



# Bi-weekly Bulletin

February 6, 2004 Volume 17 Number 3

## CANADA: AREA SEEDED FOR 2004-2005

Expected net returns, derived from projected prices, yields, and variable costs of production, exert a major influence on seeding decisions. Current prices, soil moisture conditions during seeding time, expected delivery opportunities, cash flow and crop rotation requirements, potential disease and pest problems, and on-farm stocks are also very important factors which will affect seeding decisions. In 2004-2005, prices for almost all crops are expected to decline from the previous year due to the appreciation of the Canadian dollar, and an expected return to near normal growing conditions and yields in Canada and the major global exporting nations. In western Canada, areas seeded to durum, canola and flaxseed are expected to increase while the areas for spring wheat, barley, oats, most pulse and special crops and summerfallow should decrease. In eastern Canada, higher area seeded to corn and soybeans is expected to be partly offset by lower area seeded to winter wheat. This issue of the *Bi-weekly Bulletin* examines the net returns and area seeded for grains, oilseeds, pulse and special crops in Canada.

### Background

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 and throughout the growing season.

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) provide budgets for crops seeded to fallow and stubble in the brown, and dark brown soil zones. For the black and grey 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 grey 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

Price forecasts can vary considerably as a result of 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 2004-2005, AAFC average expected yields are assumed to be slightly below trend for all wheat, coarse grains and oilseeds and mostly below trend for pulse

and special crops. Despite the current below average precipitation levels that exist in about 65% of western Canada's area, normal precipitation levels are assumed during the 2004 growing season.

Again during the 2004 growing season, yields will be dependant upon timely rains as sub-soil conditions in areas currently in drought remain well below normal levels. Drought areas and their severity have significantly increased compared to a year ago in Saskatchewan and Alberta. Precipitation levels in 2003 were not sufficient to have supported a full drought recovery, and as a result livestock feed, and dugout water supply problems could likely be experienced again in 2004 if conditions are very hot and dry.

Grasshopper infestation during the summer of 2003 was considered severe, causing considerable crop losses for farmers and increased costs for pesticides. Areas with the highest levels of infestation were east-central and south eastern Alberta, south west Saskatchewan and south west Manitoba. The extent and timing of dry weather during the last four years has provided ideal breeding conditions for grasshoppers. As a result of the warm sunny conditions during the late 2003 summer, grasshopper infestations could again become an increasingly significant pest particularly if dry conditions are experienced during the June hatch. Environment Canada's spring forecast calls for below normal precipitation in Alberta, normal precipitation in

Saskatchewan and above normal in Manitoba. For the growing season, north-western Alberta and northern Manitoba are expected to receive below normal precipitation with southern Alberta, most of Saskatchewan and southern Manitoba experiencing normal precipitation. In Ontario and Quebec good precipitation levels during the fall of 2003 has returned soil moisture conditions to above average levels and has eliminated any dryness concerns that were experienced during the growing season. Environment Canada's June - August forecast is predicting above normal precipitation for these provinces.

about US\$5.80/MBtu, 1 tonne of nitrogen fertilizer will cost about US\$220 to produce {33.5 MBtu x \$5.80 + \$25 (fixed cost)} compared to about US\$260 in 2003 and US\$136 in 2002.

Lower natural gas prices compared to last year will ensure that fertilizer supplies will be sufficient because lower natural gas prices relative to last year have returned some fertilizer plants back to profitability but others remain closed. Offshore nitrogen imports through the US Gulf ports are expected to remain at high levels. Tight North American supplies are expected to keep natural gas prices relatively high especially if a cold winter occurs. Because of lower natural gas supplies and expected higher seeded and harvest areas, most analysts expect nitrogen fertilizer prices to remain at current levels in the short-term. Higher fertilizer prices have been offset by a higher Canadian dollar.

#### Farm Fuel

Strong global demand, uncertainty surrounding Iraq's ability to produce sufficient oil in the short-term and smaller US reserves, compounded by the Organization of the Petroleum Exporting Countries' success in controlling supply, have driven oil prices to near US\$34/barrel. Farm fuel prices are expected to be near 2003 levels, however, continued strong global demand with an expected recovery in the US economy may drive oil prices higher. As a result, farm fuel prices may be higher in 2004 compared to 2003.

#### Herbicides and Pesticides

Herbicide use in 2004 will vary greatly depending on the crop seeded and by the growing conditions. For the majority of crops, use is expected to rise modestly over 2003 due to a larger harvested area and anticipated pest problems. As a result, prices are expected to be slightly higher than last year.

In central areas of western Canada, pesticide use is likely to be higher than normal to combat the probability of higher levels of grasshoppers in Alberta and Manitoba, especially if conditions remain dry. Expected increases in grasshopper populations will increase the economic

<b>CANADA: AREA SEEDED</b>			
	<b>2003</b>	<b>2004f</b>	<b>Change</b>
	.....kha.....		%
Winter Wheat	668	602	-9.8%
Durum	2,483	2,585	4.1%
Spring Wheat	<u>7,512</u>	<u>7,205</u>	-4.1%
<b>All Wheat</b>	<b>10,662</b>	<b>10,392</b>	<b>-2.5%</b>
Barley	5,046	4,922	-2.5%
Corn	1,265	1,329	5.1%
Oats	2,272	2,235	-1.6%
Rye	246	262	6.3%
Mixed Grain	<u>241</u>	<u>234</u>	-2.7%
<b>Coarse Grains</b>	<b>9,070</b>	<b>8,982</b>	<b>-1.0%</b>
Canola	4,736	5,167	9.1%
Flaxseed	745	812	9.1%
Soybeans	<u>1,051</u>	<u>1,098</u>	4.5%
<b>Oilseeds</b>	<b>6,532</b>	<b>7,077</b>	<b>8.4%</b>
Dry Peas	1,303	1,238	-5.0%
White Pea Beans	68	72	5.3%
Coloured Beans	99	94	-4.9%
Lentils	554	582	5.0%
Mustard Seed	340	272	-20.0%
Sunflower Seed	119	108	-8.9%
Canary Seed	251	251	0.0%
Chick Peas	63	63	0.0%
Buckwheat	<u>9</u>	<u>9</u>	0.0%
<b>Pulse and Special Crops</b>	<b>2,806</b>	<b>2,689</b>	<b>-4.2%</b>
Summerfallow	3,607	3,446	-4.5%

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

f: forecast, AAFC, January 2004

Source: Statistics Canada

#### 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 ammonia factory requires about 33.5 million British thermal units (MBtu) to produce 1 tonne of ammonia. Natural gas costs are currently about US\$5.80/MBtu compared with about US\$7.00/MBtu in 2003 and about US\$3.30/MBtu in 2002. With natural gas priced at

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 pudding stage is enough to require control.

### Seed

The cost of seed is expected to increase marginally in 2004 for almost all crops. However seed costs when compared to 2003 are expected to vary considerably. This variability is expected to be higher for crops such as canola seed, to lower for crops such as wheat and oats.

### Crop Insurance

Crop insurance costs in 2004 are expected to be the same as in 2003, due to a significant reduction in crop claims. However, rates will vary depending on the province and crop seeded.

### 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, canola, flaxseed, oats, and dry peas. Net returns are forecast to be the lowest for Canada Western Red Spring (CWRS) wheat and feed barley

due to higher costs and lower expected prices in 2004-2005.

In the **Saskatchewan brown soil zone**, the highest net returns are for large green lentils, CWRS wheat, desi chick peas, and durum. Yellow mustard seed, large kabuli chick peas, and feed barley 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 canola, flaxseed, oats, dry peas, CWRS wheat and feed barley.

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

In **Ontario**, soybeans are expected to have the highest net return due to strong prices. Net returns from white pea beans, grain corn, 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 winter wheat, durum, corn, lentils and oilseeds is expected to increase. The area seeded to spring wheat, oats, barley and most pulse and special crops is expected to decline. In eastern Canada, the significant increase in area seeded to corn and soybeans is mostly offset by lower area seeded to winter and spring wheat.

In western Canada, **all wheat** area is forecast to decrease. **Spring wheat** area is forecast to decrease to 7.1 million hectares (Mha) in 2004 from 7.4 Mha, due to lower forecast prices. Prices are

expected to be pressured by a 23% increase in the five major exporting countries wheat stocks. Despite lower prices and returns expected in 2004-2005, area seeded to spring wheat in western Canada is expected to stay above 27% of total area seeded because of crop rotation considerations and due to the dryness in the western prairies. Area seeded to **durum** is expected to increase by about 4% due to the higher returns when compared with wheat. The CWB pool returns are forecasted to provide a price premium for No.1 Canada Western Amber Durum (CWAD) 12.5% protein, compared to No.1 Canada Western Red Spring (CWRS) 12.5% protein of \$10 per tonne ( $/t$ ) in 2004-2005 versus \$20/t for 2003-2004.

Area seeded to **barley** in western Canada is forecast to decrease 3% in 2004, to 4.6 Mha, due to a shift from grain to oilseed production. Off-board feed prices are expected to remain at 2003-2004 levels while malting barley returns are expected to be pressured by larger world supplies. Good returns from malting barley and barley's role as a good cash crop and as a major feed ingredient in western Canada will continue to ensure a large seeded area. However, despite the lower seeded area compared to 2003, in 2004 area seeded to barley is forecast to be above the 1994-2003 10-year average.

Area seeded to **oats** in western Canada is projected to decrease marginally to 2.1 Mha due to significantly lower prices and slightly higher supplies experienced in 2003-2004. A higher Canadian dollar and European oat export subsidies have also contributed to pressuring prices lower.

Area seeded to **canola** in western Canada, is projected to increase by 9% to 5.1 Mha due to higher net returns relative to alternative crops and to the strong prices in 2003-2004. Canola prices are forecast to fall from the high levels reached in 2002-2003 due to a stronger Canadian dollar and a return to normal yields in Canada and Australia. However, due to support from higher US soybean prices, canola prices are expected to remain relatively strong.

**Flaxseed** area is forecast to increase by about 9% to 0.8 Mha in 2004 due to good prices in 2003-2004 and relatively good projected net returns for 2004-2005. Prices are expected to be pressured by a higher Canadian dollar and higher supplies.

#### **Pulse and Special Crops**

In western Canada, area seeded to pulse and special crops in 2004 is expected to decrease by about 4% to 2.63 Mha due to lower expected net returns than for competing crops or higher production risks compared to other crops. Area seeded to **mustard seed** is expected to decrease by about 20%, while for **canary seed** area seeded is forecast to be the same as 2003. Lower **mustard seed** prices for all types are expected due to increased supplies. **Canary seed** prices are expected to decrease due to increased supplies. **Dry pea** area is expected to decrease by 5% to 1.24 Mha. Supplies are expected to increase due to higher yields. Prices are expected to be lower due to the higher supply. **Chick pea** area is forecast to remain unchanged. Prices for 2004-2005 are expected to increase modestly due to lower supply. The area seeded to **lentils** is expected to increase by about 5%. Prices are expected to decrease due to higher production and supply.

**Summerfallow** area has been steadily declining since 1988, reaching a low of 3.61 Mha in 2003, 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 2004 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 take marginal land out of production, especially in areas where there is little moisture. Current 2003-2004 crop year precipitation levels

indicate that about two-thirds of the area in western Canada has received between 60-85% of normal precipitation levels. Below normal precipitation levels will increase the need for timely rain during spring for seeding and proper germination. Forecasts from Environment Canada predict below normal precipitation levels for the spring of 2004 for most of Alberta and western Saskatchewan with above normal amounts in Manitoba. Should this scenario occur it is likely that Alberta and parts of Saskatchewan will again be in a drought risk situation.

#### **Ontario**

Area seeded to **winter wheat** in the fall of 2003, estimated by Statistics Canada at 0.3 Mha, is down about 25% from the record seeded area in 2002. A delayed soybean harvest in 2003 and wet conditions in the fall constrained additional seeded area. 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. Expected net returns for soybeans, white pea beans, corn and soft winter wheat are highest. Net returns for hard red winter wheat are also good.

Area seeded to **corn** is expected to increase by over 7% to 0.78 Mha in 2004 due to lower area seeded to winter wheat. Despite an expected 7% higher seeded area, production is forecast to increase marginally due to lower yields. Average prices in 2004-2005 are expected to remain unchanged at \$110-140/t (No.2 Canada Eastern cash in-store, Chatham) as expected higher US prices will be offset by a stronger Canadian dollar.

Area seeded to **soybeans** in Ontario is expected to increase by about 2% due to the decline in area seeded to winter wheat. Production is expected to increase almost 19% because of an expansion in harvested area and a return to near normal yields. Prices for soybeans are expected to decline by \$55/t to an average price of about

\$280/t (in store Chatham), due to higher soybean production in the US and a strengthening of the Canadian/US exchange rate. Despite the decline in prices, soybean net returns are expected to be higher than for corn. This is a return to a trend that prior to last year extended for over six years.

The area seeded to **white pea beans** in Canada is expected to increase by just over 5% in 2004. Area seeded to white pea beans is relatively small, due to higher production risk. Despite the higher seeded area in Canada, white pea bean production is forecast to fall due to lower yields and supplies are forecast to decrease. **Coloured bean** area is expected to decrease by about 5%. Lower supplies, as a result of lower yields, are expected to support higher prices for all classes of dry beans.

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**CANADA: AREA SEEDED 2004-2005**

**CROP BUDGETS**

**MANITOBA**

	Spring Wheat	Feed Barley <sup>4/</sup>	Canola	Flaxseed	Oats	Confectionary Sunflower	Dry Peas
<b>Variable Costs<sup>1/</sup></b>	\$ /ha						
Seed (inc. treatment)	42.65	32.31	56.84	27.30	40.34	78.32	86.62
Fertilizer	72.78	72.78	90.65	63.98	67.70	89.17	45.73
Chemical	78.13	65.53	129.17	65.53	27.73	168.86	50.41
Fuel	28.42	28.42	28.42	28.42	28.42	29.65	32.12
Repairs	24.98	24.98	24.98	24.98	24.98	27.48	26.24
Crop Insurance	13.24	11.37	20.26	13.07	13.91	12.70	12.08
Interest	8.48	7.76	11.04	7.41	6.84	13.10	8.30
Other	18.63	18.63	18.63	18.63	18.63	19.87	19.87
<b>Total Variable Costs</b>	<b>287.31</b>	<b>261.78</b>	<b>379.99</b>	<b>249.32</b>	<b>228.55</b>	<b>439.15</b>	<b>281.37</b>
<b>Projected Returns<sup>2/</sup></b>	<b>2 CWRS*</b>	<b>1 CW</b>	<b>1 CAN</b>	<b>1 CW</b>	<b>3 CW</b>	<b>1 CAN</b>	<b>2 CAN</b>
Projected Yield (t/ha)	2.55	3.20	1.65	1.35	2.80	1.60	2.15
Projected Price (\$/t)	151.00	85.00	355.00	320.00	125.00	440.00	175.00
Projected Revenue	385.05	272.00	585.75	432.00	350.00	704.00	376.25
<b>Net Return (\$/ha)</b>	<b>97.74</b>	<b>10.22</b>	<b>205.76</b>	<b>182.68</b>	<b>121.45</b>	<b>264.85</b>	<b>94.88</b>

**SASKATCHEWAN: Brown Soil Zone - conventional seeded stubble**

	Spring Wheat	Durum Wheat	Feed Barley <sup>4/</sup>	Large Green Lentils	Yellow Mustard	Large Kabuli Chick Peas	Desi Chick Peas
<b>Variable Costs<sup>3/</sup></b>	\$ /ha						
Seed (inc. treatment)	24.99	27.84	17.13	87.57	36.96	187.29	68.80
Fertilizer	46.19	46.19	46.19	20.50	53.35	20.50	20.50
Chemicals	47.06	47.85	42.45	88.55	52.00	132.87	75.53
Fuel	23.22	23.22	23.22	27.17	24.38	25.54	25.54
Repairs	17.98	17.98	17.98	22.48	17.98	26.82	26.82
Crop Insurance	6.40	7.19	4.32	8.57	13.54	33.89	25.89
Interest	4.32	4.41	5.48	4.05	5.11	10.77	6.23
Other	7.13	7.13	6.38	7.13	7.13	7.13	7.13
<b>Total Variable Costs</b>	<b>177.28</b>	<b>181.80</b>	<b>163.15</b>	<b>266.02</b>	<b>210.45</b>	<b>444.81</b>	<b>256.44</b>
<b>Projected Returns<sup>2/</sup></b>	<b>1 CWRS*</b>	<b>1 CWAD*</b>	<b>1 CW</b>	<b>1 CAN</b>	<b>1 CAN</b>	<b>2 CW</b>	<b>2 CW</b>
Projected Yield (t/ha)	1.67	1.63	2.01	0.90	0.70	1.00	1.20
Projected Price (\$/t)	155.00	153.00	90.00	395.00	385.00	495.00	265.00
Projected Revenue	258.85	249.39	180.90	355.50	269.50	495.00	318.00
<b>Net Return (\$/ha)</b>	<b>81.57</b>	<b>67.59</b>	<b>17.75</b>	<b>89.48</b>	<b>59.05</b>	<b>50.19</b>	<b>61.56</b>

**SASKATCHEWAN: Black Soil Zone - conventional seeded stubble**

	Spring Wheat	2 Row Malting Barley	Feed Barley <sup>4/</sup>	Oats	Dry Peas	Flaxseed	Canola
<b>Variable Costs<sup>3/</sup></b>	\$ /ha						
Seed (inc. treatment)	27.17	18.83	18.83	15.00	53.94	20.10	50.79
Fertilizer	63.73	63.73	63.73	63.73	20.50	63.73	78.05
Chemicals	63.19	53.69	53.69	35.10	65.73	64.47	62.86
Fuel	23.22	23.22	23.22	24.70	25.54	25.54	24.38
Repairs	23.73	23.73	23.73	19.98	33.72	28.47	23.73
Crop Insurance	8.82	8.18	8.18	4.10	9.51	11.16	10.65
Interest	5.48	5.03	5.03	6.20	5.46	5.58	6.51
Other	10.73	10.73	10.73	10.73	10.73	10.73	10.73
<b>Total Variable Costs</b>	<b>226.06</b>	<b>207.13</b>	<b>207.13</b>	<b>179.54</b>	<b>225.13</b>	<b>229.78</b>	<b>267.70</b>
<b>Projected Returns<sup>2/</sup></b>	<b>2 CWRS*</b>	<b>SS2R</b>	<b>1 CW</b>	<b>3 CW</b>	<b>2 CAN</b>	<b>2 CW</b>	<b>1 CW</b>
Projected Yield (t/ha)	2.09	2.63	2.86	2.37	1.85	1.20	1.26
Projected Price (\$/t)	147.00	151.00	90.00	115.00	165.00	315.00	340.00
Projected Revenue	307.23	397.13	257.22	272.90	305.25	378.63	428.40
<b>Net Return (\$/ha)</b>	<b>81.17</b>	<b>190.00</b>	<b>50.09</b>	<b>93.36</b>	<b>80.12</b>	<b>148.85</b>	<b>160.70</b>

Totals may not add due to rounding

<sup>1/</sup> AAFC forecast based on 2003 Manitoba Agriculture variable costs

<sup>2/</sup> AAFC forecast, January 2004

<sup>3/</sup> AAFC based on 2003 Saskatchewan Agriculture and Food variable costs

<sup>4/</sup> Off-Board

\* Wheat: 13.5% protein / Durum: 12.5% protein

**CANADA: AREA SEEDED 2004-2005**

**CROP BUDGETS**

**ALBERTA: Brown Soil Zone - stubble**

	Spring Wheat	Durum Wheat	Feed Barley <sup>4/</sup>	Argentine Canola	Large Green Lentils	Large Kabuli Chick Peas
<b>Variable Costs</b> <sup>1/</sup>	\$ /ha					
Seed (inc. treatment)	20.60	26.23	17.48	29.97	62.43	162.32
Fertilizer	51.01	51.01	51.01	38.04	14.33	14.33
Chemicals	59.21	59.21	30.23	55.42	74.32	74.32
Fuel	20.82	15.56	15.56	15.56	15.56	15.56
Repairs	15.61	15.61	15.61	15.61	18.11	18.11
Crop Insurance	8.05	9.56	8.57	11.12	17.04	18.53
Interest	4.77	4.77	4.77	5.97	5.97	5.97
Other	2.48	2.48	2.48	2.48	2.48	2.48
<b>Total Variable Costs</b>	<b>182.55</b>	<b>184.43</b>	<b>145.71</b>	<b>174.16</b>	<b>210.24</b>	<b>311.61</b>
<b>Projected Returns</b> <sup>2/</sup>	<b>1 CWRS*</b>	<b>1 CWAD*</b>	<b>1 CW</b>	<b>1 CAN</b>	<b>1 CAN</b>	<b>2 CW</b>
Projected Yield (t/ha)	1.42	1.72	1.91	1.01	0.85	1.00
Projected Price (\$/t)	162.00	155.00	100.00	345.00	400.00	495.00
Projected Revenue (\$/ha)	229.88	266.29	191.00	348.45	340.00	495.00
<b>Net Return (\$/ha)</b>	<b>47.33</b>	<b>81.86</b>	<b>45.29</b>	<b>174.29</b>	<b>129.76</b>	<b>183.39</b>

**ALBERTA: Black Soil Zone - stubble**

	Spring Wheat	CPS Wheat	Feed Barley <sup>4/</sup>	Oats	Dry Peas	Argentine Canola
<b>Variable Costs</b> <sup>1/</sup>	\$ /ha					
Seed (inc. treatment)	31.22	37.46	24.97	24.97	74.92	44.95
Fertilizer	87.56	87.56	85.09	87.56	29.76	110.41
Chemicals	62.98	62.98	55.42	23.94	68.02	80.62
Fuel	23.34	23.34	23.34	23.34	23.34	23.34
Repairs	31.17	31.17	31.17	31.17	33.76	31.17
Crop Insurance	10.40	9.88	10.50	10.03	17.39	16.01
Interest	4.77	4.77	4.77	4.77	4.77	5.97
Other	2.47	2.48	2.48	2.48	2.48	2.48
<b>Total Variable Costs</b>	<b>253.91</b>	<b>259.64</b>	<b>237.74</b>	<b>208.26</b>	<b>254.44</b>	<b>314.95</b>
<b>Projected Returns</b> <sup>2/</sup>	<b>2 CWRS*</b>	<b>1 CPS</b>	<b>1 CW</b>	<b>3 CW</b>	<b>2 CAN</b>	<b>1 CAN</b>
Projected Yield (t/ha)	2.49	3.30	3.23	2.43	2.25	1.39
Projected Price (\$/t)	155.00	125.00	100.00	115.00	175.00	345.00
Projected Revenue (\$/ha)	385.95	412.50	323.10	279.34	393.75	479.55
<b>Net Return (\$/ha)</b>	<b>132.04</b>	<b>152.86</b>	<b>85.36</b>	<b>71.07</b>	<b>139.31</b>	<b>164.60</b>

**Ontario: - conventional seeded**

	SWW Wheat	HRW Wheat	Feed Barley	Grain Corn	Soybeans	White Pea Beans
<b>Variable Costs</b> <sup>3/</sup>	\$ /ha					
Seed (inc. treatment)	86.40	120.87	76.54	126.12	99.02	134.85
Fertilizer	116.09	147.95	158.20	189.08	43.23	63.23
Chemicals	33.38	33.38	93.21	103.92	98.25	163.75
Fuel	16.55	16.55	35.94	23.59	16.55	34.58
Repairs	37.34	37.34	52.56	39.33	37.34	39.33
Crop Insurance	18.40	18.40	11.12	28.65	26.18	58.42
Interest	14.31	22.42	11.21	20.03	9.78	13.35
Other (includes drying)	4.83	4.02	n/a	46.52	6.93	9.74
<b>Total Variable Costs</b>	<b>327.30</b>	<b>400.93</b>	<b>438.78</b>	<b>577.24</b>	<b>337.28</b>	<b>517.25</b>
<b>Projected Returns</b> <sup>2/</sup>	<b>1 CEWW</b>	<b>1 CERW* 11.5</b>	<b>Feed</b>	<b>2 CE</b>	<b>2 CAN</b>	<b>1 CAN</b>
Projected Yield (t/ha)	4.90	4.30	3.30	7.50	2.50	1.80
Projected Price (\$/t)	150.00	160.00	95.00	135.00	340.00	540.00
Projected Revenue (\$/ha)	735.00	688.00	313.50	1,012.50	850.00	972.00
<b>Net Return (\$/ha)</b>	<b>407.70</b>	<b>287.07</b>	<b>-125.28</b>	<b>435.26</b>	<b>512.72</b>	<b>454.75</b>

Totals may not add due to rounding

<sup>1/</sup> AAFC based on 2003 Alberta Agriculture, Food and Rural Development variable costs

<sup>2/</sup> AAFC forecast, January 2004

<sup>3/</sup> AAFC forecast based on 2003 Ontario Ministry of Agriculture, Food and Rural Affairs costs

<sup>4/</sup> Off-Board

\* CWRS: 13.5% protein / ICWAD: 12.5% protein / 1 CERW 11.5% protein