



# Bi-weekly Bulletin

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## BUCKWHEAT / FLAXSEED

### BUCKWHEAT: SITUATION AND OUTLOOK

**Buckwheat has many uses and is rated as one of the best sources of high biological value protein in the plant kingdom. In spite of its name, buckwheat is technically a fruit or a nut rather than a cereal grain. Although production in Canada has fallen to a low level, it is expected to increase over the longer term with the development of new varieties and increased consumption in Canada and the United States (US). This issue of the *Bi-weekly Bulletin* examines the situation and outlook for buckwheat.**

#### WORLD

World buckwheat **production** has been variable, but trending downwards during the past 10 years. China generally produces about 50% of the world's buckwheat, Russia about 20% and Ukraine about 15%.

World buckwheat **exports** averaged 173,000 tonnes per year during the 5 year period ending in 2004. China normally accounts for about 75% of the exports and Japan normally accounts for about 60% of the imports.

#### CANADA

##### Production

Buckwheat is a broadleaf plant which grows best in well drained light to medium textured

soils. Seeding normally takes place in the early part of June, after the risk of frost is gone. It matures in 80-90 days and makes an excellent rotation with cereal grains. It requires less nitrogen than cereal crops and is very efficient at removing phosphorus from the soil for its own needs. It also increases the phosphorus available for subsequent crops through its decomposing residue. Buckwheat is susceptible to stress during dry periods because the stomata stays open causing the plant to wilt. Weed control in buckwheat is a challenge since there are few herbicides available, particularly for broadleaf weeds. Since it is sown late, weeds are generally controlled with cultivation before seeding. Canadian buckwheat is normally harvested in September and early October.

acid composition that is complementary to cereal grains, and buckwheat is high in iron, potassium, magnesium, sulfur and phosphorus, as well as vitamins B and P. Buckwheat is virtually fat free and is gluten free. An important by-product of buckwheat production is buckwheat honey, produced from nectar collected from buckwheat flowers by bees.

Buckwheat is milled into light or dark flour or processed into groats, the meat of the seed, and grits which are essentially cracked groats. Buckwheat flour is mixed with wheat flour to make noodles called Soba in Japan. Large seeded varieties, such as Koban and Koto, have a starch content about 7-8% higher than other varieties. In addition, the starch is softer, which makes the noodles chewy. This is a desirable trait. It also enables Japanese buckwheat millers to use up to 80% buckwheat in their noodle mixes compared to the usual blend of 50% buckwheat and 50% wheat flour. Buckwheat flour is also used for pancake mixtures or mixed with wheat flour for baking bread, rolls and cakes. As well, it is mixed with semolina to make pasta and is used in breakfast cereals, puffed snacks and stuffing. Since buckwheat does not contain gluten, it can be used to produce flour rich in high quality proteins, valuable for people with gluten sensitive enteropathy (celiac disease).

The groats and grits can be eaten plain, roasted or flavoured. Roasted groats and grits are called "kasha" in central and eastern Europe and are eaten as a porridge or used as a stuffing. The groats are also used to decorate bread and other baked goods. They are also used as a meat substitute or extender, for stuffing meats and vegetables, for mixing in soups and stews, and as a side dish. Buckwheat is also used in the manufacture of beer and ice cream.

Buckwheat production in Canada has been trending downwards during the past 20 years. Although buckwheat is produced from the Maritimes to Alberta, Manitoba normally accounts for more than half of Canadian production, with most of the rest produced in Ontario and Quebec.

##### Uses

Buckwheat is very nutritious and is used to make a wide range of products. The protein of buckwheat is comparable to animal-based proteins and is easily digestible. It has a well-balanced amino

**WORLD: BUCKWHEAT PRODUCTION**

	2001	2002	2003	2004	2005
	-2002	-2003	-2004	-2005	-2006f
Harvested Area (kha)	3,089	2,051	2,133	2,621	2,500
Average Yields (t/ha)	0.84	0.89	1.19	1.09	1.04
.....thousand tonnes.....					
China	1,250	968	1,340	1500	1400
Russia	574	302	525	650	550
Ukraine	388	209	311	293	300
France	59	81	102	138	80
United States	65	65	65	65	65
Poland	59	40	44	59	50
Brazil	50	48	48	48	50
Kazakhstan	45	30	30	24	30
Japan	26	25	26	27	25
Canada*	16	12	10	5	5
Other	55	41	42	59	45
<b>Total World</b>	<b>2,587</b>	<b>1,821</b>	<b>2,543</b>	<b>2,868</b>	<b>2,600</b>

f: forecast, AAFC - October 2005

Source: FAO, except \*Statistics Canada - October 2005

**WORLD: BUCKWHEAT EXPORTS**

calendar year	2000	2001	2002	2003	2004
.....thousand tonnes.....					
China	106	104	96	184	137
Netherlands*	9	10	7	11	13
United States	12	17	7	10	11
Canada	9	7	5	5	5
Ukraine	1	9	6	3	5
Poland	6	7	3	1	1
Russia	7	10	1	1	1
Other	8	6	9	7	7
<b>Total</b>	<b>158</b>	<b>170</b>	<b>134</b>	<b>222</b>	<b>180</b>

\* re-exports

**WORLD: BUCKWHEAT IMPORTS**

calendar year	2000	2001	2002	2003	2004
.....thousand tonnes.....					
Japan	97	93	91	92	90
Russia	13	1	3	72	28
France	9	14	8	8	7
Netherlands	14	13	10	16	18
United States	5	6	3	3	4
Other	30	37	36	35	34
<b>Total</b>	<b>168</b>	<b>164</b>	<b>151</b>	<b>226</b>	<b>181</b>

Source: FAO, Global Trade Atlas &amp; Statistics Canada – October 2005

Some light weight buckwheat seed is used for bird seed mixtures. The hull can be used to make pillows and heating pads.

**Marketing**

All of the buckwheat produced in Canada is sold on the open market to dealers. It is normally sold within a year after harvest, as it tends to lose its value when new crop starts to come into the market.

The Canadian Special Crops Association (CSCA) ([www.specialcrops.mb.ca](http://www.specialcrops.mb.ca)) establishes trade rules for domestic trade and serves as a forum for exporters, dealers and brokers involved in the industry of trading Canada's pulse and special crops, including buckwheat. The website includes a section where buyers can submit a request for prices and information on buckwheat uses, nutrition and health benefits.

The Canadian Grain Commission (CGC) administers quality control standards for buckwheat. For further information, or to access the Official Grain Grading Guide, please visit the CGC website: [www.grainscanada.gc.ca](http://www.grainscanada.gc.ca)

**Domestic Use, Exports and Prices**

There are several small processors of buckwheat in Canada, concentrating on milling buckwheat for flour, groats and grits, including for the organic food market. Some buckwheat is used in bird seed mixtures.

Japan and the US are the main markets for Canadian buckwheat. Canadian buckwheat imports are mainly from the US.

Average Canadian prices, over all grades and markets, have been relatively stable during the past ten years. Most

of the buckwheat is grown under contract which guarantees the price for part, or all, of the production before seeding.

**OUTLOOK****2005-2006**

**World** buckwheat production is forecast to decrease from the higher than trend production level in 2004-05.

**Canadian** production is forecast to remain stable, as a decrease in seeded area is offset by higher yields. However, supply is forecast to fall because of lower carry-in stocks, resulting in lower exports and domestic use. Carry-out stocks are expected to be negligible. The average price, over all grades and markets, is forecast to remain stable.

**Canada: Longer Term**

There are three main challenges which are limiting buckwheat production in Canada: (1) low yields, (2) lack of frost tolerance, and (3) the difficulty in controlling weeds. Work is underway in all three areas and improvements would increase the economic viability of buckwheat production.

Another method of improving the economic viability of buckwheat production is to increase demand and strengthen prices. This involves the development of varieties which are more desirable in Japan and by promoting the health benefits of eating buckwheat products to the consumers in North America.

The North American Buckwheat Promotion Committee is working "to develop and promote expanding use of buckwheat and its products by creating awareness of buckwheat's natural nutritional advantages".

Buckwheat has the potential to be used in pharmaceutical and nutraceutical products. It is high in lysine, an amino acid used in nutraceuticals. Buckwheat contains antioxidants: rutin, quercetin, hyperoside, catechin, epicatechin and proanthocyanidins.

Higher use in Canada and the US, as well as higher shipments to Japan and other overseas markets, would increase production, increase crop diversification and expand domestic processing.

*For periodic updates on the situation and outlook for buckwheat, visit Market Analysis Division Online for "Canada: Pulse and Special Crops Outlook."*

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**CANADA: BUCKWHEAT SUPPLY AND DISPOSITION**

August-July crop year	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006f
Seeded Area (kha)	14	12	9	9	7
Harvested Area (kha)	14	12	9	7	5
Yield (t/ha)	1.14	1.00	1.11	0.71	1.00
.....thousand tonnes.....					
Carry-in stocks	0	3	3	2	0
<b>Production</b>	<b>16</b>	<b>12</b>	<b>10</b>	<b>5</b>	<b>5</b>
Imports	1	1	1	1	1
<b>Supply</b>	<b>17</b>	<b>16</b>	<b>14</b>	<b>8</b>	<b>6</b>
Exports:					
United States	2.8	1.7	2.7	1.8	1.3
Japan	3.0	4.0	1.9	1.4	1.3
Other	0.2	0.3	0.4	0.8	0.4
<b>Total Exports</b>	<b>6</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>
Total Domestic Use	8	7	7	4	3
<b>Total Use</b>	<b>14</b>	<b>13</b>	<b>12</b>	<b>8</b>	<b>6</b>
<b>Carry-out Stocks</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>0</b>	<b>0</b>
Seeded Area (kac)	35	30	22	22	17
Harvested Area (kac)	35	30	22	17	12
Yield (bu/ac)	21	19	21	13	19
Average producer price*					
Yellow \$/t	325	340	355	355	340-370
\$/bu	7.08	7.40	7.73	7.73	7.40-8.05

\* Canada, average over all grades and markets

f: forecast, Agriculture and Agri-Food Canada, October 2005

Source: Statistics Canada and AAFC

# FLAXSEED: SITUATION AND OUTLOOK

Canada continues to be the world's largest producer and exporter of flaxseed, representing about 80% of world trade. As a result, Canadian supply conditions have a major impact on the world flaxseed market. Canada has exported an average of almost \$250 million per year in flaxseed for the past 5 years. For 2005-2006, Canadian supplies are forecast to rise by about two-thirds as the largest flaxseed crop in recent history is moderated by record low carry-in stocks. Exports are also expected to increase significantly. Prices are projected to fall sharply, to a near normal \$325 a tonne (/t), from over \$500/t for much of 2004-2005. This issue of the *Bi-weekly Bulletin* examines the situation and outlook for flaxseed for 2005-2006 and 2006-2007.

## WORLD

World production of the 10 major oilseeds (soybeans, cottonseed, canola/rapeseed, peanuts, sunflower seed, palm kernels, copra, sesame seed, flaxseed, and castorseed) is estimated at 377.3 million tonnes (Mt) in 2005-2006, an increase of only 3 Mt over 2004-2005. Flaxseed production is estimated at 2.60 Mt, less than one percent of world output.

World production of flaxseed has ranged between 2.0 Mt and 2.5 Mt over the past 5 years. By contrast, the world flaxseed crush has averaged a stable 1.86 Mt annually over the past five years. The EU-25 has the largest domestic crushing sector followed by China and the US. The crushing process produces two products, linseed (flaxseed) oil and linseed (flaxseed) meal.

For 2004-2005, world processing of flaxseed declined slightly to 1.82 Mt from 1.92 Mt in 2003-2004, because of a reduced EU-25 crush. Flaxseed was in short supply following a mid-August frost across the major flaxseed growing regions in Canada which struck a late seeded and immature crop. As a result, both crop volume and quality were in short supply,

resulting in demand rationing of Canadian flaxseed into the EU-25.

The reduced EU crush was mostly offset by an increase in US crush to about 0.37 Mt for 2004-2005. The increase in US crush was supported by increased imports from Canada and by a stable US production of 0.27 Mt. Chinese crushing of flaxseed remained stable at 0.42 Mt supported by the availability of domestic supplies.

## Trade

For 2004-2005, world trade in flaxseed declined sharply to 0.64 Mt, from 0.82 Mt the previous year due to production problems in Canada. Most of the world trade in flaxseed consists of Canadian exports to the EU-25 and to the US. Minor volumes are exported from the US and Argentina, with North American shipments ranging from 11,000 t to 100,000 t over the past five years while Argentine exports peaked at 23,300 t in 2004-2005.

The EU-25 imports from 0.4 Mt to about 0.6 Mt of flaxseed annually, while the US typically imports 50,000 t to 150,000 t of flaxseed a year.

products, demand and prices for linseed oil are more affected by world crude oil prices than they are by other vegetable oils. Rising crude oil prices are expected to support the demand for linseed oil. Not surprisingly, the EU-25, China and the US are the major users of linseed oil. World trade in linseed oil is slightly above 0.1 Mt annually, with the EU-25 and the US each roughly accounting for one-third of the trade.

World **linseed meal** production ranges from 1.1 Mt to 1.4 Mt annually over the past 5 years. The EU-25 produces roughly about one-third of the world's linseed meal, followed by China at one-quarter and the US at slightly under one fifth market share. Most of the meal is consumed within the producing country with only about 60,000 t per year traded over the past six years. Of that, Canada accounted for about one-half of the world's exports in linseed meal which went to the US and the EU-25.

## Situation

For 2005-2006, world production of flaxseed is estimated to rise by over 0.5 Mt on support from increased production in Canada and the US. World flaxseed supplies are expected to rise by about 25% as the higher output more than offsets the decline in carry-in stocks. World usage is projected to rise supported by increased supplies and higher crude oil prices which continue to trade at over US\$60 a barrel. World trade is forecast to rise by 36% because of higher Canadian exports to the EU-25. Carry-out stocks are forecast to rise sharply, with about one-half of the ending stocks located in Canada.

China is expected to be the world's second largest producer of flaxseed in 2005-2006, producing 0.48 Mt which is a slight increase from 2004-2005. Most of the linseed grown in China is processed domestically with only about 5,000 t expected to be exported. China is also not a major trader in linseed oil or meal.

The US is forecast to produce 0.43 Mt of flaxseed for 2005-2006, a sharp rise from the 0.27 Mt per year produced for the previous 3 years. The increase is due to a rise in seeded area resulting from the unusually high flaxseed prices of 2004-2005. Total supplies are forecast to rise to slightly under 0.6 Mt as the US imports about 0.12 Mt of flaxseed from Canada. Total American usage is expected to rise with about 0.55 Mt being processed

## WORLD: FLAXSEED SUPPLY AND DISPOSITION

	2003 -2004	2004 -2005e	2005 -2006f
.....million tonnes.....			
Carry-in stocks	0.20	0.19	0.12
<b>Production</b>			
Canada*	0.75	0.52	1.04
China	0.45	0.46	0.48
United States	0.27	0.27	0.43
India	0.23	0.20	0.22
EU-25	0.17	0.16	0.17
Other	<u>0.29</u>	<u>0.42</u>	<u>0.26</u>
<b>Total Production</b>	<b>2.16</b>	<b>2.03</b>	<b>2.60</b>
<b>Total Supply</b>	<b>2.36</b>	<b>2.22</b>	<b>2.72</b>
Crush	1.92	1.82	2.03
Other	<u>0.25</u>	<u>0.28</u>	<u>0.38</u>
<b>Total Use</b>	<b>2.17</b>	<b>2.10</b>	<b>2.41</b>
<b>Carry-out Stocks</b>	<b>0.19</b>	<b>0.12</b>	<b>0.31</b>
<b>Trade</b>	<b>0.82</b>	<b>0.64</b>	<b>0.87</b>

e: estimate, Oil World, June 13, 2005

f: forecast, AAFC - October 2005

Source: Oil World, except \*which is Statistics Canada

## Linseed Oil and Meal

World production of **linseed oil** ranged from about 0.6 Mt to 0.7 Mt over the past 5 years. The major producers of linseed oil are the EU-25, the US and China. As it is commonly used in industrial products such as paints, paint thinners and linoleum, all of which compete against petroleum based

## CANADA: FLAXSEED EXPORTS BY COUNTRY OF DESTINATION

August-July crop year	2003 -2004	2004 -2005p	2005 -2006f
.....thousand tonnes.....			
<b>EU-25</b>			
Belgium	462.9	312.5	500.0
Netherlands	0.0	0.0	20.0
Germany	0.0	0.0	1.0
Other	<u>0.0</u>	<u>3.0</u>	<u>1.0</u>
<b>Total EU-25</b>	<b>462.9</b>	<b>315.5</b>	<b>522.0</b>
United States	107.9	133.2	125.0
Japan	20.4	19.0	35.0
Egypt	<u>17.4</u>	<u>0.0</u>	<u>18.0</u>
<b>World</b>	<b>608.6</b>	<b>467.8</b>	<b>700.0</b>

p: preliminary

f: forecast, AAFC - October 2005

Source: Statistics Canada

domestically and around 0.05 Mt being exported. Linseed oil output is forecast to rise to 0.19 Mt while total meal production is about 0.36 Mt. Most of the oil and meal is expected to be consumed domestically, while about 50,000 t of linseed oil and 40,000 t of linseed meal is exported.

In the EU-25 for 2005-2006, the supply of flaxseed is forecast to rise as output rises marginally and imports are forecast to increase to 0.6 Mt, from 0.45 Mt, for 2004-2005. As a result, crushing of flaxseed is forecast to rise by 0.1 Mt, to 0.58 Mt, for 2005-2006 while about 0.18 Mt of flaxseed are destined for bakery products and animal feed, etc. Carry-out stocks are forecast at a minimal 30,000 t. Linseed oil production is forecast to rise to around 0.2 Mt, most of which will be consumed internally. Similarly, linseed meal output is forecast to return to a near normal 0.35 Mt, which will be largely consumed within the EU-25.

**Canadian** production of flaxseed is estimated to more than double for 2005-2006, partly the result of an over 50% increase in seeded area and partly because of a sharp rise in expected yields. However, total supplies are projected to increase by only 67% due to record low carry-in stocks. Exports are projected to rise to the highest level since 1998-1999 due to strong EU and US import demand as a result of spillover support from high crude oil prices. Total domestic use is forecast to rise by 56% as a result of higher crush, increased food consumption and higher feed, waste and dockage. Carry-out stocks are forecast to rise fivefold but at 0.15 Mt are not considered

### CANADA: FLAXSEED SUPPLY AND DISPOSITION

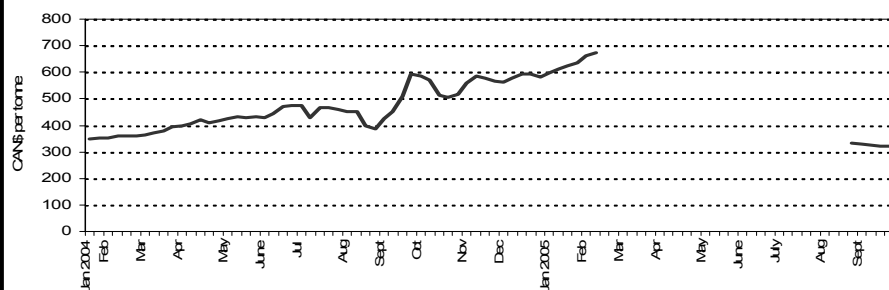
<i>August-July crop year</i>	<b>2003</b>	<b>2004</b>	<b>2005</b>
	<b>-2004</b>	<b>-2005</b>	<b>-2006f</b>
Harvested Area (kha)	728	528	811
Average Yields (t/ha)	1.04	0.98	1.28
.....thousand tonnes.....			
Carry-in stocks	129	93	30
Production	754	517	1,035
Imports	<u>20</u>	<u>38</u>	<u>20</u>
<b>Total Supply</b>	<b>903</b>	<b>648</b>	<b>1,085</b>
Exports	609	468	700
Total Domestic Use	<u>202</u>	<u>150</u>	<u>235</u>
<b>Total Use</b>	<b>811</b>	<b>618</b>	<b>935</b>
<b>Carry-out Stocks</b>	<b>93</b>	<b>30</b>	<b>150</b>
Price* CAN\$ per tonne, in-store, Thunder Bay	382	n/a	305 -345

\* No. 1 CW, Winnipeg Commodity Exchange, cash  
n/a = not available

f: forecast, AAFC – October 2005

Source: Statistics Canada

### CANADA: FLAXSEED PRICE\*



\* No. 1 CW, cash, in-store Thunder Bay; Source: Winnipeg Commodity Exchange

### FLAXSEED FUTURES CONTRACT

On September 8, 2005, the Winnipeg Commodity Exchange (WCE) announced that it was de-activating the flaxseed futures and options contracts from trading on the electronic trading platform. The WCE Oilseeds Committee is recommending to the WCE Board of Directors that the flaxseed futures and options contracts be de-listed due to the lack of liquidity in these contracts. The flaxseed futures contract has not traded since December 7, 2004. The Board of Directors will reconsider the recommendation at their meeting scheduled for October 19, 2005.

burdensome. Flaxseed prices are forecast to average about \$330/t for 2005-2006, a sharp decline from 2004-2005 due to increased supplies.

Canadian linseed oil production is forecast to rise slightly, but remain below 30,000 t for 2005-2006 with both imports and exports expected to range between 5,000 t to 10,000 t. Similarly, linseed meal production is forecast to rise to slightly below 50,000 t. About 20,000 t is expected to be exported, mostly to the US.

### OUTLOOK

For 2006-2007, **world** flaxseed production is projected to decline slightly mainly due to lower production in Canada. However, total world supplies are projected to rise marginally as sharply higher carry-in stocks offset the drop in output. World crush of flaxseed is projected to rise marginally, to slightly over 2.0 Mt, indicating a slight increase in world linseed oil and linseed meal output. World trade is projected to rise slightly. Carry-out stocks are also projected to rise slightly.

For 2006-2007, the area seeded to flaxseed in **Canada** is expected to decrease under pressure from lower prices in 2005-2006. Total output of flaxseed is projected to decline to under 1.0 Mt due to the combination of lower area and lower yields. In early October, 30% of the flaxseed remained unharvested. Flaxseed supplies are projected to rise slightly as sharply higher carry-in stocks more than offset the decline in output. Exports and total domestic use are projected to remain stable. Carry-out stocks are forecast to rise

while flaxseed prices rise slightly on support from high crude oil prices.

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