
	2. Fertilizer	61.49	57.01	2.23	1.92
	3. Chemical	80.70	64.76	2.93	2.18
	4. Hail/Crop Insurance Premium	27.37	24.01	0.99	0.81
	5. Trucking and Marketing	123.53	142.61	4.49	4.80
	6. Fuel	67.59	52.88	2.45	1.78
	7. Irrigation Fuel and Electricity	43.12	22.98	1.57	0.77
	8. Repairs - Machinery	60.13	32.15	2.18	1.08
	9. Repairs - Buildings	7.25	6.65	0.26	0.22
	10. Utilities and Miscellaneous	23.94	19.63	0.87	0.66
	11. Custom Work	12.68	23.73	0.46	0.80
	12. Operating Interest Paid	8.23	2.19	0.30	0.07
	13. Paid Labour	46.82	40.04	1.70	1.35
	14. Unpaid Labour	50.75	54.04	1.84	1.82
	Variable Costs	662.72	594.57	24.07	20.02
(C)	1. Cash/ Share Land Rent	0.00	0.00	0.00	0.00
	2. Taxes, Water Rates, License & Ins.	34.38	27.98	1.25	0.94
	3. Equipment and Building: a) Depreciation	133.17	103.88	4.84	3.50
	b) Lease Payments	6.32	0.00	0.23	0.00
4. Paid Capital Interest	45.80	29.39	1.66	0.99	
	Capital Costs	219.67	161.25	7.98	5.43
(D)	Cash Costs (B+C-B14-C3a)	698.47	597.89	25.36	20.13
(E)	Total Production Costs (B+C)	882.39	755.81	32.04	25.45
	Gross Margin (A-D)	445.53	642.43	16.18	21.63
	Return to Unpaid Labour (A-E+B14)	312.36	538.54	11.34	18.13
	Return to Investment (A-E+C4)	307.41	513.89	11.16	17.30
	Return to Equity (A-E)	261.61	484.50	9.50	16.31

Investment

Buildings	166.13	261.46
Machinery	814.93	682.18
Irrigation Machinery	601.86	347.85
Total (incl. Land)	4240.71	3851.27

Management

Average Yield (Tonne/acre)	27.54	29.70
Expected Market Price (\$/Tonne)	40.81	41.22

2006 Crop Enterprise Analysis

AgriProfit\$

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

		----- \$/Acre -----		----- \$/Tonne -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	1053.73	1217.39	40.53	40.50
	2. Crop Insurance Receipts	39.09	49.18	1.50	1.64
	3. Other Receipts	6.65	13.11	0.26	0.44
	Gross Receipts	1099.47	1279.68	42.29	42.57
(B)	Cost Items				
	1. Seed	47.59	47.30	1.83	1.57
	2. Fertilizer	49.75	62.54	1.91	2.08
	3. Chemical	93.88	81.07	3.61	2.70
	4. Hail/Crop Insurance Premium	25.87	28.00	1.00	0.93
	5. Trucking and Marketing	120.24	126.98	4.62	4.22
	6. Fuel	60.06	55.29	2.31	1.84
	7. Irrigation Fuel and Electricity	37.19	42.63	1.43	1.42
	8. Repairs - Machinery	44.20	35.05	1.70	1.17
	9. Repairs - Buildings	3.03	1.86	0.12	0.06
	10. Utilities and Miscellaneous	28.72	33.23	1.10	1.11
	11. Custom Work	13.18	18.74	0.51	0.62
	12. Operating Interest Paid	7.02	4.37	0.27	0.15
	13. Paid Labour	41.11	48.31	1.58	1.61
	14. Unpaid Labour	48.05	70.17	1.85	2.33
	Variable Costs	619.88	655.55	23.84	21.81
(C)	1. Cash/ Share Land Rent	178.82	166.92	6.88	5.55
	2. Taxes, Water Rates, License & Ins.	4.69	5.04	0.18	0.17
	3. Equipment and Building: a) Depreciation	55.17	66.65	2.12	2.22
	b) Lease Payments	25.90	14.37	1.00	0.48
	4. Paid Capital Interest	7.84	2.25	0.30	0.07
	Capital Costs	272.42	255.23	10.48	8.49
(D)	Cash Costs (B+C-B14-C3a)	789.09	773.96	30.35	25.75
(E)	Total Production Costs (B+C)	892.31	910.78	34.32	30.30
	Gross Margin (A-D)	310.39	505.73	11.94	16.82
	Return to Unpaid Labour (A-E+B14)	255.21	439.07	9.82	14.61
	Return to Investment (A-E+C4)	215.00	371.15	8.27	12.35
	Return to Equity (A-E)	207.16	368.90	7.97	12.27

Investment

Buildings	99.56	108.43
Machinery	576.70	657.87
Irrigation Machinery	0.00	0.00
Total (incl. Land)	676.26	766.31

Management

Average Yield (Tonne/acre)	26.00	30.06
Expected Market Price (\$/Tonne)	40.53	40.50

2006 Crop Enterprise Analysis

AgriProfit\$

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

		----- \$/Acre -----		----- \$/Tonne -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	1217.89	--	40.50	--
	2. Crop Insurance Receipts	94.23	--	3.13	--
	3. Other Receipts	35.51	--	1.18	--
	Gross Receipts	1347.63	0.00	44.81	0.00
(B)	Cost Items				
	1. Seed	47.30	--	1.57	--
	2. Fertilizer	59.36	--	1.97	--
	3. Chemical	80.73	--	2.68	--
	4. Hail/Crop Insurance Premium	29.13	--	0.97	--
	5. Trucking and Marketing	106.81	--	3.55	--
	6. Fuel	40.76	--	1.36	--
	7. Irrigation Fuel and Electricity	30.07	--	1.00	--
	8. Repairs - Machinery	41.15	--	1.37	--
	9. Repairs - Buildings	2.84	--	0.09	--
	10. Utilities and Miscellaneous	39.26	--	1.31	--
	11. Custom Work	29.29	--	0.97	--
	12. Operating Interest Paid	3.12	--	0.10	--
	13. Paid Labour	53.13	--	1.77	--
	14. Unpaid Labour	104.56	--	3.48	--
	Variable Costs	667.49	0.00	22.20	0.00
(C)	1. Cash/ Share Land Rent	105.08	--	3.49	--
	2. Taxes, Water Rates, License & Ins.	18.76	--	0.62	--
	3. Equipment and Building: a) Depreciation	128.02	--	4.26	--
	b) Lease Payments	8.70	--	0.29	--
4. Paid Capital Interest	22.92	--	0.76	--	
	Capital Costs	283.48	0.00	9.43	0.00
(D)	Cash Costs (B+C-B14-C3a)	718.40	--	23.89	--
(E)	Total Production Costs (B+C)	950.97	--	31.62	--
	Gross Margin (A-D)	629.23	--	20.92	--
	Return to Unpaid Labour (A-E+B14)	501.22	--	16.67	--
	Return to Investment (A-E+C4)	419.58	--	13.95	--
	Return to Equity (A-E)	396.66	--	13.19	--

Investment

Buildings	126.17	--
Machinery	904.09	--
Irrigation Machinery	441.33	--
Total (incl. Land)	2585.53	--

Management

Average Yield (Tonne/acre)	30.07	--
Expected Market Price (\$/Tonne)	40.50	--

2006 Crop Enterprise Analysis

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

		----- \$/Acre -----		----- \$/Tonne -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	358.90	--	67.23	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	32.84	--	6.15	--
	Gross Receipts	391.74	0.00	73.39	0.00
(B)	Cost Items				
	1. Seed	2.54	--	0.48	--
	2. Fertilizer	8.11	--	1.52	--
	3. Chemical	1.47	--	0.28	--
	4. Hail/Crop Insurance Premium	0.00	--	0.00	--
	5. Trucking and Marketing	1.01	--	0.19	--
	6. Fuel	34.84	--	6.53	--
	7. Irrigation Fuel and Electricity	19.13	--	3.58	--
	8. Repairs - Machinery	36.50	--	6.84	--
	9. Repairs - Buildings	1.48	--	0.28	--
	10. Utilities and Miscellaneous	27.53	--	5.16	--
	11. Custom Work	5.50	--	1.03	--
	12. Operating Interest Paid	21.02	--	3.94	--
	13. Paid Labour	7.54	--	1.41	--
	14. Unpaid Labour	30.69	--	5.75	--
	Variable Costs	197.37	0.00	36.97	0.00
(C)	1. Cash/ Share Land Rent	35.94	--	6.73	--
	2. Taxes, Water Rates, License & Ins.	12.58	--	2.36	--
	3. Equipment and Building: a) Depreciation	55.04	--	10.31	--
	b) Lease Payments	1.30	--	0.24	--
4. Paid Capital Interest	30.07	--	5.63	--	
	Capital Costs	134.93	0.00	25.28	0.00
(D)	Cash Costs (B+C-B14-C3a)	246.57	--	46.19	--
(E)	Total Production Costs (B+C)	332.30	--	62.25	--
	Gross Margin (A-D)	145.17	--	27.20	--
	Return to Unpaid Labour (A-E+B14)	90.13	--	16.88	--
	Return to Investment (A-E+C4)	89.51	--	16.77	--
	Return to Equity (A-E)	59.44	--	11.14	--

Investment

Buildings	69.27	--
Machinery	397.19	--
Irrigation Machinery	149.78	--
Total (incl. Land)	1420.44	--

Management

Average Yield	(Tonne/acre)	5.34	--
Expected Market Price	(\$/Tonne)	67.23	--

2006 Crop Enterprise Analysis

AgriProfit\$

Crop: *Mixed Hay - Own*
Soil Zone: *- Irrigated - Stubble*
Unit: *Tonne*

		----- \$/Acre -----		----- \$/Tonne -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	99.60	--	61.78	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	48.12	--	29.85	--
	Gross Receipts	147.72	0.00	91.63	0.00
(B)	Cost Items				
	1. Seed	11.65	--	7.23	--
	2. Fertilizer	2.42	--	1.50	--
	3. Chemical	0.00	--	0.00	--
	4. Hail/Crop Insurance Premium	0.00	--	0.00	--
	5. Trucking and Marketing	1.00	--	0.62	--
	6. Fuel	27.19	--	16.86	--
	7. Irrigation Fuel and Electricity	7.23	--	4.48	--
	8. Repairs - Machinery	36.77	--	22.81	--
	9. Repairs - Buildings	0.00	--	0.00	--
	10. Utilities and Miscellaneous	21.07	--	13.07	--
	11. Custom Work	0.00	--	0.00	--
	12. Operating Interest Paid	10.75	--	6.67	--
	13. Paid Labour	5.04	--	3.13	--
14. Unpaid Labour	30.43	--	18.88	--	
	Variable Costs	153.55	0.00	95.25	0.00
(C)	1. Cash/ Share Land Rent	0.00	--	0.00	--
	2. Taxes, Water Rates, License & Ins.	20.61	--	12.78	--
	3. Equipment and Building: a) Depreciation	78.48	--	48.68	--
	b) Lease Payments	2.95	--	1.83	--
4. Paid Capital Interest	41.10	--	25.49	--	
	Capital Costs	143.14	0.00	88.79	0.00
(D)	Cash Costs	187.78	--	116.48	--
(E)	Total Production Costs	296.69	--	184.04	--
	Gross Margin	(40.05)	--	(24.84)	--
	Return to Unpaid Labour	(118.53)	--	(73.53)	--
	Return to Investment	(107.87)	--	(66.91)	--
	Return to Equity	(148.96)	--	(92.40)	--

Investment

Buildings	65.99	--
Machinery	415.97	--
Irrigation Machinery	311.95	--
Total (incl. Land)	3583.39	--

Management

Average Yield	(Tonne/acre)	1.61	--
Expected Market Price	(\$/Tonne)	61.78	--

2006 Crop Enterprise Analysis

AgriProfit\$

Crop: Greenfeed - All
Soil Zone: - Irrigated - Stubble
Unit: Tonne

		----- \$/Acre -----		----- \$/Tonne -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	76.56	--	66.14	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	24.26	--	20.95	--
	Gross Receipts	100.82	0.00	87.09	0.00
(B)	Cost Items				
	1. Seed	10.35	--	8.94	--
	2. Fertilizer	12.36	--	10.68	--
	3. Chemical	2.30	--	1.99	--
	4. Hail/Crop Insurance Premium	1.20	--	1.04	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	26.93	--	23.27	--
	7. Irrigation Fuel and Electricity	2.52	--	2.17	--
	8. Repairs - Machinery	18.88	--	16.31	--
	9. Repairs - Buildings	0.69	--	0.59	--
	10. Utilities and Miscellaneous	7.79	--	6.73	--
	11. Custom Work	1.20	--	1.04	--
	12. Operating Interest Paid	13.94	--	12.04	--
	13. Paid Labour	1.15	--	0.99	--
	14. Unpaid Labour	21.19	--	18.31	--
	Variable Costs	120.49	0.00	104.09	0.00
(C)	1. Cash/ Share Land Rent	15.00	--	12.96	--
	2. Taxes, Water Rates, License & Ins.	4.32	--	3.74	--
	3. Equipment and Building: a) Depreciation	29.46	--	25.45	--
	b) Lease Payments	4.49	--	3.87	--
4. Paid Capital Interest	2.17	--	1.87	--	
	Capital Costs	55.44	0.00	47.89	0.00
(D)	Cash Costs (B+C-B14-C3a)	125.28	--	108.22	--
(E)	Total Production Costs (B+C)	175.93	--	151.98	--
	Gross Margin (A-D)	(24.46)	--	(21.13)	--
	Return to Unpaid Labour (A-E+B14)	(53.92)	--	(46.58)	--
	Return to Investment (A-E+C4)	(72.95)	--	(63.02)	--
	Return to Equity (A-E)	(75.11)	--	(64.89)	--

Investment

Buildings	44.16	--
Machinery	276.46	--
Irrigation Machinery	13.49	--
Total (incl. Land)	974.10	--

Management

Average Yield	(Tonne/acre)	1.16	--
Expected Market Price	(\$/Tonne)	66.14	--

2006 Crop Enterprise Analysis

AgriProfit\$

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

		----- \$/Acre -----		----- \$/Tonne -----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	302.29	--	35.70	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	10.62	--	1.25	--
	Gross Receipts	312.91	0.00	36.96	0.00
(B)	Cost Items				
	1. Seed	10.31	--	1.22	--
	2. Fertilizer	31.77	--	3.75	--
	3. Chemical	8.89	--	1.05	--
	4. Hail/Crop Insurance Premium	6.86	--	0.81	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	31.22	--	3.69	--
	7. Irrigation Fuel and Electricity	6.59	--	0.78	--
	8. Repairs - Machinery	21.32	--	2.52	--
	9. Repairs - Buildings	2.01	--	0.24	--
	10. Utilities and Miscellaneous	17.38	--	2.05	--
	11. Custom Work	4.48	--	0.53	--
	12. Operating Interest Paid	6.31	--	0.74	--
	13. Paid Labour	2.65	--	0.31	--
14. Unpaid Labour	23.04	--	2.72	--	
	Variable Costs	172.81	0.00	20.41	0.00
(C)	1. Cash/ Share Land Rent	24.75	--	2.92	--
	2. Taxes, Water Rates, License & Ins.	13.95	--	1.65	--
	3. Equipment and Building: a) Depreciation	52.96	--	6.25	--
	b) Lease Payments	5.26	--	0.62	--
4. Paid Capital Interest	26.86	--	3.17	--	
	Capital Costs	123.78	0.00	14.62	0.00
(D)	Cash Costs	(B+C-B14-C3a)	220.59	--	26.05
(E)	Total Production Costs	(B+C)	296.59	--	35.03
	Gross Margin	(A-D)	92.32	--	10.90
	Return to Unpaid Labour	(A-E+B14)	39.36	--	4.65
	Return to Investment	(A-E+C4)	43.18	--	5.10
	Return to Equity	(A-E)	16.32	--	1.93

Investment

Buildings	39.78	--
Machinery	312.88	--
Irrigation Machinery	266.63	--
Total (incl. Land)	2798.39	--

Management

Average Yield	(Tonne/acre)	8.47	--
Expected Market Price	(\$/Tonne)	35.70	--

FREQUENCY AND CUMULATIVE FREQUENCY DISTRIBUTION

Distribution charts provide a summary of yields, costs, and returns data in visual form. 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 and within a particular soil zone region. 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 *bar charts* on the left side represent the percentage of fields *within each range*, while the *line charts* on the right side indicate the total or *cumulative percentage* of fields at each point, as if the bars were stacked.

The first pair of charts provides the distribution of the sugar beet yield range in the irrigated soil zones. From these charts a lot can be interpreted about yield performance:

- The low is less than 18 tonnes per acre and the high is close to 36 tonnes per acre, and
- Over 70% of the sugar beet fields in the irrigated soil zones yield between 15 and 30 tonnes per acre.
- More specifically, the bar chart on the left indicates that about 6% of the fields had yields between 0-18 tonnes/ac, and another 13% had yields between 18-21 tonnes/ac, etc. The line chart on the right side represents the cumulative percentage of these fields, so that at 21 tonnes/ac around 19% of the total number of fields are represented, and at 24 tonnes/ac approximately 35% of the fields, and so on.

This detailed information provides a better understanding of yield variability. The average yield is 26 tonnes per acre provided on the sugar beet crop 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.

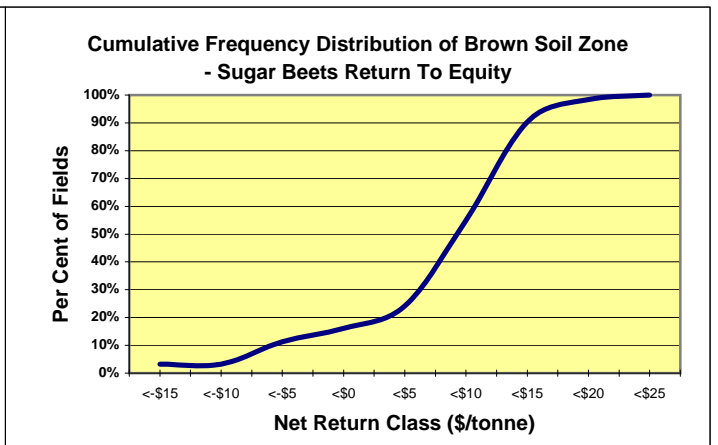
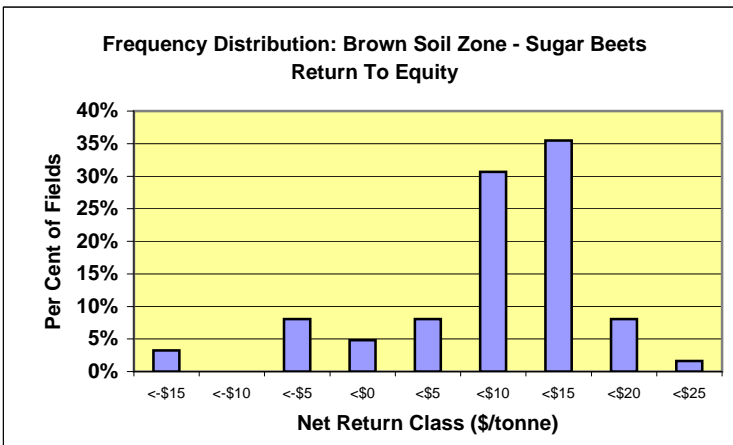
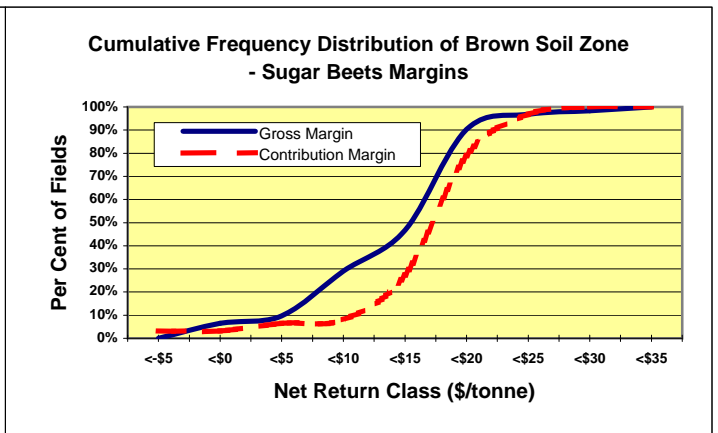
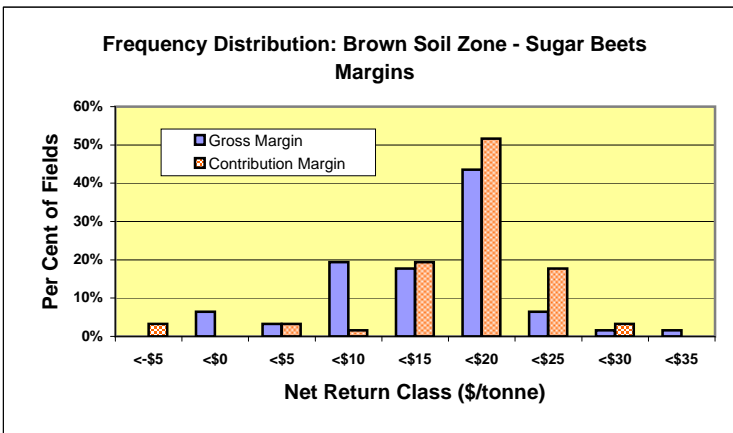
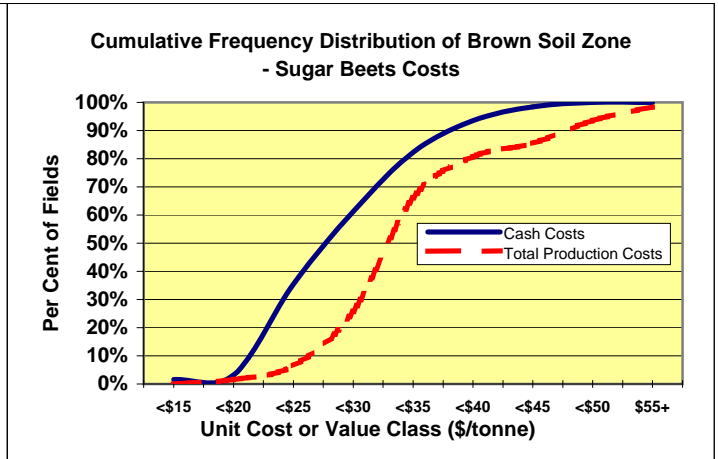
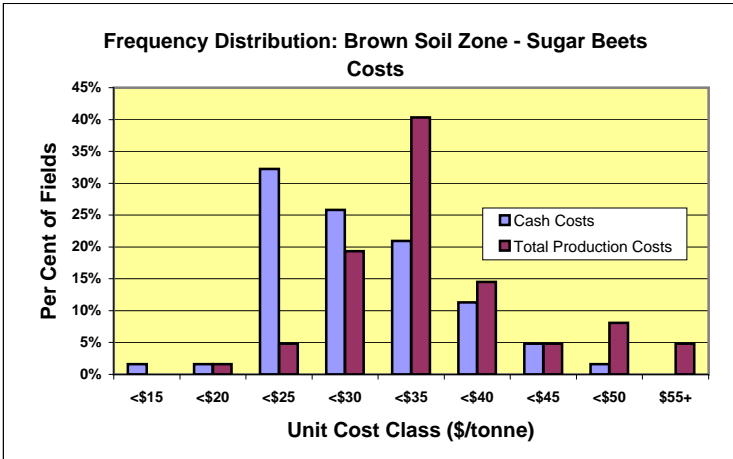
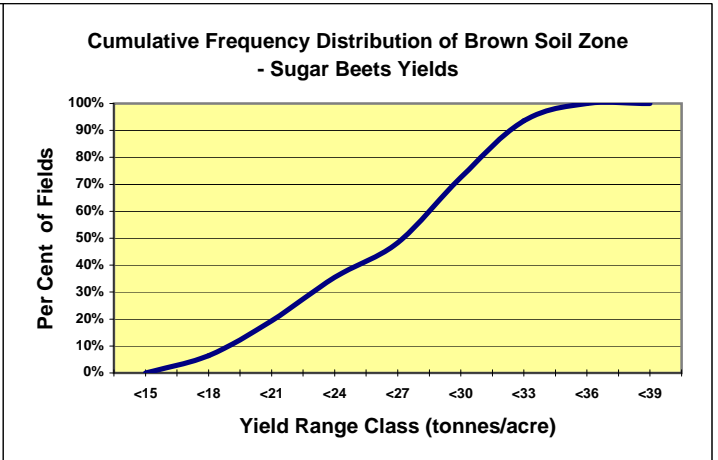
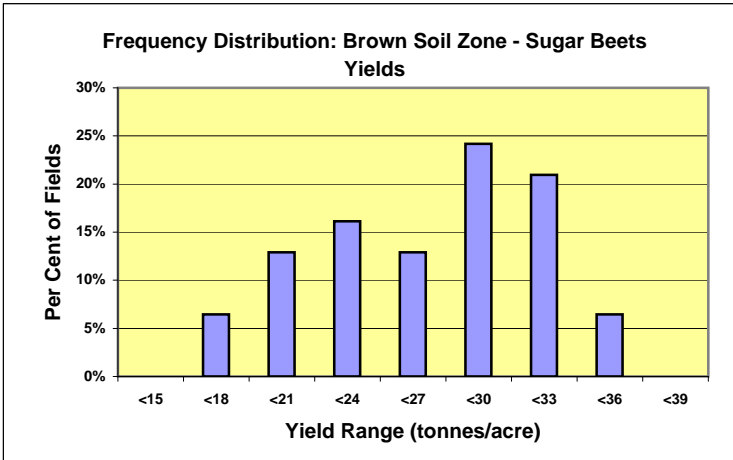
The second set of graphs focuses on the distribution of cost totals. Understanding these provides a basis for cost control and managing for yield per dollar invested. It is important to look at cash costs for individual field analysis (as an indication of cash flow pressure points). Cash costs include 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 \$40.50 per tonne, then over 94% of the fields are covering their cash costs and over 82% 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 (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 approximately 15% of the fields had a loss and 85% of the fields 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 Alberta Agriculture and Rural Development (ARD) 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.

Brown Soil Zone - Sugar Beets: 2006



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