

AgriProfit\$

2015

**Cost and Return Benchmarks
for Crops and Forages**

Dark Brown Soil Zone

Alberta 
Government



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OVERVIEW

2015 Dark Brown Soil Zone

The *AgriProfit\$* Business Analysis and Research Program provides a provincial overview of costs and returns for field crops and forages. The Economics Section collects cost of production information annually from Alberta producers to generate regional benchmarks. Producer participants are critical to providing a financial representation of Alberta's cropping industry.

AgriProfit\$ cropping benchmarks are analyzed by soil zone group, top third producers, and owned land versus rented land where available. Top third averages are calculated from fields that have the highest return to equity. Analyzing crops by owned versus rented also provides insight into differences in management.

Benchmarks allow for comparison of individual crop costs and returns to other farms in a similar production area. Benchmarks should not replace individual cropping and financial records. There is a risk of over or underestimating costs and returns if basing them on regional benchmarks and forecasts. Strategic planning is more effective when individual costs are used. Managing unit costs of production is one of the most significant strategies to ensure profitability in a mature commodity market.

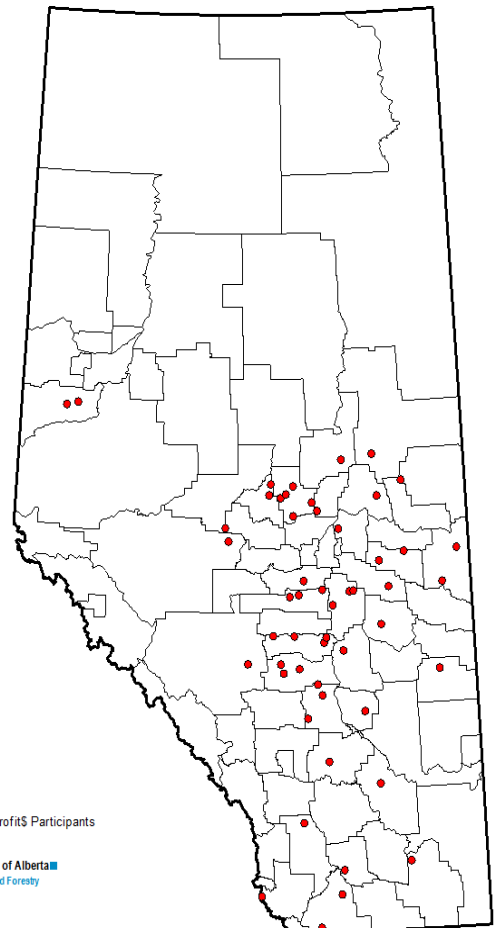
The top map shows the Dark Brown Soil Zone in Alberta; this is the grouping method used for this study. Please note that farms highlighted within these zones may contain characteristics of neighbouring soil zones. The map on the bottom shows the distribution of the 2015 participants.

Questions or Comments:

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2015 Crop Enterprise Analysis

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

		----- \$/Acre -----		---- \$/Bushel ----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	394.74	--	5.66	--	
	2. Crop Insurance Receipts	28.14	--	0.40	--	
	3. Other Receipts	2.38	--	0.03	--	
	Gross Receipts	425.27	0.00	6.09	0.00	
(B)	Cost Items					
	1. Seed	15.85	--	0.23	--	
	2. Fertilizer	82.39	--	1.18	--	
	3. Chemical	39.63	--	0.57	--	
	4. Hail/Crop Insurance Premium	24.22	--	0.35	--	
	5. Trucking and Marketing	0.55	--	0.01	--	
	6. Fuel	15.38	--	0.22	--	
	7. Irrigation Fuel and Electricity	0.00	--	0.00	--	
	8. Repairs - Machinery	6.34	--	0.09	--	
	9. Repairs - Buildings	1.53	--	0.02	--	
	10. Utilities and Miscellaneous	5.01	--	0.07	--	
	11. Custom Work	12.27	--	0.18	--	
	12. Operating Interest Paid	0.57	--	0.01	--	
	13. Paid Labour	4.73	--	0.07	--	
	14. Unpaid Labour	7.19	--	0.10	--	
	Variable Costs	215.68	0.00	3.09	0.00	
(C)	1. Cash/ Share Land Rent	43.09	--	0.62	--	
	2. Taxes, Water Rates, License & Ins.	2.50	--	0.04	--	
	3. Equipment and Building:	a) Depreciation	25.02	--	0.36	--
		b) Lease Payments	16.27	--	0.23	--
	4. Paid Capital Interest	5.23	--	0.07	--	
	Capital Costs	92.12	0.00	1.32	0.00	
(D)	Cash Costs	275.59	--	3.95	--	
(E)	Total Production Costs	307.80	--	4.41	--	
	<i>Gross Margin</i>	<i>149.68</i>	--	<i>2.14</i>	--	
	<i>Return to Unpaid Labour</i>	<i>124.66</i>	--	<i>1.79</i>	--	
	<i>Return to Investment</i>	<i>122.69</i>	--	<i>1.76</i>	--	
	<i>Return to Equity</i>	<i>117.46</i>	--	<i>1.68</i>	--	

Investment

Buildings	100.34	--
Machinery	235.43	--
Irrigation Machinery	0.00	--
Total (incl. Land)	1023.40	--

Management

Average Yield	(Bushel/acre)	69.79	--
Expected Market Price	(\$/Bushel)	5.66	--

2015 Crop Enterprise Analysis

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

		----- \$/Acre -----		----- \$/Tonne -----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	277.42	--	272.93	--	
	2. Crop Insurance Receipts	24.74	--	24.34	--	
	3. Other Receipts	9.26	--	9.11	--	
	Gross Receipts	311.42	0.00	306.38	0.00	
(B)	Cost Items					
	1. Seed	0.00	--	0.00	--	
	2. Fertilizer	14.29	--	14.05	--	
	3. Chemical	0.00	--	0.00	--	
	4. Hail/Crop Insurance Premium	3.20	--	3.14	--	
	5. Trucking and Marketing	7.84	--	7.71	--	
	6. Fuel	5.13	--	5.05	--	
	7. Irrigation Fuel and Electricity	0.00	--	0.00	--	
	8. Repairs - Machinery	7.60	--	7.48	--	
	9. Repairs - Buildings	1.64	--	1.61	--	
	10. Utilities and Miscellaneous	9.23	--	9.08	--	
	11. Custom Work	7.35	--	7.23	--	
	12. Operating Interest Paid	2.25	--	2.21	--	
	13. Paid Labour	2.69	--	2.65	--	
	14. Unpaid Labour	9.80	--	9.64	--	
Variable Costs	71.00	0.00	69.85	0.00		
(C)	1. Cash/ Share Land Rent	17.62	--	17.33	--	
	2. Taxes, Water Rates, License & Ins.	6.69	--	6.59	--	
	3. Equipment and Building:	a) Depreciation	36.87	--	36.28	--
		b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	20.29	--	19.96	--	
Capital Costs	81.48	0.00	80.16	0.00		
(D)	Cash Costs (B+C-B14-C3a)	105.81	--	104.10	--	
(E)	Total Production Costs (B+C)	152.48	--	150.02	--	
	Gross Margin (A-D)	205.61	--	202.28	--	
	Return to Unpaid Labour (A-E+B14)	168.73	--	166.01	--	
	Return to Investment (A-E+C4)	179.23	--	176.33	--	
	Return to Equity (A-E)	158.93	--	156.36	--	

Investment

Buildings	197.71	--
Machinery	258.46	--
Irrigation Machinery	0.00	--
Total (incl. Land)	2289.50	--

Management

Average Yield (Tonne/acre)	1.02	--
Expected Market Price (\$/Tonne)	272.93	--

2015 Crop Enterprise Analysis

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Crop: Grain Silage - All
Soil Zone: Dark Brown - Dryland
Unit: Tonne

		----- \$/Acre -----		----- \$/Tonne -----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	393.78	--	61.83	--	
	2. Crop Insurance Receipts	83.36	--	13.09	--	
	3. Other Receipts	83.23	--	13.07	--	
	Gross Receipts	560.37	0.00	87.98	0.00	
(B)	Cost Items					
	1. Seed	9.74	--	1.53	--	
	2. Fertilizer	34.72	--	5.45	--	
	3. Chemical	24.79	--	3.89	--	
	4. Hail/Crop Insurance Premium	7.60	--	1.19	--	
	5. Trucking and Marketing	2.52	--	0.40	--	
	6. Fuel	24.02	--	3.77	--	
	7. Irrigation Fuel and Electricity	0.00	--	0.00	--	
	8. Repairs - Machinery	45.68	--	7.17	--	
	9. Repairs - Buildings	3.68	--	0.58	--	
	10. Utilities and Miscellaneous	15.20	--	2.39	--	
	11. Custom Work	37.25	--	5.85	--	
	12. Operating Interest Paid	1.30	--	0.20	--	
	13. Paid Labour	5.07	--	0.80	--	
	14. Unpaid Labour	6.53	--	1.03	--	
Variable Costs	218.11	0.00	34.24	0.00		
(C)	1. Cash/ Share Land Rent	0.00	--	0.00	--	
	2. Taxes, Water Rates, License & Ins.	21.39	--	3.36	--	
	3. Equipment and Building:	a) Depreciation	23.21	--	3.64	--
		b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	0.51	--	0.08	--	
Capital Costs	45.11	0.00	7.08	0.00		
(D)	Cash Costs	233.48	--	36.66	--	
(E)	Total Production Costs	263.22	--	41.33	--	
	Gross Margin	326.90	--	51.32	--	
	Return to Unpaid Labour	303.69	--	47.68	--	
	Return to Investment	297.67	--	46.73	--	
	Return to Equity	297.15	--	46.65	--	

Investment

Buildings	73.04	--
Machinery	211.76	--
Irrigation Machinery	0.00	--
Total (incl. Land)	1589.50	--

Management

Average Yield	(Tonne/acre)	6.37	--
Expected Market Price	(\$/Tonne)	61.83	--

2015 Crop Enterprise Analysis

AgriProfit\$

Crop: Grain Silage - Own
Soil Zone: Dark Brown - Dryland
Unit: Tonne

		----- \$/Acre -----		----- \$/Tonne -----		
		Average	Top 1/3	Average	Top 1/3	
(A)	1. Crop Sales	386.16	--	66.37	--	
	2. Crop Insurance Receipts	98.44	--	16.92	--	
	3. Other Receipts	96.29	--	16.55	--	
	Gross Receipts	580.88	0.00	99.84	0.00	
(B)	Cost Items					
	1. Seed	7.42	--	1.27	--	
	2. Fertilizer	33.26	--	5.72	--	
	3. Chemical	28.20	--	4.85	--	
	4. Hail/Crop Insurance Premium	6.94	--	1.19	--	
	5. Trucking and Marketing	0.00	--	0.00	--	
	6. Fuel	26.49	--	4.55	--	
	7. Irrigation Fuel and Electricity	0.00	--	0.00	--	
	8. Repairs - Machinery	52.96	--	9.10	--	
	9. Repairs - Buildings	4.34	--	0.75	--	
	10. Utilities and Miscellaneous	17.13	--	2.94	--	
	11. Custom Work	18.54	--	3.19	--	
	12. Operating Interest Paid	0.68	--	0.12	--	
	13. Paid Labour	5.98	--	1.03	--	
	14. Unpaid Labour	5.41	--	0.93	--	
Variable Costs	207.35	0.00	35.64	0.00		
(C)	1. Cash/ Share Land Rent	0.00	--	0.00	--	
	2. Taxes, Water Rates, License & Ins.	24.68	--	4.24	--	
	3. Equipment and Building:	a) Depreciation	18.76	--	3.22	--
		b) Lease Payments	0.00	--	0.00	--
	4. Paid Capital Interest	0.33	--	0.06	--	
Capital Costs	43.77	0.00	7.52	0.00		
(D)	Cash Costs	(B+C-B14-C3a)	226.95	--	39.01	--
(E)	Total Production Costs	(B+C)	251.12	--	43.16	--
	Gross Margin	(A-D)	353.93	--	60.83	--
	Return to Unpaid Labour	(A-E+B14)	335.18	--	57.61	--
	Return to Investment	(A-E+C4)	330.10	--	56.73	--
	Return to Equity	(A-E)	329.77	--	56.68	--

Investment

Buildings	26.49	--
Machinery	196.38	--
Irrigation Machinery	0.00	--
Total (incl. Land)	1763.49	--

Management

Average Yield	(Tonne/acre)	5.82	--
Expected Market Price	(\$/Tonne)	66.37	--

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 AF
 - 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