Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

Bi-weekly Bulletin

April 5, 2002 Volume 15 Number 6

CANADA: AREA SEEDED FOR 2002-2003

Expected net returns, derived from projected prices, yields, and variable costs of production, exert a major influence on seeding decisions. However, soil moisture conditions, expected delivery opportunities, cash flow, crop rotation requirements, potential disease and pest problems, and on-farm stocks are also very important factors that are taken into consideration. In Canada, area seeded for 2002-2003 is expected to shift from spring wheat, soybeans, chickpeas, lentils, and summerfallow to durum, oats, barley, corn, canola, dry beans, dry peas, mustard seed and canary seed. This issue of the *Bi-weekly Bulletin* examines the returns and expected area seeded for grains, oilseeds, pulses and special crops in Canada.

Expected returns are one of the most important factors 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 if any with the type of crop. **It should be emphasized that the net returns shown in the crop budgets do not represent the profitability of growing a crop since other costs must also be accounted for.** 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.

As each province's agriculture department uses a different methodology, the crop budgets are not comparable across provinces. Saskatchewan Agriculture and Food 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 Food and Rural Affairs provides average crop budgets.

SOIL ZONES

Productivity in western Canada is dependant on 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

CANADA: AREA SEEDED

	2001	2002f	Change
	.....'000 ha.....		%
Durum	2,242	2,670	19.1%
Wheat ex. Durum	9,284	7,943	-14.4%
All Wheat	**11,526**	**10,613**	**-7.9%**
Barley	5,016	5,431	8.3%
Corn	1,256	1,292	2.9%
Oats	2,004	2,245	12.0%
Rye	174	158	-9.5%
Mixed Grain	289	288	-0.3%
Coarse Grains	**8,739**	**9,414**	**7.7%**
Canola	3,957	4,156	5.0%
Flaxseed	663	687	3.6%
Soybeans	1,042	990	-4.9%
Oilseeds	**5,661**	**5,833**	**3.0%**
Dry Peas	1,452	1,538	5.9%
White Pea Beans	67	94	39.7%
Coloured Beans	91	113	24.2%
Lentils	732	659	-9.9%
Mustard Seed	137	260	90.2%
Sunflower Seed	68	77	13.9%
Canary Seed	148	236	59.8%
Chick Peas	502	426	-15.1%
Buckwheat	13	15	10.5%
Special Crops	**3,209**	**3,418**	**6.5%**
Summerfallow	4,751	4,420	-7.0%

Numbers may not add due to rounding.
f: forecast, AAFC, April 2002
Source: Statistics Canada

Canada

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)'s March 2002-2003 Pool Return Outlook (PRO), and AAFC's assumption that the port-to-farm basis will be similar to 2001-2002. In Ontario, wheat prices are based on the Ontario Wheat Producers' Marketing Board's March PRO. Price forecasts can vary considerably as a result of unusual weather in the major importing or exporting countries, and other changes in market conditions.

YIELD FORECASTS

Average provincial yields have been forecast by AAFC, using trend analysis and have been forecast slightly below trend. 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 2002-2003, AAFC has slightly reduced average expected yields to account for the persistent dryness that exists in the western prairies. For the 2002 growing season, yields will be exceptionally dependant upon timely rains as subsoil moisture conditions are well below normal levels and in some cases at record low levels.

The areas of most concern are almost all of Alberta and a large portion of central and western Saskatchewan. To-date the drought area appears to have expanded compared to the drought area identified last fall. Precipitation from September 1, 2001, to-date has been mostly 40-60% of average levels. However, it should be noted that it is still relatively early and prospects could improve, should the western prairies receive abundant and timely rains in spring.

EXPENSES

Fertilizer Costs

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 (t) of ammonia. Natural gas costs are currently about US$3.30/MBtu compared with about US$5.00/MBtu in 2001. With natural gas priced at about US$3.3/MBtu, 1t of nitrogen fertilizer will cost about US$136 to produce
{33.5 MBtu x $3.30 + $25 (fixed cost)}.

Fertilizer prices in 2002 are expected to be well below last year's prices as a result of lower natural gas prices and an abundance of supplies due to weak demand in 2001. Above seasonal winter temperatures in North America have ensured abundant supplies. A higher than expected increase in area seeded to corn in the United States (US) and the return by China to the nitrogen import market, largely absent since 1997, may pressure prices slightly. While fertilizer input costs are a significant factor in seeding decisions, for 2002 fertilizer costs will be less of a factor than in 2001. For 2002, seeding intentions may be affected more by soil moisture conditions, particularly in western Canada.

Farm Fuel

Farm fuel prices are expected to be slightly less in 2002 compared to 2001. In late 2001, lower prices resulted from large global oil stocks and reduced North American demand driven by a slower US economy. Over the past several months, oil prices have rebounded to over US$25/barrel from below US$20/barrel. Prices in the later half of 2002 may rise particularly if the US economy rebounds significantly and the reduced oil output by the Oil Producing Export Countries (OPEC) continues to effectively reduce global supplies.

Herbicides and Pesticides

Herbicide use in 2002 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 increase between 1-3%, however, prices will be influenced by weather conditions which will promote more or less use of these chemicals.

In localized areas of western Canada higher levels of pesticide will be used to combat grasshoppers, especially if conditions remain dry. Therefore, expected increases in grasshopper populations in 2002, increases the likelihood that the economic thresholds for spraying crops will be met. Economic thresholds vary from crop to crop and with various crop stages. In general, for cereal crops it will 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

Seed costs in 2002 are expected to increase on average by about 2%. Corn and spring wheat seed costs are expected to decrease, while the majority of all other seeds are expected to increase.

Crop Insurance

Crop insurance costs in 2002 will vary depending on province and crop seeded. In Ontario, costs will increase significantly for corn, soybeans and white pea beans. In Manitoba, small green lentils and dry peas will have significant decreases. In the Saskatchewan black soil zone, crop insurance costs will increase modestly, except for dry peas which are expected to decrease

modestly. Insurance costs in the Saskatchewan brown soil zone are expected to increase except for desi chick peas and large green lentils. In the black soil zone of Alberta, insurance costs are expected to increase significantly for all crops, while in the brown soil zone costs are expected to increase significantly except for canola and the cereal crops which are expected to decrease.

CROP BUDGETS

There are significant differences in the variable costs between provinces and soil zones. A high percentage of the variation between provinces is due to seed (including treatment) costs, and the costs of fertilizer and pesticides. 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 return is for oats, followed closely by canola, dry peas, and flaxseed. Net returns are forecast to be the lowest for small green lentils due to a combination of higher chemical costs and lower expected prices in 2002-2003.

In the **Saskatchewan brown soil zone**, the highest projected net return is for desi chick peas, but the increase in area seeded to this crop will be limited due to higher production risks. The projected net returns for yellow mustard and durum wheat are also expected to be relatively high. Expected net returns for large green lentils and large kabuli chick peas are expected to be the lowest. For both the large kabuli chick peas and large green lentils a combination of lower prices and higher costs will lower their expected net returns. In the **black soil zone**, malting barley is expected to provide the highest potential net return, followed by canola, feed barley, spring wheat, oats, flaxseed and dry peas.

In the **Alberta brown soil zone**, the potential net return for large kabuli chick peas is the highest. For the large kabuli chick peas, area seeded will be limited due to higher production risks. The next highest prospects for net returns are for canola, large green lentils, durum, feed barley and spring wheat. In the **black soil zone**, lower variable costs and higher yields for Canada Prairie Spring (CPS) wheat will by far provide the highest net return. Spring wheat, dry peas, Argentine canola, feed barley and oats are expected to have more modest net returns.

In **Ontario**, white pea beans are expected to have the highest net return due to strong prices. Net returns from soybeans and soft white winter wheat are expected to exceed the returns for corn. Returns for hard red winter wheat are expected to be modest. Feed barley returns are expected to be low, however most of this crop is used for on farm feeding so that market price is less of a factor in planting decisions.

AREA SHIFTS

Area seeded in western Canada is forecast to shift into durum wheat, oats, barley, canola, flaxseed and most pulse and special crops due to higher expected relative net returns. The areas of spring wheat, chick peas, lentils and summerfallow are expected to decline. In eastern Canada, area seeded is expected to shift out of soybeans and into corn and dry beans.

Western Canada

In western Canada, **all wheat** area is forecast to decrease. **Spring wheat** area is forecast to fall considerably to 7.40 million hectares (Mha) in 2002 from 8.74 Mha largely due to relatively lower expected net returns in 2001. Area seeded to **durum** is expected to increase significantly to 2.67 Mha due to strong prices expected in the current crop year and relatively strong returns anticipated for 2002-2003 in comparison to spring wheat prices. For 2001-2002 carry-out stocks are forecast to fall to a relatively low 1.20 million tonnes (Mt). The CWB PRO indicates that the price premium of No.1 Canada Western Amber Durum (CWAD) 12.5% protein, compared to No.1 Canada Western Red Spring (CWRS) 12.5% protein, is forecast to narrow to $39 per tonne (/t) in store Vancouver or St. Lawrence in 2002-2003, versus $51/t for 2001-2002.

Area seeded to **barley** in western Canada is forecast to increase substantially from 2001, to 5.10 Mha, due to good prices driven by strong domestic demand from a growing livestock sector, its role as a good cash crop, and relatively good returns from malting barley. Carry-out stocks and exports are expected to increase significantly due to larger supplies. Domestic feed barley prices are expected to be pressured and are forecast to decline significantly due to the increased supplies. The premium for two-row malting barley over six-row is expected to decrease slightly primarily due to increased Canadian supplies, as well as increased European Union (EU) production and continued strong competition from Australia. Area seeded to **oats** in western Canada is projected to increase significantly to 2.11 Mha, as current prices have been very good and have sparked interest in the crop.

Canola prices are forecast to fall from 2001-2002 due to the continued burdensome world soybean, soy oil and palm oil supplies. However, due to low carry-out stocks in 2001-2002, canola is expected to price at premium over other oilseeds. Improved net returns, primarily as a result of lower fertilizer and fuel costs are expected to contribute to a modest area shift into canola. In western Canada, canola area is projected to increase by 5% to 4.14 Mha.

Flaxseed area is forecast to increase by about 4% to 0.69 Mha in 2002 due to strong prices and relatively good projected net returns. Exports are expected to rise by 15%, primarily as a result of increased demand from the EU. Prices for flaxseed are expected to strengthen as a result of lower carry-out stocks expected for 2002-2003.

In western Canada, area seeded to **pulse and special crops** in 2002 is expected to increase by about 6% to 3.34 Mha. Areas seeded to **mustard seed** and **canary seed** are forecast to increase by 90% and 60% respectively. The increase in **mustard seed** area can be attributed to very high prices in 2001-2002. Production of both yellow and brown types are expected to increase sharply with prices declining sharply in 2002-2003 compared to current prices. **Canary seed** area is expected to increase due to exceptionally high prices being received in 2001-2002. For 2002-2003 prices are expected to fall by about 40%, due to increased production but are expected to remain relatively high. **Dry pea** area is expected to increase by almost 6% due to low carry-out stocks and good prices in 2001-2002. In 2002-2003 the average price is forecast to decrease by about 15%. **Chick pea** area is forecast to decline by about 15%, with a shift to the desi type due to lower prices received for the kabuli types. Prices for 2002-2003 are expected to decrease slightly for the desi and small kabuli types. The area seeded to **lentils** is expected to drop by about 10%. Lentil prices are expected to decrease slightly from 2001-2002 levels.

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 increased stubble 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 2002 is expected reach a new record low of 4.42 Mha. However, if conditions in the spring are excessively dry, summerfallow area could significantly increase. With low prices and high input costs, many farmers, especially in southern Saskatchewan, will not risk seeding a crop into stubble land if there is little moisture. Current moisture conditions in Alberta, and western and central Saskatchewan range between 40 and 60% below average. Seeded area could be significantly reduced should this condition persist until seeding.

Ontario

Area seeded to **winter wheat** in the fall of 2001 is estimated by Statistics Canada to be unchanged from 2000 at 0.24 Mha. A wet fall and a late soybean harvest has limited an increase in winter wheat seeded area. Expected net returns for soft white winter wheat is lower than for crops such as white pea beans and soybeans, but slightly higher than grain corn. Winter wheat is a rotation crop and a source of cash during the summer for many Ontario farmers, with seeded area largely dependent on fall seeding conditions.

Corn seeded area is expected to increase a modest 2% to 0.81 Mha in 2002. Lower fertilizer, and drying costs compared to 2001, are expected to encourage a sightly higher seeded area. Higher production is forecast as a result of improved yields and a larger seeded area, and average prices in 2002-2003 are expected to decline slightly to 125 CAN$/tonne (no. 2 CE cash in store, Chatham).

Area seeded to **soybeans** in Ontario is expected to decrease by 4% to 0.84 Mha due to a rotation into corn and special crops. Net returns for soybeans are forecast to continue to provide a consistently higher net return compared to corn for the sixth straight year. Despite high returns for soybeans, producers are expected to shift some areas out of soybeans due to production and harvesting problems experienced in the last two years.

Good prices and a high expected net return are expected to increase the area seeded to **white pea beans** by almost 75%. However area seeded to white pea beans is relatively small due to the higher risk associated with production and will only translate into an area of 39,000 hectare (ha) compared with 22,300 ha the previous year. **Coloured bean** area is expected to increase to 27,000 ha, compared with 22,300 ha in 2001-2002.

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CROP BUDGETS

MANITOBA

	Spring Wheat	Feed Barley [4/]	Canola	Flaxseed	Oats	Sm. Grn. Lentils	Dry Peas
Variable Costs [1/]				$/ha			
Seed (inc. treatment)	31.92	23.50	43.02	24.75	34.54	31.95	67.20
Fertilizer	59.76	59.76	73.27	52.53	55.59	40.27	37.57
Chemical	76.60	51.89	121.69	54.36	14.83	185.94	49.42
Fuel	27.18	27.18	27.18	27.18	27.18	29.65	32.12
Repairs	24.71	24.71	24.71	24.71	24.71	27.18	25.95
Crop Insurance	13.44	10.97	18.66	11.84	12.23	16.16	11.66
Interest	8.01	6.94	10.26	6.86	6.07	10.94	7.76
Other	18.53	18.53	18.53	18.53	18.53	18.53	19.77
Total Variable Costs	**260.15**	**223.48**	**337.32**	**220.76**	**193.68**	**360.62**	**251.45**
Projected Returns [2/]	***2 CWRS****	***1 CW***	***1 CAN***	***1 CW***	***3 CW***	***2 CAN***	***2 CAN***
Projected Yield (t/ha)	2.43	3.30	1.60	1.35	2.73	1.35	2.40
Projected Price ($/t)	162.00	105.00	310.00	275.00	130.00	265.00	170.00
Projected Revenue ($/ha)	393.66	346.50	496.00	371.25	354.90	357.75	408.00
Net Return ($/ha)	**133.51**	**123.02**	**158.68**	**150.49**	**161.22**	**-2.87**	**156.55**

SASKATCHEWAN: Brown Soil Zone - conventional seeded stubble

	Spring Wheat	Durum Wheat	Feed Barley [4/]	Lg. Grn. Lentils	Yellow Mustard	Lg. Kabuli Chick Peas	Desi Chick Peas
Variable Costs [3/]				$/ha			
Seed (inc. treatment)	16.33	21.91	14.94	51.13	35.57	226.01	75.09
Fertilizer	40.76	40.76	40.76	18.67	46.44	18.67	18.67
Chemicals	45.94	46.66	42.24	94.45	49.10	132.61	75.71
Fuel	20.75	20.75	20.75	22.82	21.79	22.82	22.82
Repairs	14.82	14.82	14.82	25.94	14.82	22.23	22.23
Crop Insurance	4.03	3.75	4.99	14.00	6.08	28.82	15.14
Interest	3.93	4.10	3.83	6.25	4.74	12.03	6.22
Other	7.16	7.16	7.16	10.60	7.16	7.16	7.16
Total Variable Costs	**153.71**	**159.91**	**149.48**	**243.86**	**185.69**	**470.36**	**243.05**
Projected Returns [2/]	***1 CWRS****	***1 CWAD****	***1 CW***	***1 CAN***	***1 CAN***	***2 CW***	***2 CW***
Projected Yield (t/ha)	1.60	1.60	1.97	0.90	0.76	1.10	1.35
Projected Price ($/t)	164.00	195.00	115.00	350.00	465.00	470.00	310.00
Projected Revenue ($/ha)	262.40	312.00	226.55	315.00	353.40	517.00	418.50
Net Return ($/ha)	**108.69**	**152.09**	**77.07**	**71.14**	**167.71**	**46.64**	**175.45**

SASKATCHEWAN: Black Soil Zone - conventional seeded stubble

	Spring Wheat	2R Malting Barley	Feed Barley [4/]	Oats	Dry Peas	Flaxseed	Canola
Variable Costs [3/]				$/ha			
Seed (inc. treatment)	17.76	16.43	16.43	24.13	44.46	14.70	29.64
Fertilizer	56.32	56.32	56.32	56.32	18.67	56.32	67.68
Chemicals	61.55	53.87	53.87	33.32	66.44	64.64	71.93
Fuel	20.75	20.75	20.75	20.75	22.82	22.82	21.79
Repairs	19.76	19.76	19.76	19.76	28.16	23.71	19.76
Crop Insurance	5.24	4.50	4.50	4.50	5.58	4.74	5.14
Interest	5.04	4.79	4.79	4.45	5.16	5.19	5.95
Other	10.77	10.77	10.77	10.77	10.77	10.77	10.77
Total Variable Costs	**197.18**	**187.18**	**187.18**	**173.99**	**202.07**	**202.89**	**232.65**
Projected Returns [2/]	***2 CWRS****	***SS2R***	***1 CW***	***3 CW***	***2 CAN***	***2 CW***	***1 CW***
Projected Yield (t/ha)	2.00	2.80	2.80	2.32	1.87	1.16	1.13
Projected Price ($/t)	159.00	147.00	110.00	125.00	165.00	270.00	315.00
Projected Revenue ($/ha)	318.00	411.60	308.00	290.00	308.55	313.20	355.95
Net Return ($/ha)	**120.82**	**224.42**	**120.82**	**116.01**	**106.48**	**110.31**	**123.30**

Numbers may not add due to rounding.
[1/] Manitoba Agriculture
[2/] AAFC forecast, April 2002
[3/] Saskatchewan Agriculture and Food
[4/] Off-Board
* Wheat: 13.5% protein / Durum: 12.5% protein

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CROP BUDGETS

ALBERTA: Brown Soil Zone - stubble

	Spring Wheat	Durum Wheat	Feed Barley [4/]	Polish Canola	Lrg. Grn. Lentils	Lg. Kabuli Chick Peas
Variable Costs [1/]			$/ha			
Seed (inc. treatment)	16.06	21.00	13.59	25.94	49.40	172.90
Fertilizer	48.91	48.91	48.91	56.32	13.34	13.34
Chemicals	58.05	58.05	29.64	60.52	48.17	72.87
Fuel	14.82	14.82	14.82	14.82	14.82	14.82
Repairs	14.82	14.82	14.82	14.82	17.29	17.29
Crop Insurance	7.66	9.11	8.15	10.60	16.23	17.64
Interest	4.94	4.94	4.94	4.94	6.18	6.18
Other	2.47	2.47	2.47	2.47	2.47	2.47
Total Variable Costs	**167.71**	**174.11**	**137.33**	**190.41**	**167.89**	**317.49**
Projected Returns [2/]	***1 CWRS****	***1 CWAD****	***1 CW***	***1 CAN***	***1 CAN***	***2 CW***
Projected Yield (t/ha)	1.40	1.40	1.83	1.00	0.80	1.05
Projected Price ($/t)	172.00	200.00	120.00	320.00	355.00	470.00
Projected Revenue ($/ha)	240.80	280.00	219.60	320.00	284.00	493.50
Net Return ($/ha)	**73.09**	**105.89**	**82.27**	**129.59**	**116.11**	**176.01**

ALBERTA: Black Soil Zone - stubble

	Spring Wheat	CPS Red Wheat	Feed Barley [4/]	Oats	Dry Peas	Argentine Canola
Variable Costs [1/]			$/ha			
Seed (inc. treatment)	24.70	29.64	19.76	17.29	66.69	37.05
Fertilizer	84.35	84.35	84.35	84.35	28.53	106.70
Chemicals	61.75	61.75	54.34	23.47	66.69	79.04
Fuel	22.23	22.23	22.23	22.23	22.23	22.23
Repairs	29.64	29.64	29.64	29.64	32.11	29.64
Crop Insurance	9.46	8.99	9.53	9.11	15.81	14.55
Interest	4.94	4.94	4.94	4.94	4.94	6.18
Other	2.47	2.47	2.47	2.47	2.47	2.47
Total Variable Costs	**239.54**	**244.01**	**227.26**	**193.50**	**239.47**	**297.86**
Projected Returns [2/]	***2 CWRS****	***1 CPS***	***1 CW***	***3 CW***	***2 CAN***	***1 CAN***
Projected Yield (t/ha)	2.42	3.30	3.13	2.43	2.30	1.39
Projected Price ($/t)	167.00	135.00	115.00	115.00	170.00	320.00
Projected Revenue ($/ha)	404.14	445.50	359.95	279.45	391.00	444.80
Net Return ($/ha)	**164.60**	**201.49**	**132.69**	**85.95**	**151.53**	**146.94**

ONTARIO

	SWW Wheat	HRW Wheat	Feed Barley	Grain Corn	Soybeans	White Pea Beans
Variable Costs [3/]			$/ha			
Seed (inc. treatment)	87.56	107.69	62.74	128.19	83.36	81.51
Fertilizer	123.99	153.76	149.44	183.03	28.41	48.41
Chemicals	12.60	12.60	87.81	125.72	105.47	97.81
Fuel	23.09	23.09	30.88	38.53	29.64	35.20
Repairs	45.70	45.70	50.64	48.41	40.76	63.60
Crop Insurance	16.18	16.18	11.12	28.65	26.18	58.42
Interest	8.89	16.18	9.14	13.83	7.90	9.63
Other(includes drying)	4.80	4.00	n/a	78.08	1.89	9.52
Total Variable Costs	**322.81**	**379.19**	**401.75**	**644.45**	**323.61**	**404.10**
Projected Returns [2/]	***1 CEWW***	***1 CERW* 11.5***	***Feed***	***2 CE***	***2 CW***	***1 CAN***
Projected Yield (t/ha)	4.80	4.00	3.30	7.70	2.70	1.67
Projected Price ($/t)	142.00	147.00	120.00	125.00	255.00	595.00
Projected Revenue ($/ha)	681.60	588.00	396.00	962.50	688.50	993.65
Net Return ($/ha)	**358.79**	**208.81**	**-5.75**	**318.05**	**364.89**	**589.55**

Numbers may not add due to rounding.
[1/] Alberta Agriculture, Food and Rural Development
[2/] AAFC forecast, April 2002
[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