

AgriProfit\$

**Cost and Return Profiles for
Selected Crops, 2004
*Brown Soil Zone***

April, 2006

Alberta
AGRICULTURE, FOOD AND
RURAL DEVELOPMENT



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2004 Brown Soil Zone

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OVERVIEW

2004 Brown 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 brown 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 Brown Soil Zone area of Alberta. A map for the Dark Brown soil is not available. 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 2004 survey season.

For questions regarding this document please contact:

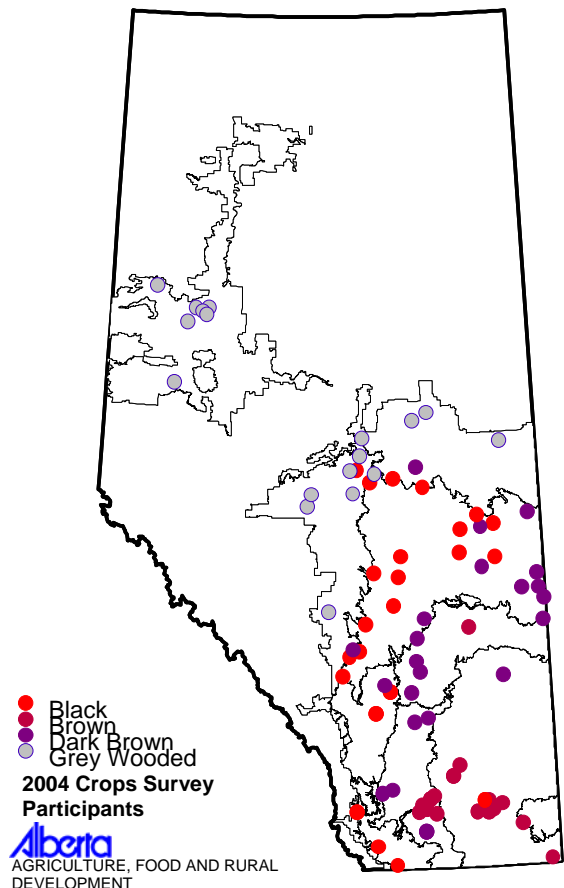
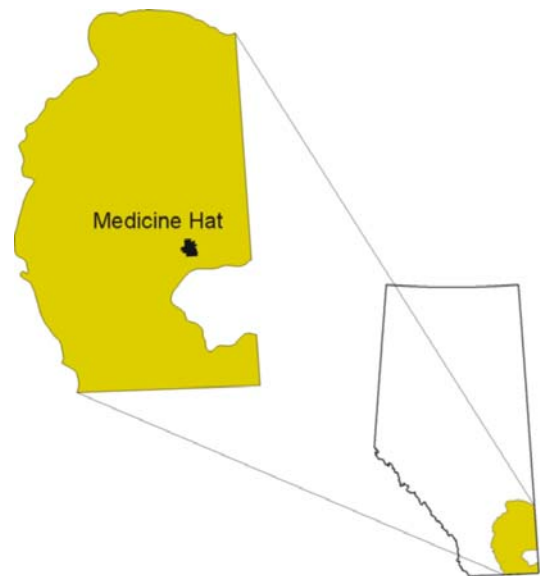
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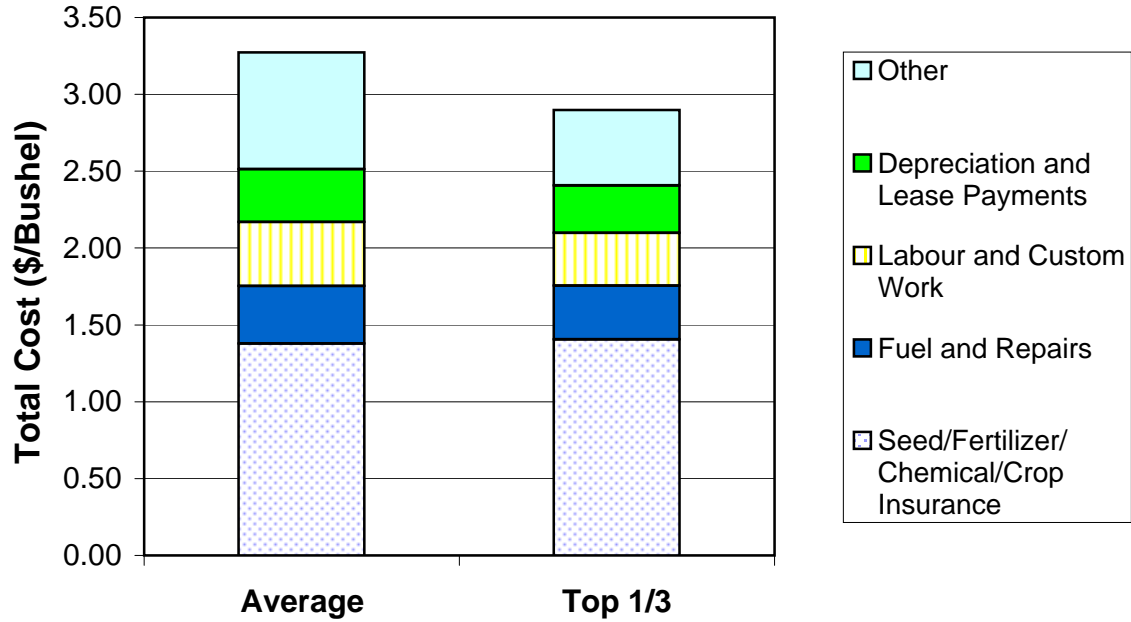
Acknowledgements:

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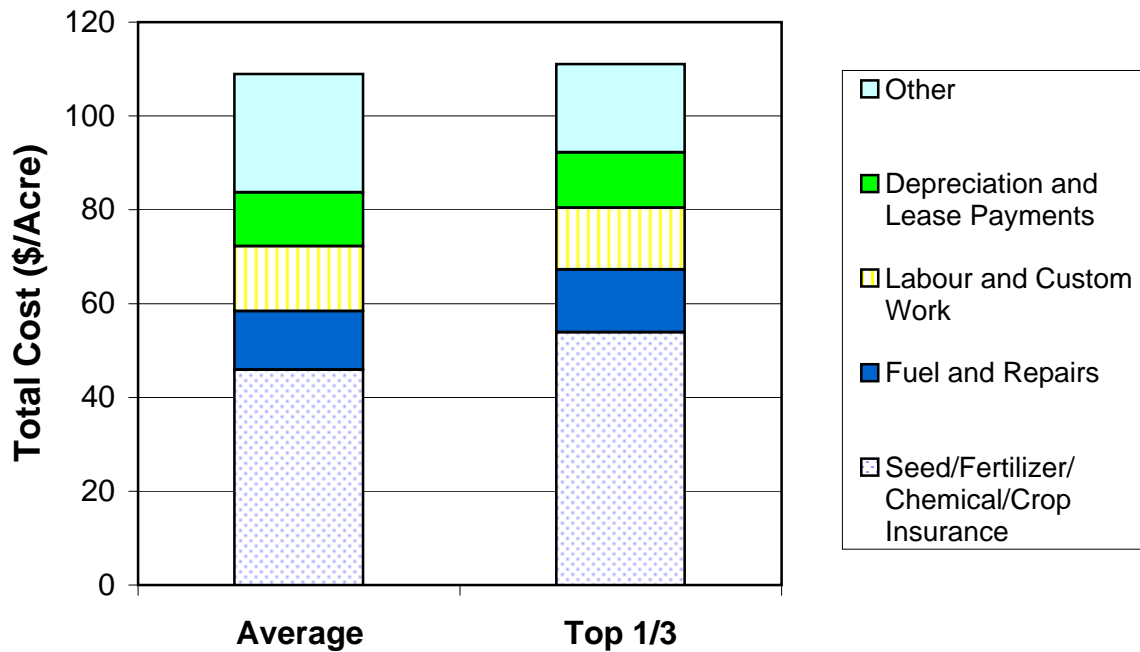
Spring Wheat on Brown Soil

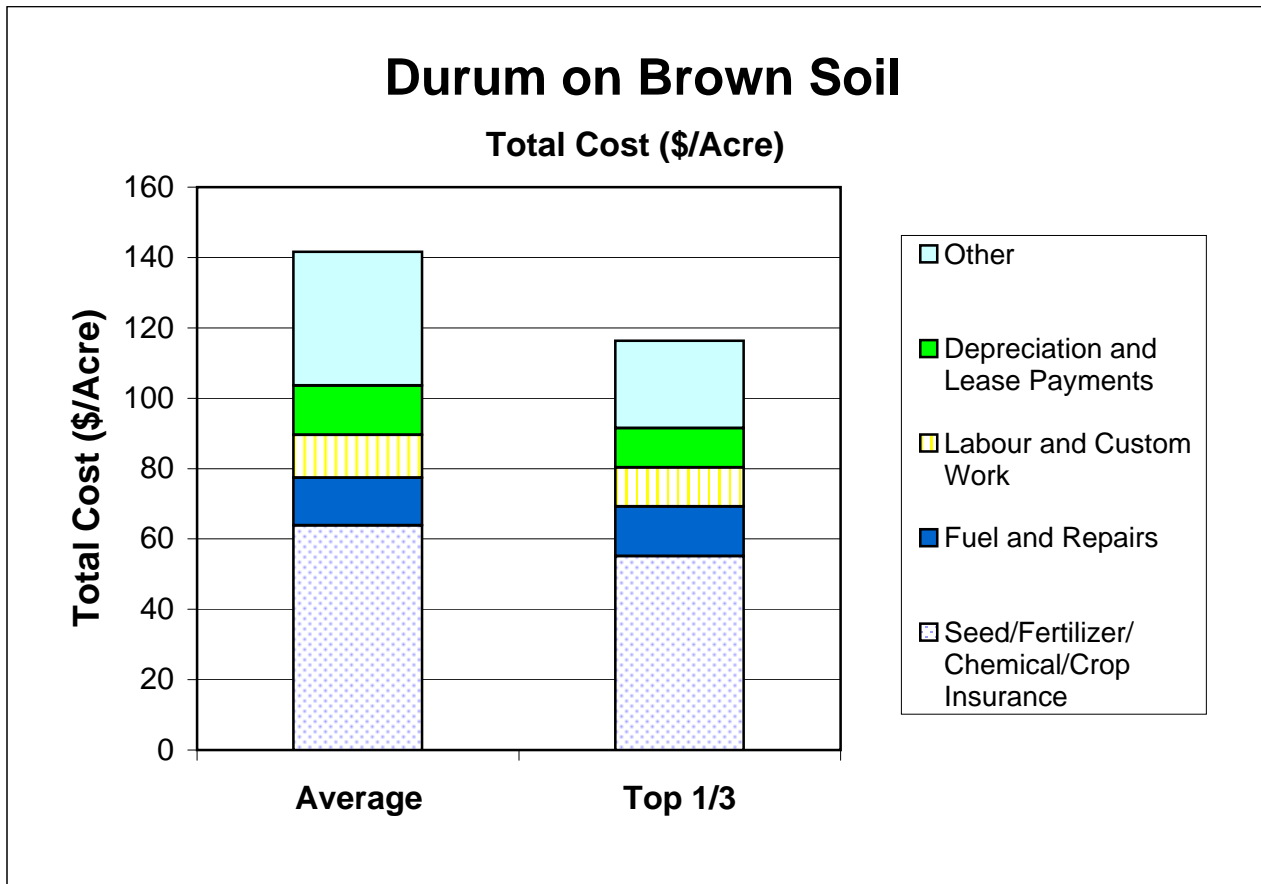
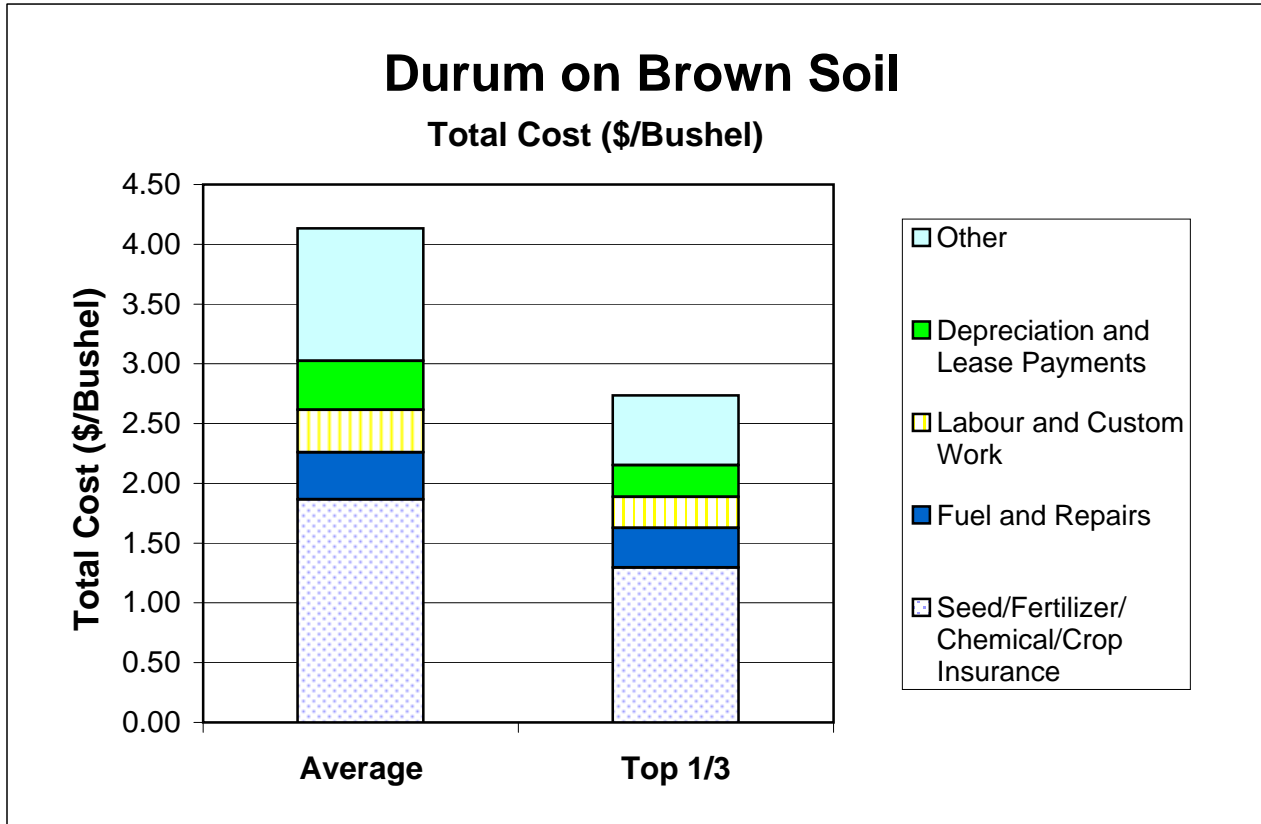
Total Cost (\$/Bushel)



Spring Wheat on Brown Soil

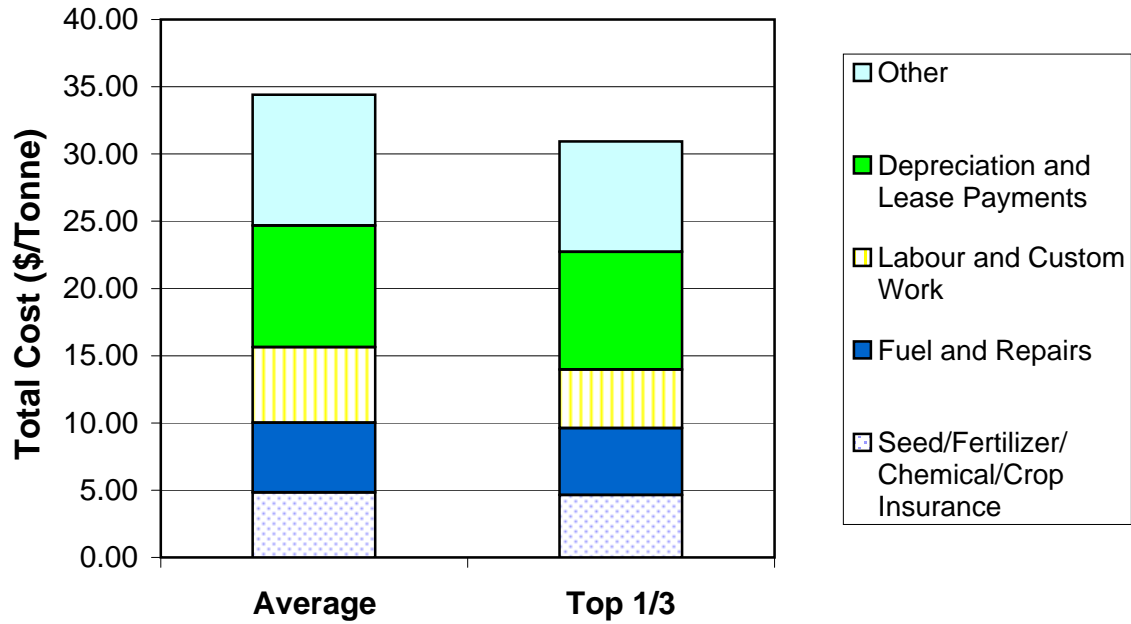
Total Cost (\$/Acre)





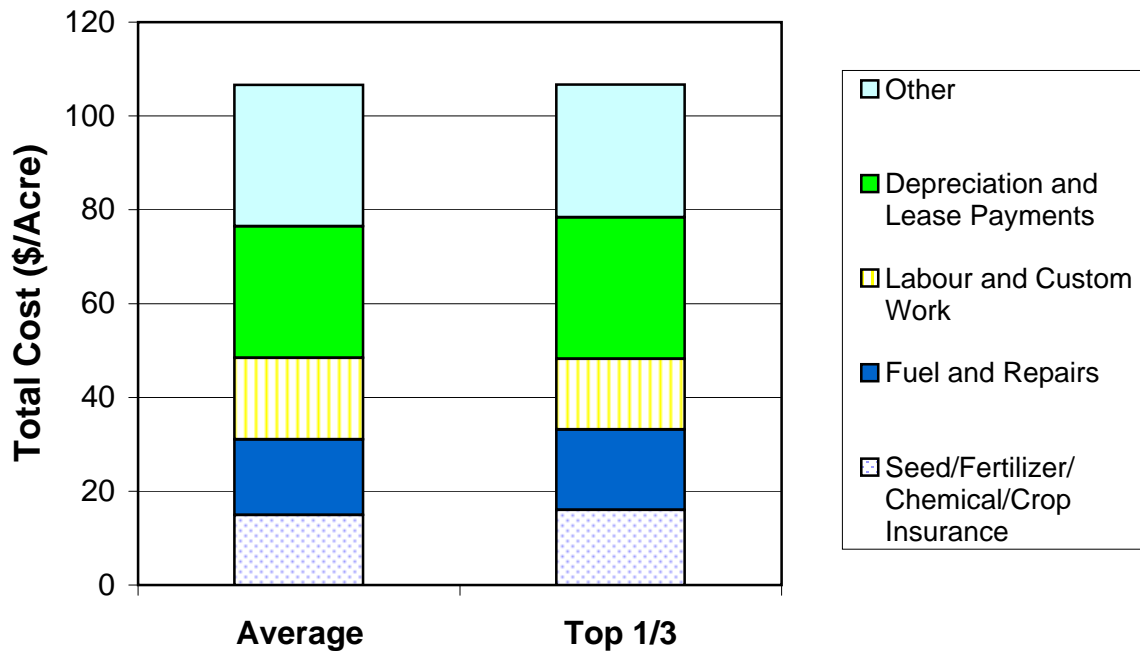
Greenfeed on Brown Soil

Total Cost (\$/Tonne)



Greenfeed on Brown Soil

Total Cost (\$/Acre)



Crop Enterprise Analysis

Crop: *Spring Wheat - All*
Soil Zone: *Brown - Dryland*
Unit: *Bushel*

		----- \$/Acre -----		---- \$/Bushel ----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	145.84	167.11	4.38	4.36	
	2. Crop Insurance Receipts	5.06	8.53	0.15	0.22	
	3. Other Receipts	5.66	5.71	0.17	0.15	
	Gross Receipts	156.57	181.35	4.70	4.73	
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(B)	Cost Items					
	1. Seed	6.69	6.97	0.20	0.18	
	2. Fertilizer	10.90	15.26	0.33	0.40	
	3. Chemical	18.20	21.91	0.55	0.57	
	4. Hail/Crop Insurance Premium	10.09	9.75	0.30	0.25	
	5. Trucking and Marketing	2.26	2.08	0.07	0.05	
	6. Fuel	5.72	5.10	0.17	0.13	
	7. Irrigation Fuel and Electricity	0.00	0.00	0.00	0.00	
	8. Repairs - Machinery	5.23	6.39	0.16	0.17	
	9. Repairs - Buildings	1.53	1.87	0.05	0.05	
	10. Utilities and Miscellaneous	6.95	6.95	0.21	0.18	
	11. Custom Work	1.71	1.70	0.05	0.04	
	12. Operating Interest Paid	1.08	1.07	0.03	0.03	
	13. Paid Labour	1.16	1.95	0.03	0.05	
	14. Unpaid Labour	11.01	9.58	0.33	0.25	
	Variable Costs	82.53	90.57	2.48	2.36	
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(C)	1. Cash/ Share Land Rent	6.10	1.87	0.18	0.05	
	2. Taxes, Water Rates, License & Ins.	4.41	4.65	0.13	0.12	
	3. Equipment and Building:	a) Depreciation	10.70	11.80	0.32	0.31
		b) Lease Payments	0.74	0.00	0.02	0.00
	4. Paid Capital Interest	4.48	2.18	0.13	0.53	
	Capital Costs	26.43	20.50	0.79	1.01	
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(D)	Cash Costs	87.25	89.68	2.62	2.82	
(E)	Total Production Costs	108.96	111.07	3.27	3.38	
	Gross Margin	69.32	91.67	2.08	1.91	
	Return to Unpaid Labour	58.62	79.87	1.76	1.61	
	Return to Investment	52.10	72.46	1.56	1.89	
	Return to Equity	47.61	70.29	1.43	1.36	

Investment

Buildings	27.10	29.64
Machinery	103.09	111.00
Irrigation Machinery	0.00	0.00
Total (incl. Land)	528.42	629.21

Management

Average Yield	(Bushel/acre)	33.29	38.33
Expected Market Price	(\$/Bushel)	4.38	4.36

Crop Enterprise Analysis

Crop: *Spring Wheat - Own*
Soil Zone: *Brown - Dryland*
Unit: *Bushel*

		----- \$/Acre -----		---- \$/Bushel ----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	159.90	175.00	4.41	4.35
	2. Crop Insurance Receipts	2.38	3.41	0.07	0.08
	3. Other Receipts	4.85	4.57	0.13	0.11
	Gross Receipts	167.13	182.98	4.61	4.55
(B)	Cost Items				
	1. Seed	6.63	6.81	0.18	0.17
	2. Fertilizer	13.30	15.54	0.37	0.39
	3. Chemical	20.87	22.07	0.58	0.55
	4. Hail/Crop Insurance Premium	10.10	9.85	0.28	0.24
	5. Trucking and Marketing	2.28	2.07	0.06	0.05
	6. Fuel	5.33	4.98	0.15	0.12
	7. Irrigation Fuel and Electricity	0.00	0.00	0.00	0.00
	8. Repairs - Machinery	5.94	6.89	0.16	0.17
	9. Repairs - Buildings	1.74	2.03	0.05	0.05
	10. Utilities and Miscellaneous	7.52	7.73	0.21	0.19
	11. Custom Work	0.89	1.28	0.02	0.03
	12. Operating Interest Paid	1.01	0.84	0.03	0.02
	13. Paid Labour	1.41	2.02	0.04	0.05
	14. Unpaid Labour	10.34	9.00	0.29	0.22
	Variable Costs	87.36	91.12	2.41	2.26
(C)	1. Cash/ Share Land Rent	0.00	0.00	0.00	0.00
	2. Taxes, Water Rates, License & Ins.	5.26	4.99	0.14	0.12
	3. Equipment and Building: a) Depreciation	11.41	11.80	0.31	0.29
	b) Lease Payments	0.00	0.00	0.00	0.00
4. Paid Capital Interest	5.56	2.32	0.15	0.47	
	Capital Costs	22.23	19.11	0.61	0.89
(D)	Cash Costs				
	(B+C-B14-C3a)	87.84	89.43	2.42	2.64
(E)	Total Production Costs				
	(B+C)	109.58	110.23	3.02	3.16
	Gross Margin	(A-D)	79.29	93.55	2.19
	Return to Unpaid Labour	(A-E+B14)	67.89	81.76	1.87
	Return to Investment	(A-E+C4)	63.11	75.07	1.74
	Return to Equity	(A-E)	57.55	72.75	1.59

Investment

Buildings	28.24	29.65
Machinery	109.49	111.86
Irrigation Machinery	0.00	0.00
Total (incl. Land)	683.89	678.32

Management

Average Yield	(Bushel/acre)	36.27	40.23
Expected Market Price	(\$/Bushel)	4.41	4.35

Crop Enterprise Analysis

Crop: *Spring Wheat - Rent*
Soil Zone: *Brown - Dryland*
Unit: *Bushel*

		----- \$/Acre -----		---- \$/Bushel ----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	108.00	--	4.27	--	
	2. Crop Insurance Receipts	12.29	--	0.49	--	
	3. Other Receipts	7.85	--	0.31	--	
	Gross Receipts	128.14	0.00	5.07	0.00	
(B)	Cost Items					
	1. Seed	6.84	--	0.27	--	
	2. Fertilizer	4.46	--	0.18	--	
	3. Chemical	11.02	--	0.44	--	
	4. Hail/Crop Insurance Premium	10.07	--	0.40	--	
	5. Trucking and Marketing	2.22	--	0.09	--	
	6. Fuel	6.77	--	0.27	--	
	7. Irrigation Fuel and Electricity	0.00	--	0.00	--	
	8. Repairs - Machinery	3.32	--	0.13	--	
	9. Repairs - Buildings	0.97	--	0.04	--	
	10. Utilities and Miscellaneous	5.39	--	0.21	--	
	11. Custom Work	3.92	--	0.16	--	
	12. Operating Interest Paid	1.26	--	0.05	--	
	13. Paid Labour	0.47	--	0.02	--	
	14. Unpaid Labour	12.81	--	0.51	--	
Variable Costs	69.52	0.00	2.75	0.00		
(C)	1. Cash/ Share Land Rent	22.51	--	0.89	--	
	2. Taxes, Water Rates, License & Ins.	2.12	--	0.08	--	
	3. Equipment and Building:	a) Depreciation	8.80	--	0.35	--
		b) Lease Payments	2.73	--	0.11	--
	4. Paid Capital Interest	1.58	--	0.06	--	
Capital Costs	37.75	0.00	1.49	0.00		
(D)	Cash Costs	85.66	--	3.39	--	
(E)	Total Production Costs	107.27	--	4.25	--	
	Gross Margin	42.48	--	1.68	--	
	Return to Unpaid Labour	33.68	--	1.33	--	
	Return to Investment	22.45	--	0.89	--	
	Return to Equity	20.87	--	0.83	--	

Investment

Buildings	24.04	--
Machinery	85.88	--
Irrigation Machinery	0.00	--
Total (incl. Land)	109.92	--

Management

Average Yield	(Bushel/acre)	25.27	--
Expected Market Price	(\$/Bushel)	4.27	--

Crop Enterprise Analysis

Crop: *Winter Wheat - All*
Soil Zone: *Brown - Dryland*
Unit: *Bushel*

		----- \$/Acre -----		---- \$/Bushel ----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	136.02	--	3.11	--	
	2. Crop Insurance Receipts	1.75	--	0.04	--	
	3. Other Receipts	9.43	--	0.22	--	
	Gross Receipts	147.20	0.00	3.37	0.00	
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(B)	Cost Items					
	1. Seed	10.11	--	0.23	--	
	2. Fertilizer	24.59	--	0.56	--	
	3. Chemical	6.80	--	0.16	--	
	4. Hail/Crop Insurance Premium	6.02	--	0.14	--	
	5. Trucking and Marketing	2.96	--	0.07	--	
	6. Fuel	5.46	--	0.12	--	
	7. Irrigation Fuel and Electricity	0.00	--	0.00	--	
	8. Repairs - Machinery	7.73	--	0.18	--	
	9. Repairs - Buildings	0.63	--	0.01	--	
	10. Utilities and Miscellaneous	7.67	--	0.18	--	
	11. Custom Work	0.41	--	0.01	--	
	12. Operating Interest Paid	1.82	--	0.04	--	
	13. Paid Labour	5.21	--	0.12	--	
	14. Unpaid Labour	3.49	--	0.08	--	
Variable Costs	82.89	0.00	1.90	0.00		
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(C)	1. Cash/ Share Land Rent	15.63	--	0.36	--	
	2. Taxes, Water Rates, License & Ins.	3.93	--	0.09	--	
	3. Equipment and Building:	a) Depreciation	11.94	--	0.27	--
		b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	9.47	--	0.22	--	
Capital Costs	40.96	0.00	0.94	0.00		
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(D)	Cash Costs	108.42	--	2.48	--	
(E)	Total Production Costs	123.84	--	2.83	--	
	Gross Margin	38.78	--	0.89	--	
	Return to Unpaid Labour	26.84	--	0.61	--	
	Return to Investment	32.83	--	0.75	--	
	Return to Equity	23.36	--	0.53	--	

Investment

Buildings	28.47	--
Machinery	113.89	--
Irrigation Machinery	0.00	--
Total (incl. Land)	587.35	--

Management

Average Yield	(Bushel/acre)	43.70	--
Expected Market Price	(\$/Bushel)	3.11	--

Crop Enterprise Analysis

Crop: *Durum - All*
Soil Zone: *Brown - Dryland*
Unit: *Bushel*

		----- \$/Acre -----		---- \$/Bushel ----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	167.54	222.09	4.89	5.22	
	2. Crop Insurance Receipts	1.01	1.32	0.03	0.03	
	3. Other Receipts	4.82	4.17	0.14	0.10	
	Gross Receipts	173.37	227.59	5.06	5.35	
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(B)	Cost Items					
	1. Seed	9.61	8.52	0.28	0.20	
	2. Fertilizer	22.55	14.49	0.66	0.34	
	3. Chemical	20.15	20.70	0.59	0.49	
	4. Hail/Crop Insurance Premium	11.59	11.40	0.34	0.27	
	5. Trucking and Marketing	2.29	2.35	0.07	0.06	
	6. Fuel	5.61	5.08	0.16	0.12	
	7. Irrigation Fuel and Electricity	0.00	0.00	0.00	0.00	
	8. Repairs - Machinery	6.48	6.92	0.19	0.16	
	9. Repairs - Buildings	1.41	2.07	0.04	0.05	
	10. Utilities and Miscellaneous	8.34	9.61	0.24	0.23	
	11. Custom Work	0.36	0.80	0.01	0.02	
	12. Operating Interest Paid	0.97	0.47	0.03	0.01	
	13. Paid Labour	4.29	1.51	0.13	0.04	
	14. Unpaid Labour	7.53	8.79	0.22	0.21	
	Variable Costs	101.17	92.71	2.95	2.18	
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(C)	1. Cash/ Share Land Rent	12.11	0.00	0.35	0.00	
	2. Taxes, Water Rates, License & Ins.	4.46	5.61	0.13	0.13	
	3. Equipment and Building:	a) Depreciation	13.71	11.23	0.40	0.26
		b) Lease Payments	0.33	0.00	0.01	0.00
	4. Paid Capital Interest	9.81	6.77	0.29	0.56	
	Capital Costs	40.41	23.60	1.18	0.95	
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(D)	Cash Costs	120.36	96.29	3.51	2.66	
(E)	Total Production Costs	141.59	116.31	4.13	3.13	
	Gross Margin	53.02	131.30	1.55	2.69	
	Return to Unpaid Labour	39.31	120.07	1.15	2.43	
	Return to Investment	41.59	118.04	1.21	2.78	
	Return to Equity	31.78	111.28	0.93	2.22	

Investment

Buildings	26.26	27.63
Machinery	138.43	110.56
Irrigation Machinery	0.00	0.00
Total (incl. Land)	575.38	692.49

Management

Average Yield	(Bushel/acre)	34.25	42.51
Expected Market Price	(\$/Bushel)	4.89	5.22

Crop Enterprise Analysis

Crop: *Durum - Own*
Soil Zone: *Brown - Dryland*
Unit: *Bushel*

		----- \$/Acre -----		---- \$/Bushel ----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	189.61	266.28	4.98	5.56	
	2. Crop Insurance Receipts	1.51	2.13	0.04	0.04	
	3. Other Receipts	3.91	0.69	0.10	0.01	
	Gross Receipts	195.04	269.10	5.12	5.62	
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(B)	Cost Items					
	1. Seed	9.19	8.43	0.24	0.18	
	2. Fertilizer	25.04	21.98	0.66	0.46	
	3. Chemical	21.88	22.59	0.57	0.47	
	4. Hail/Crop Insurance Premium	10.85	11.61	0.28	0.24	
	5. Trucking and Marketing	2.01	2.07	0.05	0.04	
	6. Fuel	5.58	3.99	0.15	0.08	
	7. Irrigation Fuel and Electricity	0.00	0.00	0.00	0.00	
	8. Repairs - Machinery	7.02	6.41	0.18	0.13	
	9. Repairs - Buildings	1.67	2.72	0.04	0.06	
	10. Utilities and Miscellaneous	8.96	10.75	0.24	0.22	
	11. Custom Work	0.54	0.25	0.01	0.01	
	12. Operating Interest Paid	0.70	0.17	0.02	0.00	
	13. Paid Labour	4.88	1.39	0.13	0.03	
	14. Unpaid Labour	7.33	5.48	0.19	0.11	
Variable Costs	105.63	97.83	2.77	2.04		
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(C)	1. Cash/ Share Land Rent	0.00	0.00	0.00	0.00	
	2. Taxes, Water Rates, License & Ins.	5.74	5.57	0.15	0.12	
	3. Equipment and Building:	a) Depreciation	14.87	11.17	0.39	0.23
		b) Lease Payments	0.46	0.00	0.01	0.00
	4. Paid Capital Interest	11.65	3.69	0.31	0.43	
Capital Costs	32.71	20.43	0.86	0.78		
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(D)	Cash Costs	116.15	101.61	3.05	2.47	
(E)	Total Production Costs	138.35	118.26	3.63	2.82	
	Gross Margin	78.88	167.49	2.07	3.15	
	Return to Unpaid Labour	64.01	156.32	1.68	2.91	
	Return to Investment	68.34	154.53	1.79	3.23	
	Return to Equity	56.69	150.84	1.49	2.80	

Investment

Buildings	26.86	28.17
Machinery	152.18	109.39
Irrigation Machinery	0.00	0.00
Total (incl. Land)	797.03	778.37

Management

Average Yield	(Bushel/acre)	38.08	47.90
Expected Market Price	(\$/Bushel)	4.98	5.56

Crop Enterprise Analysis

Crop: *Durum - Rent*
Soil Zone: *Brown - Dryland*
Unit: *Bushel*

		----- \$/Acre -----		---- \$/Bushel ----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	123.82	--	4.64	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	6.63	--	0.25	--
	Gross Receipts	130.45	0.00	4.89	0.00
(B)	Cost Items				
	1. Seed	10.44	--	0.39	--
	2. Fertilizer	17.62	--	0.66	--
	3. Chemical	16.73	--	0.63	--
	4. Hail/Crop Insurance Premium	13.06	--	0.49	--
	5. Trucking and Marketing	2.85	--	0.11	--
	6. Fuel	5.66	--	0.21	--
	7. Irrigation Fuel and Electricity	0.00	--	0.00	--
	8. Repairs - Machinery	5.40	--	0.20	--
	9. Repairs - Buildings	0.89	--	0.03	--
	10. Utilities and Miscellaneous	7.12	--	0.27	--
	11. Custom Work	0.00	--	0.00	--
	12. Operating Interest Paid	1.51	--	0.06	--
	13. Paid Labour	3.12	--	0.12	--
	14. Unpaid Labour	7.93	--	0.30	--
	Variable Costs	92.34	0.00	3.46	0.00
(C)	1. Cash/ Share Land Rent	36.09	--	1.35	--
	2. Taxes, Water Rates, License & Ins.	1.92	--	0.07	--
	3. Equipment and Building: a) Depreciation	11.40	--	0.43	--
	b) Lease Payments	0.09	--	0.00	--
4. Paid Capital Interest	6.17	--	0.23	--	
	Capital Costs	55.67	0.00	2.09	0.00
(D)	Cash Costs (B+C-B14-C3a)	128.68	--	4.82	--
(E)	Total Production Costs (B+C)	148.01	--	5.55	--
	Gross Margin (A-D)	1.77	--	0.07	--
	Return to Unpaid Labour (A-E+B14)	(9.63)	--	(0.36)	--
	Return to Investment (A-E+C4)	(11.39)	--	(0.43)	--
	Return to Equity (A-E)	(17.56)	--	(0.66)	--

Investment

Buildings	25.07	--
Machinery	111.19	--
Irrigation Machinery	0.00	--
Total (incl. Land)	136.26	--

Management

Average Yield	(Bushel/acre)	26.68	--
Expected Market Price	(\$/Bushel)	4.64	--

Crop Enterprise Analysis

Crop: *Malt Barley - All*
Soil Zone: *Brown - Dryland*
Unit: *Bushel*

		----- \$/Acre -----		---- \$/Bushel ----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	137.32	--	2.74	--	
	2. Crop Insurance Receipts	0.00	--	0.00	--	
	3. Other Receipts	8.40	--	0.17	--	
	Gross Receipts	145.72	0.00	2.91	0.00	
<hr/>						
(B)	Cost Items					
	1. Seed	6.58	--	0.13	--	
	2. Fertilizer	24.75	--	0.49	--	
	3. Chemical	14.06	--	0.28	--	
	4. Hail/Crop Insurance Premium	16.73	--	0.33	--	
	5. Trucking and Marketing	3.00	--	0.06	--	
	6. Fuel	5.21	--	0.10	--	
	7. Irrigation Fuel and Electricity	0.00	--	0.00	--	
	8. Repairs - Machinery	6.84	--	0.14	--	
	9. Repairs - Buildings	0.65	--	0.01	--	
	10. Utilities and Miscellaneous	7.43	--	0.15	--	
	11. Custom Work	0.00	--	0.00	--	
	12. Operating Interest Paid	1.88	--	0.04	--	
	13. Paid Labour	4.95	--	0.10	--	
	14. Unpaid Labour	3.00	--	0.06	--	
Variable Costs	95.09	0.00	1.90	0.00		
<hr/>						
(C)	1. Cash/ Share Land Rent	23.23	--	0.46	--	
	2. Taxes, Water Rates, License & Ins.	3.24	--	0.06	--	
	3. Equipment and Building:	a) Depreciation	11.54	--	0.23	--
		b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	9.78	--	0.20	--	
Capital Costs	47.80	0.00	0.95	0.00		
<hr/>						
(D)	Cash Costs	128.34	--	2.56	--	
(E)	Total Production Costs	142.88	--	2.85	--	
	Gross Margin	17.38	--	0.35	--	
	Return to Unpaid Labour	5.84	--	0.12	--	
	Return to Investment	12.62	--	0.25	--	
	Return to Equity	2.84	--	0.06	--	

Investment

Buildings	27.45	--
Machinery	109.47	--
Irrigation Machinery	0.00	--
Total (incl. Land)	471.11	--

Management

Average Yield	(Bushel/acre)	50.06	--
Expected Market Price	(\$/Bushel)	2.74	--

Crop Enterprise Analysis

Crop: *Feed Barley - All*
Soil Zone: *Brown - Dryland*
Unit: *Bushel*

		----- \$/Acre -----		---- \$/Bushel ----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	153.81	--	2.45	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	28.69	--	0.46	--
	Gross Receipts	182.50	0.00	2.90	0.00
(B)	Cost Items				
	1. Seed	8.72	--	0.14	--
	2. Fertilizer	6.73	--	0.11	--
	3. Chemical	18.00	--	0.29	--
	4. Hail/Crop Insurance Premium	10.47	--	0.17	--
	5. Trucking and Marketing	0.00	--	0.00	--
	6. Fuel	15.06	--	0.24	--
	7. Irrigation Fuel and Electricity	0.00	--	0.00	--
	8. Repairs - Machinery	24.19	--	0.38	--
	9. Repairs - Buildings	0.00	--	0.00	--
	10. Utilities and Miscellaneous	10.71	--	0.17	--
	11. Custom Work	8.50	--	0.14	--
	12. Operating Interest Paid	4.11	--	0.07	--
	13. Paid Labour	7.29	--	0.12	--
	14. Unpaid Labour	17.60	--	0.28	--
	Variable Costs	131.38	0.00	2.09	0.00
(C)	1. Cash/ Share Land Rent	0.00	--	0.00	--
	2. Taxes, Water Rates, License & Ins.	14.16	--	0.23	--
	3. Equipment and Building: a) Depreciation	32.33	--	0.51	--
	b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	16.93	--	0.27	--
	Capital Costs	63.42	0.00	1.01	0.00
(D)	Cash Costs (B+C-B14-C3a)	144.87	--	2.30	--
(E)	Total Production Costs (B+C)	194.80	--	3.10	--
	Gross Margin (A-D)	37.64	--	0.60	--
	Return to Unpaid Labour (A-E+B14)	5.30	--	0.08	--
	Return to Investment (A-E+C4)	4.63	--	0.07	--
	Return to Equity (A-E)	(12.30)	--	(0.20)	--

Investment

Buildings	94.01	--
Machinery	320.81	--
Irrigation Machinery	0.00	--
Total (incl. Land)	1049.43	--

Management

Average Yield	(Bushel/acre)	62.87	--
Expected Market Price	(\$/Bushel)	2.45	--

Crop Enterprise Analysis

Crop: *Field Peas - All*
Soil Zone: *Brown - Dryland*
Unit: *Bushel*

		----- \$/Acre -----		---- \$/Bushel ----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	168.00	--	4.80	--	
	2. Crop Insurance Receipts	0.00	--	0.00	--	
	3. Other Receipts	8.40	--	0.24	--	
	Gross Receipts	176.40	0.00	5.04	0.00	
<hr/>						
(B)	Cost Items					
	1. Seed	14.25	--	0.41	--	
	2. Fertilizer	9.00	--	0.26	--	
	3. Chemical	16.04	--	0.46	--	
	4. Hail/Crop Insurance Premium	16.16	--	0.46	--	
	5. Trucking and Marketing	3.00	--	0.09	--	
	6. Fuel	5.99	--	0.17	--	
	7. Irrigation Fuel and Electricity	0.00	--	0.00	--	
	8. Repairs - Machinery	6.84	--	0.20	--	
	9. Repairs - Buildings	0.65	--	0.02	--	
	10. Utilities and Miscellaneous	7.43	--	0.21	--	
	11. Custom Work	0.00	--	0.00	--	
	12. Operating Interest Paid	1.88	--	0.05	--	
	13. Paid Labour	4.95	--	0.14	--	
	14. Unpaid Labour	3.00	--	0.09	--	
Variable Costs	89.19	0.00	2.55	0.00		
<hr/>						
(C)	1. Cash/ Share Land Rent	9.88	--	0.28	--	
	2. Taxes, Water Rates, License & Ins.	4.15	--	0.12	--	
	3. Equipment and Building:	a) Depreciation	11.54	--	0.33	--
		b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	9.78	--	0.28	--	
Capital Costs	35.35	0.00	1.01	0.00		
<hr/>						
(D)	Cash Costs	110.01	--	3.14	--	
(E)	Total Production Costs	124.55	--	3.56	--	
	Gross Margin	66.40	--	1.90	--	
	Return to Unpaid Labour	54.85	--	1.57	--	
	Return to Investment	61.64	--	1.76	--	
	Return to Equity	51.86	--	1.48	--	

Investment

Buildings	27.45	--
Machinery	109.47	--
Irrigation Machinery	0.00	--
Total (incl. Land)	666.48	--

Management

Average Yield	(Bushel/acre)	35.00	--
Expected Market Price	(\$/Bushel)	4.80	--

Crop Enterprise Analysis

Crop: Safflower - All
Soil Zone: Brown - Dryland
Unit: Pound

		-----\$/Acre-----		-----\$/Pound-----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	292.09	--	0.22	--
	2. Crop Insurance Receipts	0.00	--	0.00	--
	3. Other Receipts	8.40	--	0.01	--
	Gross Receipts	300.49	0.00	0.23	0.00
(B)	Cost Items				
	1. Seed	15.65	--	0.01	--
	2. Fertilizer	10.44	--	0.01	--
	3. Chemical	28.99	--	0.02	--
	4. Hail/Crop Insurance Premium	25.26	--	0.02	--
	5. Trucking and Marketing	3.00	--	0.00	--
	6. Fuel	5.21	--	0.00	--
	7. Irrigation Fuel and Electricity	0.00	--	0.00	--
	8. Repairs - Machinery	6.84	--	0.01	--
	9. Repairs - Buildings	0.65	--	0.00	--
	10. Utilities and Miscellaneous	7.43	--	0.01	--
	11. Custom Work	0.00	--	0.00	--
	12. Operating Interest Paid	1.88	--	0.00	--
	13. Paid Labour	4.95	--	0.00	--
	14. Unpaid Labour	3.00	--	0.00	--
	Variable Costs	113.30	0.00	0.09	0.00
(C)	1. Cash/ Share Land Rent	45.27	--	0.03	--
	2. Taxes, Water Rates, License & Ins.	2.79	--	0.00	--
	3. Equipment and Building: a) Depreciation	11.54	--	0.01	--
	b) Lease Payments	0.00	--	0.00	--
4. Paid Capital Interest	9.78	--	0.01	--	
	Capital Costs	69.39	0.00	0.05	0.00
(D)	Cash Costs (B+C-B14-C3a)	168.15	--	0.13	--
(E)	Total Production Costs (B+C)	182.69	--	0.14	--
	Gross Margin (A-D)	132.34	--	0.10	--
	Return to Unpaid Labour (A-E+B14)	120.80	--	0.09	--
	Return to Investment (A-E+C4)	127.58	--	0.10	--
	Return to Equity (A-E)	117.80	--	0.09	--

Investment

Buildings	27.45	--
Machinery	109.47	--
Irrigation Machinery	0.00	--
Total (incl. Land)	375.22	--

Management

Average Yield (Pound/acre)	1327.66	--
Expected Market Price (\$/Pound)	0.22	--

Crop Enterprise Analysis

Crop: *Alfalfa/Grass Hay - All*
Soil Zone: *Brown - Dryland*
Unit: *Tonne*

		-----\$/Acre-----		-----\$/Tonne-----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	135.33	181.86	62.89	66.14
	2. Crop Insurance Receipts	0.00	0.00	0.00	0.00
	3. Other Receipts	5.59	0.29	2.60	0.10
	Gross Receipts	140.92	182.15	65.49	66.24
(B)	Cost Items				
	1. Seed	0.00	0.00	0.00	0.00
	2. Fertilizer	0.00	0.00	0.00	0.00
	3. Chemical	0.00	0.00	0.00	0.00
	4. Hail/Crop Insurance Premium	0.00	0.00	0.00	0.00
	5. Trucking and Marketing	6.34	9.25	2.95	3.36
	6. Fuel	3.49	3.21	1.62	1.17
	7. Irrigation Fuel and Electricity	0.00	0.00	0.00	0.00
	8. Repairs - Machinery	8.30	6.46	3.86	2.35
	9. Repairs - Buildings	0.00	0.00	0.00	0.00
	10. Utilities and Miscellaneous	10.43	13.92	4.85	5.06
	11. Custom Work	0.00	0.00	0.00	0.00
	12. Operating Interest Paid	0.28	0.00	0.13	0.00
	13. Paid Labour	13.18	9.41	6.13	3.42
	14. Unpaid Labour	3.95	5.63	1.84	2.05
	Variable Costs	45.98	47.88	21.37	17.41
(C)	1. Cash/ Share Land Rent	0.00	0.00	0.00	0.00
	2. Taxes, Water Rates, License & Ins.	4.29	3.46	1.99	1.26
	3. Equipment and Building: a) Depreciation	23.69	30.21	11.01	10.99
	b) Lease Payments	0.00	0.00	0.00	0.00
	4. Paid Capital Interest	4.23	0.00	1.97	12.25
	Capital Costs	32.21	33.68	14.97	24.49
(D)	Cash Costs	50.55	45.72	23.49	28.87
(E)	Total Production Costs	78.19	81.56	36.33	41.91
	Gross Margin	90.37	136.43	42.00	37.37
	Return to Unpaid Labour	66.68	106.21	30.99	26.38
	Return to Investment	66.97	100.59	31.12	36.58
	Return to Equity	62.73	100.59	29.15	24.33

Investment

Buildings	79.08	102.43
Machinery	201.31	252.91
Irrigation Machinery	0.00	0.00
Total (incl. Land)	623.05	855.34

Management

Average Yield	(Tonne/acre)	2.15	2.75
Expected Market Price	(\$/Tonne)	62.89	66.14

Crop Enterprise Analysis

Crop: *Greenfeed - All*
Soil Zone: *Brown - Dryland*
Unit: *Tonne*

		-----\$/Acre-----		----\$/Tonne----	
		Average	Top 1/3	Average	Top 1/3
(A)	1. Crop Sales	171.49	190.13	55.34	55.12
	2. Crop Insurance Receipts	0.00	0.00	0.00	0.00
	3. Other Receipts	1.84	0.29	0.59	0.08
Gross Receipts		173.34	190.41	55.94	55.20
(B)	Cost Items				
	1. Seed	7.68	8.00	2.48	2.32
	2. Fertilizer	0.00	0.00	0.00	0.00
	3. Chemical	0.52	0.00	0.17	0.00
	4. Hail/Crop Insurance Premium	6.74	8.00	2.17	2.32
	5. Trucking and Marketing	7.79	9.25	2.51	2.68
	6. Fuel	10.27	10.70	3.32	3.10
	7. Irrigation Fuel and Electricity	0.00	0.00	0.00	0.00
	8. Repairs - Machinery	5.67	6.46	1.83	1.87
	9. Repairs - Buildings	0.12	0.00	0.04	0.00
	10. Utilities and Miscellaneous	14.04	15.57	4.53	4.51
	11. Custom Work	3.77	0.00	1.22	0.00
	12. Operating Interest Paid	0.00	0.00	0.00	0.00
	13. Paid Labour	7.93	9.41	2.56	2.73
	14. Unpaid Labour	5.76	5.63	1.86	1.63
Variable Costs		70.31	73.02	22.69	21.17
(C)	1. Cash/ Share Land Rent	4.93	0.00	1.59	0.00
	2. Taxes, Water Rates, License & Ins.	3.28	3.46	1.06	1.00
	3. Equipment and Building: a) Depreciation	25.92	30.21	8.37	8.76
	b) Lease Payments	2.10	0.00	0.68	0.00
	4. Paid Capital Interest	0.09	0.00	0.03	9.76
Capital Costs		36.32	33.68	11.72	19.52
(D)	Cash Costs (B+C-B14-C3a)	74.95	70.86	24.19	30.30
(E)	Total Production Costs (B+C)	106.63	106.70	34.41	40.69
	Gross Margin (A-D)	98.39	119.55	31.75	24.89
	Return to Unpaid Labour (A-E+B14)	72.46	89.34	23.39	16.14
	Return to Investment (A-E+C4)	66.80	83.71	21.56	24.27
	Return to Equity (A-E)	66.71	83.71	21.53	14.51

Investment

Buildings	88.98	102.43
Machinery	220.09	252.91
Irrigation Machinery	0.00	0.00
Total (incl. Land)	730.20	855.34

Management

Average Yield	(Tonne/acre)	3.10	3.45
Expected Market Price	(\$/Tonne)	55.34	55.12

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 durum wheat 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 durum wheat yield range in the Brown soil zone. From these charts a lot can be interpreted about yield performance:

- The low is less than 20 bushels per acre and the high is less than 60 bushels per acre, and
- 70% of the durum wheat fields in the brown soil zone yield more than 20 bushels per acre

This detailed information provides a better understanding of yield variability. The average yield is 34.25 bushels per acre as listed on page 11 of the durum wheat 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, relating 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 durum wheat was \$4 per bushel, then 40% of the fields are covering their cash costs and 30% 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.

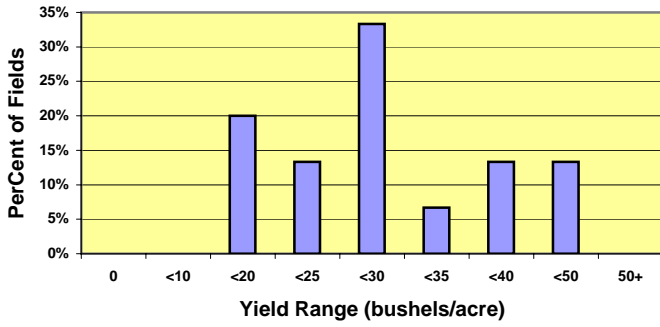
The final set of graphs shows the distribution of returns to equity, or profit per unit of production. This example shows that 45% of the fields had a loss and 55% of the fields at least broke even. Return to equity can be used to compare the profitability of one crop versus another or one farm enterprise 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.

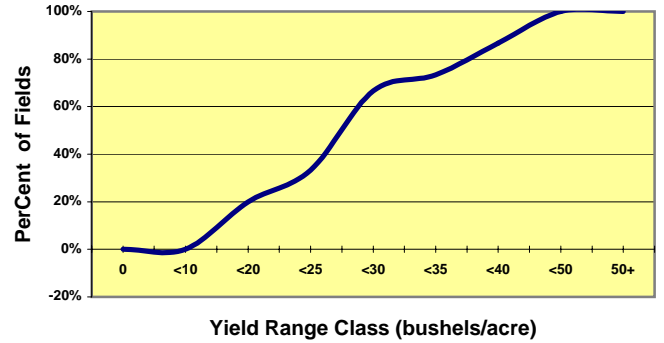
Brown Soil Zone - Spring Wheat: 2004

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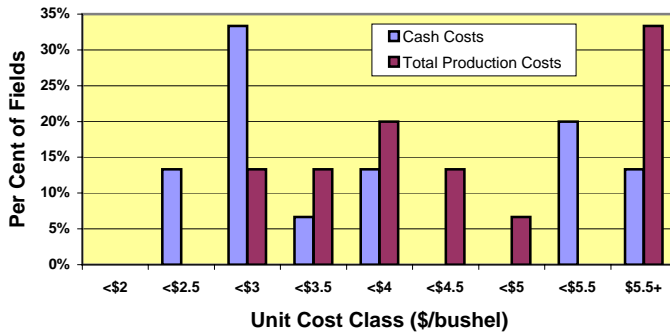
Frequency Distribution: Brown Soil Zone - Spring Wheat Yields



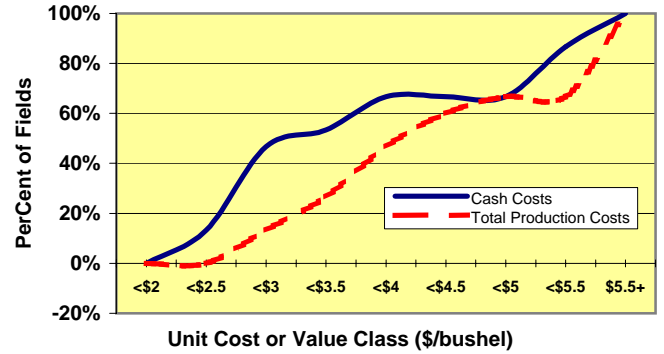
Cumulative Frequency Distribution of Brown Soil Zone - Spring Wheat Yields



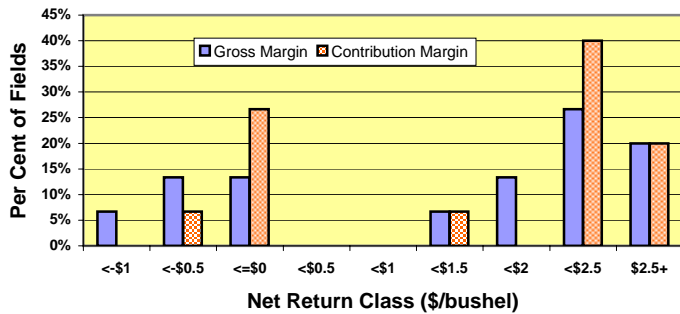
Frequency Distribution: Brown Soil Zone - Spring Wheat Costs



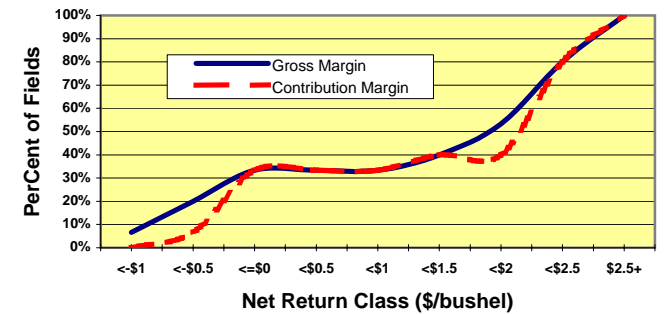
Cumulative Frequency Distribution of Brown Soil Zone - Spring Wheat Costs



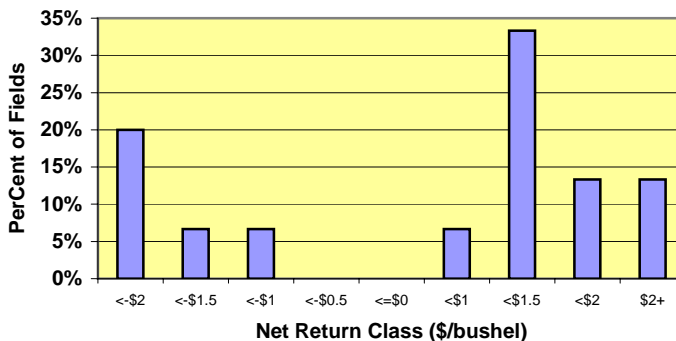
Frequency Distribution: Brown Soil Zone - Spring Wheat Margins



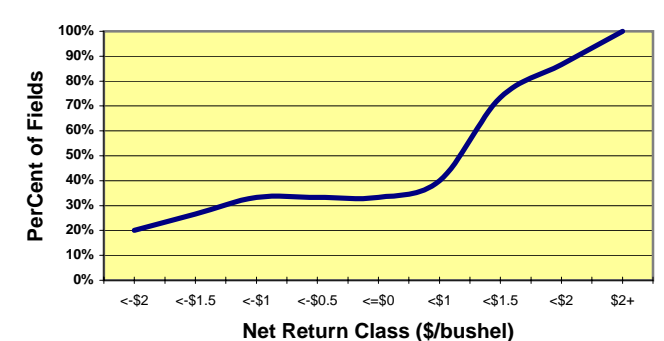
Cumulative Frequency Distribution of Brown Soil Zone - Spring Wheat Margins



Frequency Distribution: Brown Soil Zone - Spring Wheat Return To Equity



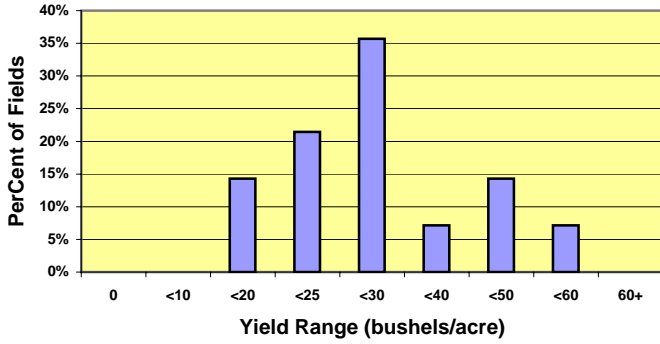
Cumulative Frequency Distribution of Brown Soil Zone - Spring Wheat Return To Equity



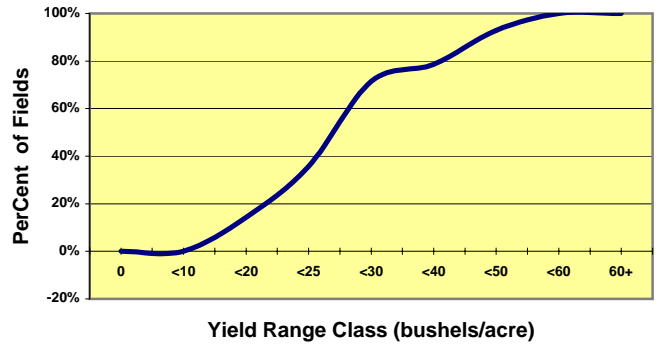
Brown Soil Zone - Durum: 2004

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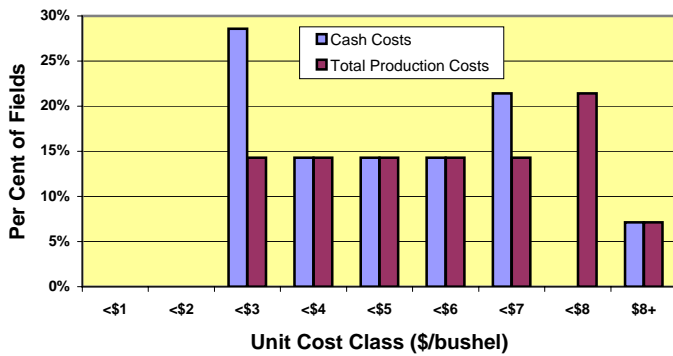
Frequency Distribution: Brown Soil Zone - Durum Yields



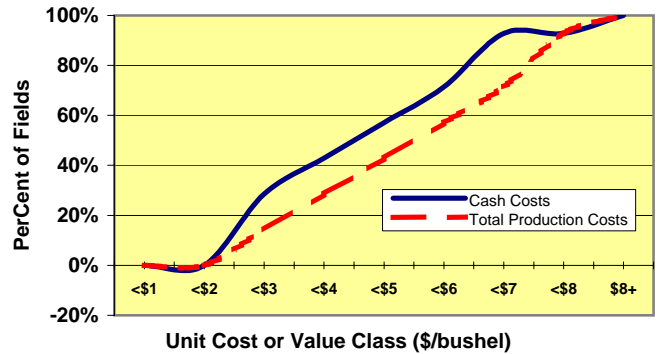
Cumulative Frequency Distribution of Brown Soil Zone - Durum Yields



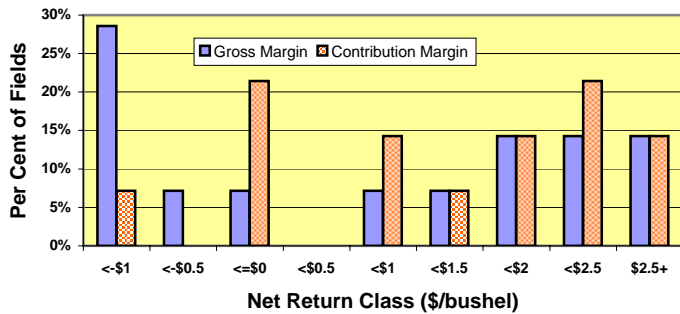
Frequency Distribution: Brown Soil Zone - Durum Costs



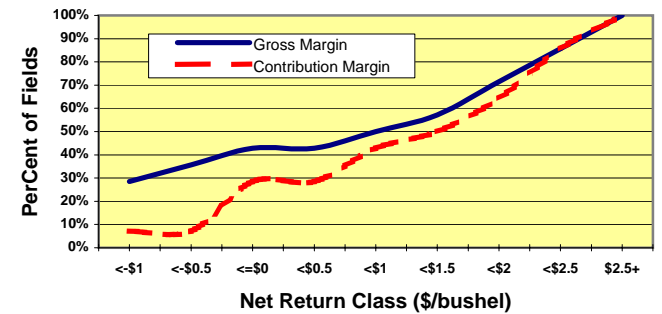
Cumulative Frequency Distribution of Brown Soil Zone - Durum Costs



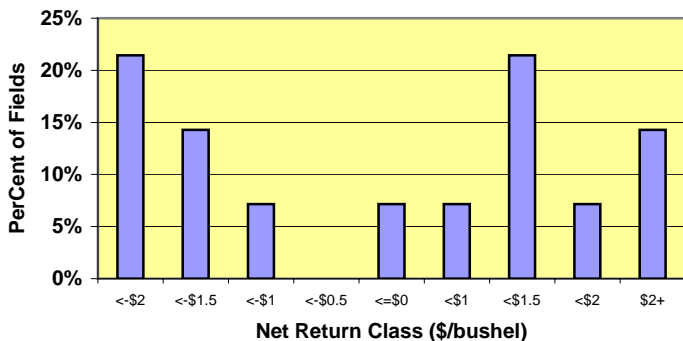
Frequency Distribution: Brown Soil Zone - Durum Margins



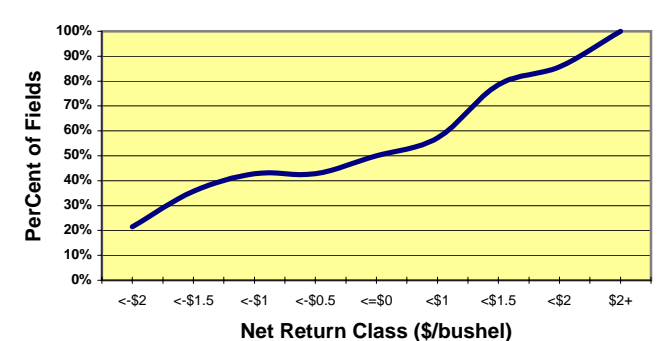
Cumulative Frequency Distribution of Brown Soil Zone - Durum Margins



Frequency Distribution: Brown Soil Zone - Durum Return To Equity



Cumulative Frequency Distribution of Brown Soil Zone - Durum Return To Equity



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