Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

Bi-weekly Bulletin

April 11, 2003 Volume 16 Number 8

CANADA: AREA SEEDED FOR 2003-2004

Expected net returns, derived from projected prices, yields, and variable costs of production, should exert a major influence on seeding decisions. However, current prices, soil moisture conditions, expected seeding time, expected delivery opportunities, cash flow, crop rotation requirements, potential disease and pest problems, and on-farm stocks are also very important factors. In western Canada, areas seeded to spring wheat, barley, canola, and oats are expected to increase while the areas in pulse and special crops and summerfallow decrease. Durum seeded areas are expected to decline slightly from 2002-2003. In eastern Canada, higher area seeded to winter wheat is expected to be partly offset by lower area seeded to corn and soybeans. This issue of the *Bi-weekly Bulletin* examines the net returns and area seeded for grains, oilseeds, pulse and special crops in Canada.

Expected returns are an important factor affecting cropping decisions. Returns, net of variable or operating costs, affect short-term cropping decisions, while returns, net of total costs (fixed and variable), influence long-term decisions, such as rotation patterns and entry into, or exit from the industry. Variable costs change with the type of crop grown, while fixed costs vary little with the type of crop. Fixed costs such as land rental, property taxes, hired labour and machinery depreciation, as well as the value of a farmer's own labour, are not included in this analysis.

The costs and revenue forecasts in this bulletin are intended to illustrate how expected net returns can be used to decide which crops may be the most profitable. Producers must consider their own costs, yields and expected commodity prices, as large variations do exist between producers.

As each province's agriculture department uses a different methodology, the crop budgets are not comparable across provinces. Saskatchewan Agriculture, Food and Rural Revitalization provides crop budgets for crops seeded to fallow and stubble land in the brown, dark brown and black soil zones. Alberta Agriculture, Food and Rural Development (AAFRD) provides budgets for crops seeded to fallow and stubble in the brown, and dark brown soil zones. For the black and gray soil zones, AAFRD provides budgets for only the crops seeded to stubble. Manitoba Agriculture provides average crop budgets which do not differentiate between fallow and stubble as most Manitoba crops are grown on stubble. The Ontario Ministry of Agriculture and Food provides average crop budgets on various tillage systems.

Productivity in western Canada is related to soil type. For example, the brown soil in the semi-arid region of the Prairies is subject to wide variations in crop yields and is more subject to drought than the dark brown soil zone. The black soil zone is located in a higher moisture region and has better moisture retention characteristics than the brown soil zone, resulting in higher average yields. This zone is rarely subject to drought. The gray soil zone, extending into the northern regions of the Prairies, is characterized by higher moisture levels, cooler temperatures, and a shorter growing season. Climatic conditions also influence the susceptibility of crops to disease and pest infestations, requiring different combinations and levels of herbicides and pesticides.

PRICE FORECASTS

Average farm prices by province have been forecast by Agriculture and Agri-Food Canada (AAFC). Price forecasts for wheat (except Ontario), durum, and malting barley are based on the Canadian Wheat Board (CWB) March 2003-2004 Pool Return Outlook (PRO) and AAFC's assumption that the port-to-farm basis will remain similar to 2002-2003. Price forecasts can vary considerably as a result of

Canada

unpredictable weather in Canada or major importing or exporting countries and other changes in market factors.

YIELD FORECASTS

Average provincial yields have been forecast by AAFC, using trend analysis. Adjustments for soil zone are based on historical data from Statistics Canada. Adjustments to a 'stubble' basis were based on provincial data. Actual yields can vary greatly due to factors such as weather, disease, pests or input use.

For 2003-2004, AAFC average expected yields are assumed to be slightly below trend to account for the below average winter precipitation in parts of western Canada, and low levels of sub-soil moisture that persisted during fall. As a result, yields for the 2003 growing season will be highly dependant upon timely rains as sub-soil conditions in drought risk areas are well below normal levels.

CANADA: AREA SEEDED

	2002	2003f	Change
	thousand ha		%
Winter Wheat	437	648	48.3%
Durum	2,489	2,440	-2.0%
Spring Wheat	7,752	7,953	2.6%
All Wheat	**10,678**	**11,041**	**3.4%**
Barley	5,147	5,312	3.2%
Corn	1,299	1,254	-3.4%
Oats	2,399	2,432	1.4%
Rye	160	245	53.0%
Mixed Grain	284	272	-4.2%
Coarse Grains	**9,289**	**9,515**	**2.4%**
Canola	3,891	4,356	12.0%
Flaxseed	692	726	4.9%
Soybeans	1,030	998	-3.1%
Oilseeds	**5,613**	**6,080**	**8.3%**
Dry Peas	1,297	1,232	-5.3%
White Pea Beans	108	70	-35.1%
Coloured Beans	122	103	-15.8%
Lentils	601	541	-10.9%
Mustard Seed	289	276	-4.8%
Sunflower Seed	100	94	-5.4%
Canary Seed	275	275	0.0%
Chick Peas	221	143	-35.3%
Buckwheat	12	11	-11.0%
Special Crops	**3,025**	**2,745**	**-9.2%**
Total Crops	**28, 605**	**29,381**	**2.7%**
Summerfallow	4,170	3,325	-20.3%

The sum of individual commodities may not equal totals due to rounding.

f: forecast, AAFC, March 2003

Source: Statistics Canada

Drought areas have contracted compared to a year ago. The areas of most concern are northeast Alberta, northwest Saskatchewan and south-central Manitoba. In other regions, conditions have not supported a full drought recovery, and as a result livestock feed, dugout water supplies and grasshopper problems could again be experienced in 2003 if conditions are very hot and dry. Southern Ontario and Quebec have experienced below average precipitation since August 2002 and are also areas of concern. However, these areas are expected to improve with a spring forecast calling for below normal temperatures and above normal precipitation.

EXPENSES

Fertilizer Costs

Fertilizer costs are a significant factor in seeding decisions**.** Natural gas is the primary raw material required for the production of ammonia, which is the foundation for virtually all forms of nitrogen fertilizer. The average North American plant requires about 33.5 million British thermal units (MBtu) to produce 1 tonne of ammonia. Natural gas costs are currently about US$7.00/MBtu compared with about US$3.30/MBtu in 2002. With natural gas priced at about US$7.00/MBtu, 1 tonne of nitrogen fertilizer will cost about US$259 to produce {33.5 MBtu x $7.00 + $25 (fixed cost)} compared to about US$136 in 2002.

Fertilizer prices in 2003 are about 40% higher than last fall and roughly 35% higher than the same time last year. Prices have increased due to tight North American natural gas supplies. Prices charged for nitrogen fertilizer have not increased enough to offset the higher costs of production and consequently, about 50% of North American production capacity is currently shutdown. Because of tight natural gas supplies and limited production, most analysts expect nitrogen fertilizer prices to remain at current levels in the short-term.

Farm Fuel

Reduced oil production from Venezuela due to a strike, fear of war in Iraq, and strong global demand drove prices to above US$37/barrel in early 2003, compared with below US$30/barrel in 2002. While oil prices have eased in the last few weeks with the prospect that the war in Iraq may be short, farm fuel prices are expected to continue to be higher in 2003 compared to 2002. The United States (US) government's mandate to stockpile oil reserves and the uncertainties of supply associated with the war in Iraq are expected to buoy oil prices in 2003 despite a slowing US economy.

Herbicides and Pesticides

Herbicide use in 2003 will vary greatly depending on the crop seeded and by the growing conditions. For the majority of crops, use is expected to rise modestly. Prices are expected to be similar to last year.

In areas of western Canada, pesticide use may be higher than normal to combat expected higher levels of grasshoppers, especially if conditions remain dry. Expected increases in grasshopper populations will increase the economic thresholds at which it is financially beneficial to spray crops. While economic thresholds vary from crop to crop and with various crop stages, for cereal crops it will generally be financially beneficial to spray when eight or more grasshoppers per square metre (/m^2) are present. For crops such as lentils, as few as 2/m^2 during emergence or the critical podding stage is enough to require control.

Seed

The cost of seed has increased in 2003 for almost all crops. Seed costs when compared to 2002 are expected to vary considerably. This variability can range as much as 60% higher for canola seed, to about 18% lower for large kabuli chick peas.

Crop Insurance

Crop insurance costs in 2003 are expected to be higher, however the

increases will vary depending on the province and crop seeded. In Ontario, costs will increase for both of the winter wheats and remain unchanged for the other crops. In Manitoba, cost increases will be highest for canola, flaxseed and oats. In the Saskatchewan black soil zone, crop insurance costs are expected to be significantly higher for all the crops forecasted. Insurance costs in the Saskatchewan brown soil zone are also expected to increase significantly, except for desi chick peas and large kabuli chick peas. In the black and brown soil zones of Alberta, insurance costs are expected to increase marginally for all crops.

CROP BUDGETS: PRAIRIE PROVINCES

There are significant differences in the variable costs between provinces and soil zones. Variations in costs for seed (including treatment), fertilizer and pesticides can account for 60% and more of the variation in total cost.

Comparing budgets across the provinces, custom work costs for western Canada have been included in the chemical costs, while for Ontario, custom work costs have been added to chemical and fertilizer costs. The 'other' cost category is used to assign a value to overhead expenses such as utilities. In Ontario, other costs include marketing fees and drying. The cost of management and/or owner/operator labour has not been included in the budgets.

In **Manitoba,** the highest projected net returns are for confectionary sunflower seed, flaxseed, oats, canola, and dry peas. Net returns are forecast to be the lowest for spring wheat and feed barley due to higher costs and lower expected prices in 2003-2004.

In the **Saskatchewan brown soil zone,** the highest net returns are for desi chick peas, yellow mustard seed, large green lentils, large kabuli chick peas, and durum wheat. Feed barley and spring wheat are expected to provide the lowest net return per hectare. In the **black soil zone**, malting barley (Special Select 2 Row - SS2R) is expected to provide the highest potential net return, followed by flaxseed, dry peas, feed barley, oats, canola, and spring wheat.

In the **Alberta brown soil zone**, the potential net return for large kabuli chick peas, large green lentils, and canola are the highest. The lowest prospects for net returns are spring wheat, durum, and feed barley. In the **black soil zone**, Canadian Prairie Spring (CPS) wheat feed barley, dry peas, Argentine canola, and spring wheat will provide the highest net returns. Oats are expected to have more modest net returns.

In **Ontario**, corn is expected to have the highest net return due to strong prices. Net returns from soybeans, white pea beans, Soft White Winter (SWW) wheat, and Hard Red Winter (HRW) wheat are also expected to be high. Returns for feed barley are expected to be very low, however most of this crop is used on farm for feeding so that market price is less of a factor in planting decisions.

AREA SHIFTS

In western Canada, area seeded to wheat (excluding durum), coarse grains, and oilseeds is expected to increase. The area seeded to most pulse and special crops and durum wheat is expected to decline. In eastern Canada, the significant increase in area seeded to winter wheat is partly offset by lower area seeded to coarse grains, soybeans, special crops, and spring wheat.

In western Canada, **all wheat** area is forecast to increase. **Spring wheat** area is forecast to increase to 7.8 million hectares (Mha) in 2003 from 7.6 Mha, in response to higher prices received in 2002-2003 and low carry-out stocks. Despite lower prices and returns expected in 2003-2004, area seeded to spring wheat in Saskatchewan is expected to increase. Given overall lower prices expected for most crops in 2003-2004, farmers are expected to seed crops which they are most familiar with, such as wheat. Area seeded to **durum** is expected to decrease by about 2% due to the reduced premium over spring wheat in 2002-2003. The CWB PRO indicates a price premium for No.1 Canada Western Amber Durum (CWAD) 11.5% protein, compared to No.1 Canada Western Red Spring (CWRS) 11.5% protein in Saskatchewan, of $30 per tonne (/t) in 2003-2004 versus $39/t for 2002-2003 and $58/t in 2001-2002.

Area seeded to **barley** in western Canada is forecast to increase substantially from 2002, to 5.0 Mha, due to high returns from malting barley, barley's role as a good cash crop, high feed barley prices in 2002-2003 (which have been driven by tight supplies and strong domestic demand), and historically strong feed barley prices expected for 2003-2004.

Area seeded to **oats** in western Canada is projected to increase marginally to 2.26 Mha due to high prices and strong demand over the past year. Good prices for milling quality oats will also encourage a larger seeded area.

Area seeded to **canola** in western Canada, is projected to increase by 12% to 4.33 Mha due to strong prices expected for 2003-2004 (relative to other crops), low carry-out stocks, and strong prices in 2002-2003. Canola prices are forecast to fall from the high levels reached in 2002-2003 due to a return to near-normal yields in Canada and Australia. However, due to low carry-out stocks in 2002-2003, canola prices are expected to remain strong compared to recent history. Good net returns, primarily as a result of sustained high prices are expected to contribute to a higher area for canola.

Flaxseed area is forecast to increase by about 5% to 0.73 Mha in 2003 due to strong prices in 2002-2003 and relatively good projected net returns for 2003-2004, although prices for flaxseed are expected to fall by about 10% in 2003-2004, due to increased supplies.

Pulse and Special Crops

In western Canada, area seeded to pulse and special crops in 2003 is expected to decrease by about 9% to 2.75 Mha due to, depending on the crop, lower expected net returns than for competing crops, higher production risks compared to other crops and/or shortages of seed. Area seeded to **mustard seed** is expected to decrease by about 5%, while for **canary seed** area seeded is forecast to remain unchanged. Lower **mustard seed** prices for all types are expected due to increased supplies. **Canary seed** prices are expected to decrease due to increased supplies as a result of a larger harvested area and higher yields. **Dry pea** area is expected to decrease about 5%. Supplies are expected to increase significantly due to higher yields and lower area abandonment. Higher production in Canada and Australia is expected to pressure prices lower. **Chick pea** area is forecast to decline about 35%, with a shift to the desi type due to the high risk of producing the kabuli type. Prices for 2003-2004 are expected to increase modestly due mostly to an expected increase in quality. The area seeded to **lentils** is expected to drop by about 10%. A return to near-normal yields will increase lentil supplies and pressure global prices lower.

Summerfallow area has been steadily declining since 1988, reaching a low of 4.69 Mha in 2000, because new technology, especially herbicide, has allowed for continuous cropping. Also, the increased availability of alternative crops, some of which are nitrogen-fixing, and the use of crop rotation, has decreased the producers' reliance on summerfallow. Summerfallow area in 2003 is expected to reach a record low of 3.45 Mha. However, excessively dry conditions in the spring, coupled with expectations for higher input cost, may increase summerfallow area. With expectations for commodity prices to decline, many farmers may choose to take marginal land out of production, especially if there is little moisture. Currently about 15% of the area in western Canada is listed as a drought risk area, while roughly 25% is considered to be under recovery. Forecasts from Environment Canada predict normal precipitation levels for the spring and summer of 2003. However, it is probable that pockets of drought will again occur in 2003.

Ontario

Area seeded to **winter wheat** in the fall of 2002, estimated by Statistics Canada at 0.40 Mha, is up almost 67% from 2001. Strong wheat prices in the fall of 2002 and an early soybean harvest encouraged the area expansion. Expected net returns for corn, soybeans, and white pea beans are highest. Net returns for SWW and HRW wheat are also good. Winter wheat is a rotational crop and a source of cash during the summer for many Ontario farmers, with seeded area largely dependent on fall seeding conditions.

Area seeded to **corn** is expected to decrease by almost 7% to 0.73 Mha in 2003 due to higher fertilizer and drying cost compared to 2002, combined with expectations for lower prices in 2003-2004. Despite an expected 7% lower seeded area, production is forecast to fall by only about 4%, due to improved yields. Average prices in 2003-2004 are expected to decline by about 13% to $135/t (No.2 CE cash in-store, Chatham) as a result of expected lower US prices and a stronger Canadian dollar.

Area seeded to **soybeans** in Ontario is expected to decrease by 7% due to the large area seeded to winter wheat. Production is expected to increase due to higher yields. Prices for soybeans are expected to fall to an average price of about $290/t (in store Chatham), due to higher soybean production in the US and South America. Net returns for soybeans are forecast to be slightly lower than for corn for the first time in six years.

The area seeded to **white pea beans** is expected to fall by 42% in 2003. Area seeded to white pea beans is relatively small, due to higher production risk . As a result of the lower area seeded in all of Canada, white pea production is forecast to fall and supplies are forecast to decrease. **Coloured bean** area is expected to decrease 21%. Lower supplies expected in 2003-2004 are expected to support higher prices for all classes of dry beans.

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April 11, 2003 Volume 16 Number 8

CANADA: AREA SEEDED 2003-2004

CROP BUDGETS

MANITOBA

	Spring Wheat	Feed Barley [4/]	Canola	Flaxseed	Oats	Confectionary Sunflower	Dry Peas
Variable Costs [1/]				$/ha			
Seed (including treatment)	42.18	31.96	56.22	27.00	39.90	77.47	85.68
Fertilizer	72.78	72.78	90.65	63.98	67.70	89.17	45.73
Chemical	76.60	64.25	126.64	64.25	27.19	165.56	49.42
Fuel	28.42	28.42	28.42	28.42	28.42	29.65	32.12
Repairs	24.71	24.71	24.71	24.71	24.71	27.18	25.95
Crop Insurance	13.24	11.37	20.26	13.07	13.91	12.70	12.08
Interest	8.78	8.04	11.44	7.68	7.09	13.57	8.60
Other	18.53	18.53	18.53	18.53	18.53	19.77	19.77
Total Variable Costs	**285.24**	**260.06**	**376.87**	**247.64**	**227.45**	**435.07**	**279.35**
Projected Returns [2/]	**2 CWRS***	**1 CW**	**1 CAN**	**1 CW**	**3 CW**	**1 CAN**	**2 CAN**
Projected Yield (t/ha)	2.43	3.30	1.60	1.35	2.73	1.60	2.15
Projected Price ($/t)	155.00	110.00	325.00	345.00	140.00	450.00	195.00
Projected Revenue ($/ha)	376.65	363.00	520.00	465.75	382.20	720.00	419.25
Net Return ($/ha)	**91.41**	**102.94**	**143.13**	**218.11**	**154.75**	**284.93**	**139.90**

SASKATCHEWAN: Brown Soil Zone - conventional seeded stubble

	Spring Wheat	Durum Wheat	Feed Barley [4/]	Large Green Lentils	Yellow Mustard	Large Kabuli Chick Peas	Desi Chick Peas
Variable Costs [3/]				$/ha			
Seed (including treatment)	24.72	27.54	16.94	86.70	36.56	185.25	68.05
Fertilizer	46.19	46.19	46.19	20.50	53.35	20.50	20.50
Chemicals	46.14	46.91	41.62	93.29	50.98	130.27	74.05
Fuel	23.22	23.22	23.22	25.54	24.38	25.54	25.54
Repairs	17.78	17.78	17.78	29.79	17.78	26.53	26.53
Crop Insurance	6.40	7.19	8.57	23.49	13.54	33.89	25.89
Interest	4.47	4.57	4.20	7.53	5.29	11.16	6.45
Other	7.09	7.09	7.09	10.50	7.09	7.09	7.09
Total Variable Costs	**176.01**	**180.48**	**165.61**	**297.34**	**208.96**	**440.23**	**254.09**
Projected Returns [2/]	**1 CWRS***	**1 CWAD***	**1 CW**	**1 CAN**	**1 CAN**	**2 CW**	**2 CW**
Projected Yield (t/ha)	1.60	1.60	1.97	0.95	0.75	1.10	1.35
Projected Price ($/t)	158.00	183.00	115.00	460.00	505.00	505.00	340.00
Projected Revenue ($/ha)	252.80	292.80	226.55	437.00	378.75	555.50	459.00
Net Return ($/ha)	**76.79**	**112.32**	**60.94**	**139.66**	**169.79**	**115.27**	**204.91**

SASKATCHEWAN: Black Soil Zone - conventional seeded stubble

	Spring Wheat	2Row Malting Barley	Feed Barley [4/]	Oats	Dry Peas	Flaxseed	Canola
Variable Costs [3/]				$/ha			
Seed (including treatment)	26.87	18.62	18.62	24.95	53.35	19.88	50.24
Fertilizer	63.73	63.73	63.73	63.73	20.50	63.73	78.05
Chemicals	61.95	52.64	52.64	33.76	64.44	63.21	61.63
Fuel	23.22	23.22	23.22	23.22	25.54	25.54	24.38
Repairs	23.47	23.47	23.47	23.47	33.35	28.16	23.47
Crop Insurance	8.82	8.18	8.18	9.51	9.51	11.16	10.65
Interest	5.68	5.21	5.21	4.92	5.66	5.78	6.74
Other	10.67	10.67	10.67	10.67	10.67	10.67	10.67
Total Variable Costs	**224.40**	**205.73**	**205.73**	**194.22**	**223.02**	**228.13**	**265.82**
Projected Returns [2/]	**2 CWRS***	**SS2R**	**1 CW**	**3 CW**	**2 CAN**	**2 CW**	**1 CW**
Projected Yield (t/ha)	2.00	2.80	2.80	2.32	1.90	1.16	1.13
Projected Price ($/t)	152.00	151.00	115.00	130.00	190.00	350.00	330.00
Projected Revenue ($/ha)	304.00	422.80	322.00	301.60	361.00	406.00	372.90
Net Return ($/ha)	**79.60**	**217.07**	**116.27**	**107.38**	**137.98**	**177.87**	**107.08**

Numbers may not add due to rounding.

[1/] Manitoba Agriculture

[2/] AAFC forecast, April 2003

[3/] Saskatchewan Agriculture, Food and Rural Revitalization

[4/] Off-Board

* Wheat: CWRS 13.5% protein / Durum: CWAD 12.5% protein

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CANADA: AREA SEEDED 2003-2004

CROP BUDGETS

ALBERTA: Brown Soil Zone - stubble

	Spring Wheat	Durum Wheat	Feed Barley [4/]	Argentine Canola	Large Green Lentils	Large Kabuli Chick Peas
Variable Costs [1/]			$/ha			
Seed (including treatment)	20.38	25.94	17.29	29.64	61.75	160.55
Fertilizer	51.01	51.01	51.01	38.04	14.33	14.33
Chemicals	58.05	58.05	29.64	54.34	72.87	72.87
Fuel	20.82	15.56	15.56	15.56	15.56	15.56
Repairs	15.44	15.44	15.44	15.44	17.91	17.91
Crop Insurance	8.05	9.56	8.57	11.12	17.04	18.53
Interest	4.94	4.94	4.94	6.18	6.18	6.18
Other	2.47	2.47	2.47	2.47	2.47	2.47
Total Variable Costs	**181.15**	**182.95**	**144.91**	**172.78**	**208.10**	**308.38**
Projected Returns [2/]	**1 CWRS***	**1 CWAD***	**1 CW**	**1 CAN**	**1 CAN**	**2 CW**
Projected Yield (t/ha)	1.40	1.40	1.83	1.10	0.85	1.05
Projected Price ($/t)	166.00	183.00	125.00	325.00	465.00	505.00
Projected Revenue ($/ha)	232.40	256.20	228.75	357.50	395.25	530.25
Net Return ($/ha)	**51.25**	**73.25**	**83.84**	**184.72**	**187.15**	**221.87**

ALBERTA: Black Soil Zone - stubble

	Spring Wheat	CPS Red Wheat	Feed Barley [4/]	Oats	Dry Peas	Argentine Canola
Variable Costs [1/]			$/ha			
Seed (including treatment)	30.88	37.05	24.70	24.70	74.10	44.46
Fertilizer	87.56	87.56	85.09	87.56	29.76	110.41
Chemicals	61.75	61.75	54.34	23.47	66.69	79.04
Fuel	23.34	23.34	23.34	23.34	23.34	23.34
Repairs	30.83	30.83	30.83	30.83	33.39	30.83
Crop Insurance	10.40	9.88	10.50	10.03	17.39	16.01
Interest	4.94	4.94	4.94	4.94	4.94	6.18
Other	2.47	2.47	2.47	2.47	2.47	2.47
Total Variable Costs	**252.16**	**257.82**	**236.21**	**207.33**	**252.09**	**312.73**
Projected Returns [2/]	**2 CWRS***	**1 CPS**	**1 CW**	**3 CW**	**2 CAN**	**1 CAN**
Projected Yield (t/ha)	2.42	3.30	3.13	2.43	2.05	1.39
Projected Price ($/t)	160.00	127.00	125.00	130.00	195.00	325.00
Projected Revenue ($/ha)	387.20	419.10	391.25	315.90	399.75	451.75
Net Return ($/ha)	**135.04**	**161.28**	**155.04**	**108.57**	**147.66**	**139.02**

ONTARIO

	SWW Wheat	HRW Wheat	Feed Barley	Grain Corn	Soybeans	White Pea Beans
Variable Costs [3/]			$/ha			
Seed (including treatment)	85.46	119.55	75.71	124.74	97.94	133.38
Fertilizer	116.09	147.95	158.20	189.08	43.23	63.23
Chemicals	32.73	32.73	91.39	101.89	96.33	160.55
Fuel	16.55	16.55	35.94	23.59	16.55	34.58
Repairs	36.93	36.93	51.99	38.90	36.93	38.90
Crop Insurance	18.40	18.40	11.12	28.65	26.18	58.42
Interest	14.82	23.22	11.61	20.75	10.13	13.83
Other(includes drying)	4.80	4.00	n/a	46.28	6.89	9.69
Total Variable Costs	**325.78**	**399.32**	**435.96**	**573.87**	**334.17**	**512.58**
Projected Returns [2/]	**1 CEWW**	**1 CERW* 11.5**	**Feed**	**2 CE**	**2 CW**	**1 CAN**
Projected Yield (t/ha)	4.80	4.00	3.30	7.70	2.70	1.70
Projected Price ($/t)	130.00	145.00	120.00	135.00	290.00	525.00
Projected Revenue ($/ha)	624.00	580.00	396.00	1039.50	783.00	892.50
Net Return ($/ha)	**298.22**	**180.68**	**-39.96**	**465.63**	**448.84**	**379.92**

Numbers may not add due to rounding.
[1/] Alberta Agriculture, Food and Rural Development
[2/] AAFC forecast, April 2003
[3/] Ontario Ministry of Agriculture, Food and Rural Affairs (except drying costs)
[4/] Off-Board
* CWRS: 13.5% protein / 1CWAD: 12.5% protein / 1 CERW 11.5% protein