



flax focus

\$4 Million for New Flax Products

The federal government recently announced a \$4 million investment in the Flax Canada 2015 Phase II, an industry-government initiative, to support the commercialization of innovative flax products into existing and new markets. The announcement was made by James Bezan, Member of Parliament for Selkirk - Interlake, on behalf of the Honourable Chuck Strahl, Minister of Agriculture and Agri-Food and Minister for the Canadian Wheat Board in Winnipeg.

At the event, Eric Fridfinnson, Vice-Chair of Flax Canada 2015 Inc. and Chair of the Flax Council of Canada, said,

“We intend to put ‘Flax First’ in a healthier diet for Canadians and consumers around the world.”

The Flax Canada 2015 Phase II Initiative will be managed by Flax Canada 2015 Inc., a national non-profit organization based in Winnipeg, Manitoba. The organization is a wholly owned subsidiary of the Flax Council of Canada.

The Flax Canada 2015 Phase II Initiative is a partnership between the federal and provincial governments and industry to increase innovation across the value chain.

“Flaxseed is one of the major oilseed crops in Manitoba and carries significant potential for increased demand from the food sector and consumers because of its health benefits,” said Rosann Wowchuk.

The Flax Canada 2015 Initiative will enhance current uses and develop new ones for flax in four areas: human health, animal health, fibre and industrial use. The goal is to increase the value of flax crops to \$1.5 billion from its current value of \$300 million through research, innovation and commercialization. ■



At left: l. to r., Eric Fridfinnson, Flax Council of Canada Chair; Rosann Wowchuk, Manitoba Agriculture, Food and Rural Initiatives Minister and James Bezan, Member of Parliament for Selkirk-Interlake, MB

Photos: Nardella Photography Inc.

At right: l. to r., Barry Hall, President, Flax Council of Canada, along with James Bezan and Eric Fridfinnson



Welcome, Out of the Blue

Readers, 2007 marks 20 years of publishing Flax Focus! Starting with this issue, readers will find new graphics in the newsletter as well as news about Flax Canada 2015 Inc., which will be found regularly, under the banner, Out of the Blue. ■



What's in "whole grain" dough

New foods with whole grain benefits are tempting people to eat more whole grains. Bakers are adding ingredients and changing their production methods to produce tasty whole grain dough for breads, cookies and muffins.

Bakers often use a blend of grains to formulate 7-, 10- or even 13-grain products. Besides wheat, grains commonly used in baking include rye, oats, corn and barley. Whole grain barley is used in cookies and crackers, and may be processed into rolled barley or barley flour (not that different from wheat flour). Barley flakes rolled on top of crackers produce textural and visual appeal in the same way as whole flax does.

Some less-known grains that are becoming more common in dough are: millet (a small-seed cereal grain), sorghum (a grass), triticale (a rye), kamut (a branded wheat), spelt (an ancient wheat variety), teff (a grass), buckwheat (a plant similar to a cereal) and quinoa (small seeds from the quinoa plant).

Flax, too

Flax is sometimes added to multi-grain products. Flax is not recognized as a whole grain by the U.S. Department of Agriculture (FDA) simply because, botanically, it is considered an oilseed as opposed to a cereal grain.

The flax industry believes strongly that flax should be considered a whole grain. In the spring of 2006, several Canadian organizations including the Flax Council of Canada, Flax Canada 2015 Inc., Saskatchewan Flax Development Commission, and led by Pizzey's Milling, Angusville, Manitoba submitted a letter requesting that the agency include flax in its definition of whole grains (Flax Heart Health, a supplement to Prepared Foods magazine, 2007 April). The letter stated, "whole grain flaxseed is an oilseed that has comparable nutrients to cereal grains listed by the FDA."

New baking methods

Whichever grains they add, bakers often have to change their methods to make whole grain products. For example, bakers add gluten and water to whole grain breads. Most people expect whole wheat breads to have some sweetness, so regular whole wheat breads often use honey for flavour, while sugar or high fructose corn syrup is added for sweetness. Because the resulting loaf is denser, most bakers also need to adjust pan sizes, either converting to smaller loaf pans or adding extra dough to existing pans. Instead of a normal amount of dough in a standard loaf pan, bakers use 50% more whole grain dough. Finally, bakers typically bake the denser loaves longer, at lower temperatures. ■

Source: Gerdes S. Whole grain buzz. Baking management. 2006 July Vol 10 Number 7. P-26-9, and staff.

Flax contains the three components that constitute a whole grain: the germ, bran, and endosperm.

Q: *Is flax only harvested in Canada...or in other parts of the world as well?*

A: Canada is only one of several countries that produce flax, but it is the world's top exporter. According to Agriculture and Agri-Food's March 2007 Bulletin, Canada represents about 40% of world production.

In North and South America, the northern and central U.S. states and Argentina grow flax. Elsewhere, some European countries (including the United Kingdom, France, Germany, Russia, Ukraine and Poland) produce flax but much of it is consumed domestically. Much of this EU flax is of the fibre-type, meaning the fibre in the plant stalks would be used for linen production. China and India also grow flax.

The flax grown in Canada is primarily harvested for its oil. ■

EU flax customers

Business mentors advise companies to talk to customers even when they are not trying to sell them something. This practice keeps them in touch with their customers' wants and needs. With the support of Agriculture and Agri-Food Canada, the Flax Council of Canada followed this advice. A delegation travelled to Belgium and Germany in February, 2007 to meet with large volume buyers of Canadian flax. (EU imports 400 000 to 600 000 tonnes of Canadian flax annually, according to Agriculture and Agri-Food Canada.)

The delegation of Eric Fridfinnson, Chair; Barry Hall, President; and Kelley Fitzpatrick, Director of Human Nutrition, Flax Canada 2015 Inc., met with five Belgian



Kelley Fitzpatrick (l) and Eric Fridfinnson toured Bayer CropScience in Belgium.

Below: Omega-3 enriched foods sold in France. A French company, VALOREX® produces a blended extruded flax meal for animals to enhance the omega-3 content of many dairy products and meats.



and German flax customers: Braet, C. Thywissen, Oliefebriek, Scaldis-Ruien, and Vandeputte. Many of these flax buyers are family-owned companies, each with a well-established tradition of buying Canadian.

Barry Hall, president of the Flax Council of Canada said, "This trip to the EU was long overdue."

World's output of linseed oil

The EU is the largest importer of Canadian flax, most of which is crushed in Belgium and Germany to produce linseed oil. Only a small amount (less than 5%, according to Agriculture & Agri-Food Canada) is sold to the food industry for human consumption.

The crushers import whole flax, extract the oil (called linseed), and sell it to manufacturers of industrial goods who include it in many products like lubricants, detergents and soaps, cosmetics and coatings. Linseed oil makes linoleum flooring a natural product, and it

gives many exterior oil-based paints and stains their protective and drying qualities. Such linseed-oil products are used as finishes in large- and small-scale factories, educational institutions, health-care facilities, and airports all over the world.

The remains of the oil extraction process provide a secondary market for the industry. Sold as lincake, expeller, or meal to agricultural producers for livestock feed, the meal is nutritious. Lincake expeller is so beneficial, livestock producers pay a premium price, reporting better animal health, better meat and higher milk production from their dairy cows and beef cattle fed linseed meal.

Canadian quality meets product needs

The EU customers said price, quality and security of supply were their main priorities. A key quality for

linseed oil crushers is the iodine value (IV). The IV indicates the “drying” quality of a vegetable oil. Canadian flax is more than 50% ALA and Canadian flax iodine values consistently place in the 190s, as reported by the Canadian Grain Commission. This consistency is needed by industrial products’ manufacturers to enable them to turn out quality products, without expensive reformulating, Hall says.

Canadian farmers grow high quality flax, in part, because of the superiority of the Canadian Prairie climate. The long, hot summer days of the Canadian Prairie, coupled with cool nights, encourage oil deposition in the seed, creating flax with high oil content.

Competitors loom

Hall says Canada will have to be watchful in the future to maintain its top placing in flax exports to the EU. When supply is lacking, as in 2004, when North American production fell, EU buyers look for alternative sources, says Hall. Ukraine and Russia are competitors for Canadian flax. Ukraine produces flax which is also high in oil and it ships through ports much closer than Canadian ones. Ukraine turned out a good flax crop last year, selling about 50 000 tonnes (t) last fall to the EU, according to some trade estimates. ■



The delegation also visited C. Thywissen’s linseed production facility in Germany. European Union produces most of the world’s linseed oil. The oil is made from flax that is imported mostly from Canada. Linseed oil is a key ingredient in many products, including dishwashing liquids, lubricants and interior and exterior construction materials.

Food Trends Overview

Market analysis group Business Insights Ltd. reported earlier this year that the following key market trends will comprise the lion’s share of the future wellness foods and beverages:

- **HEART HEALTH** — R&D experts are reformulating products to include ingredients, such as plant sterols, soy, whole grains and tea, that actively protect the heart. Lead heart-health trend categories are snacks, bakery and cereals, dairy, oils and fats.
- **WELL-BEING** — manufacturers are driving the trend by highlighting the wellness ingredients of a product through marketing and on the packaging, as well as reformulating products to include ingredients that promote well-being, such as antioxidants and pre- and probiotics. Lead product categories in the well-being trend are soft drinks, snacks, dairy, hot drinks and meal substitutes. Many products in these categories contain ingredients such as pre- and probiotics and antioxidants to promote digestive health and immunity.
- **“RIGHT” FATS** - is a trend being driven due to awareness of rising levels of heart disease and scientific validation that omega-3s slow down the onset of dementia and symptoms of arthritis.
- **NUTRACEUTICALS/PHARMACOLOGICALS** — is a key category related to rising levels in cancer, high prevalence of osteoporosis, women searching for more natural methods to help relieve the symptoms of menopause and increasing health care costs. Manufacturers are riding the trend by including ingredients that provide specific health benefits. Industry executives believe pharmaceutical companies will have significant impact on healthy food and beverage innovations over the next five years.

Business Insights points to the growing awareness by consumers of the benefits of certain ingredients and sees young adults as the key marketing target for new healthy products. Young adults are also likely to be more health-conscious while having less rigid purchasing and consuming patterns. ■

Source: Wellness Foods Trendsetters. Wellness foods. 2006 Dec. p-12

When packaging fits the food, naturally

Packaging plays a large part in the decision to buy a product on the grocery shelf. As consumers show more care more for the origins of the foods they eat, considerations like customers' desire for organic foods and environmental concerns influence package choices. Organic foods may bring people back to tin cans and paper packaging in the same way that the comfort of pure cotton has won back earlier converts to synthetic fabrics.

In the last fifty years, the use of packages such as multi-layer polypropylene packs have shown fast growth as food containers. Performance advantages of polypropylene include better heat resistance and improved barrier performance.

As a result, the tin can has become less popular than its plastic counterpart. Recently, however, Del Monte packaged its line of organic vegetables in the tin can because its lower price allowed the company to offset the higher cost of organic produce.

Over the years, consumers have found cans are convenient and safe containers for fruits, vegetables,

and soups. "Packed for freshness and sealed for storage, food cans often retain more of a product's nutrients than frozen or even "fresh" produce at the grocery store," according to Ball, one major tin can manufacturer's website.

In organic products, protection is paramount. Examples are glass bottles for organic juices and some pureed fruits like applesauce. Glass maintains the quality of the fruit or juice; it does not interact with the gases in the foods as some plastics do. Glass is also considered to be recyclable – some consumers consider that quality to be important.

Packaging must not only protect the food it contains, but it also "sells" the product through visual appeal.

Thus, some "all natural" potato chips are being packaged in coated paper bags; people who choose natural products like the feel of paper – an environmentally friendly shift that may become common. ■

Packaging naturally. Food processing, 2006 May. Itasca: Putman media.



*Choose the taste of **Flax**
for heart-healthy **Omega-3**
and **Fiber**-enriched foods*

Flax provides generous amounts of the essential omega-3 fat, alpha-linolenic (ALA). ALA benefits cardiovascular health.

Flax tastes good and adds all the fiber of whole grains to foods:
1 Tbsp of milled flax contains as much total dietary fiber as
1/2 cup of cooked brown rice or 1/3 cup of cooked, chopped broccoli.

Flax is a stable, convenient and cost-effective food ingredient.

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Choosing “good fat” over “low-fat”

Choosing a “high-fat” food that delivers health benefits may be a better strategy than simply avoiding all foods high in fat. Current nutrition advice suggests the type of fat a food contains and the food’s overall positive impact on health are acceptable reasons for eating “high fat” foods.

Today, the combative strategy seems to be: lower calories rather than lower fat.

Nutritionists and researchers have shifted focus on total fat to the type of fat and heart disease. Flax oil, for example, has a very healthy fatty-acid profile, with low levels (approximately 9%) of saturated fat, moderate levels (18%) of monounsaturated fat, and high concentrations (73%) of polyunsaturated fatty acids (PUFAs). The PUFA content consists of 16% omega-6 fatty acids, primarily as linoleic acid (LA), and 57% alpha-linolenic acid (ALA), an omega-3 fatty acid.

Researchers have shown numerous studies demonstrating the differences between “bad” fats, such as saturated fats and *trans* fats that can raise the risk of heart disease, and “good” fats, such as monounsaturated fats. The ALA in flax benefits cardiovascular health.

Changes in U.S. labeling regulations now permit food makers to make health claims for foods despite their fat content. Whole-grain foods considered to have

“moderate” fat content, defined as less than 6.5 grams per serving (U.S.), are being allowed to boast heart benefits on their labels.

Flax products have gained in the U.S. marketplace. For example, in 2006, Quaker Oats, Chicago, Ill., introduced an instant hot cereal containing flax under its “Take Heart” brand. Its packaging reads: “Now with Omega-3 ALA To Help Support A Healthy Heart!” Quaker’s Take Heart with Omega-3 is one of the leading heart-health foods on the market. ■

Sources: Mathews AW and Ellison S. Packaging promises: fat bounces back. Inform; 2005. 16(1)1-64. Health & nutrition, with contributions from staff.

Farmer Award

The Flax Council was pleased to support the unique Outstanding Young Farmers program. This year, Don and Joanne Russell of Cobden, Ontario and Christoph and Erika Weder of Rycroft, Alberta were named Canada’s Outstanding Young Farmers for 2006 in December. This award annually recognizes farmers that exemplify excellence in their profession and promote the contribution of agriculture to community and regional life. ■



In memoriam

Donald Frith, an outstanding contributor to the western Canadian grain industry, passed away this April. Don served as Executive Director of the Flax Council of Canada, from January 1992 to his retirement in May 2000. Don was a strong advocate of the health benefits of flax, and it was under his direction that the Council began establishing scientific evidence of the link between improved health and flax consumption. Don is also credited with having expanded the Flax Council, moving it from a part-time to a full-time organization in 1993, and increasing its staff. ■



Flax Canada 2015 Phase II Initiative

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The Flax Canada 2015 (FC2015) Phase II initiative was established to identify and utilize value-added opportunities for flax. The goal of the initiative is to enhance the value of flax by making it an important component in the preventative approach to human and animal health. In addition, the FC2015 initiative will support the value-added sector with a strategy for total utilization of flax for food, feed, fibre, health, and industrial uses – truly flax for all reasons!

While Canadian agriculture and the agri-food sectors have countless opportunities for ongoing prosperity, they also face some challenges. Federal, provincial and territorial Ministers of Agriculture have pledged to meet these challenges by jointly developing a comprehensive Agricultural Policy Framework. This federal/provincial/territorial undertaking aims to position Canada as a world leader in food safety, innovation, and environmentally responsible agricultural production.

Funding for the first phase of FC2015 (2004-2006) was received from Agriculture and Agri-Food Canada, provincial governments of Alberta, Saskatchewan and Manitoba, Flax Council of Canada and the Saskatchewan Flax Development Commission. FC2015 Phase II projects, identified as a result of strategic planning carried out under Phase I, run for two years (2006-2008). These projects cross five sectors: human health, animal health, fibre uses, industrial applications, breeding and production.

Flax is a multi-purpose plant with the ability to generate numerous benefits to Canadians through health, environmental and industrial sustainability. The plant contains high levels of omega-3 fatty acid, fibre and lignans, which are essential nutrients to human health and wellness. Linseed oil from flax provides manufacturers with high quality, environmentally friendly alternatives to chemical-based industrial products.

Flax Canada 2015 Phase II Vision

Canada is recognized as the global leader in the development and commercialization of human and animal based health, animal feed, fibre and industrial products from flax.

FC2015 Operating Pillars

Five operating pillars have been identified by FC2015 as:

- Human Health
- Animal Health and Products
- Fibre Applications
- Industrial Uses
- Breeding and Production

FC2015 Phase II Overall Strategy

The four common operating elements of the overall strategy are:

Whole Crop Utilization: The whole flax crop, including straw and seed, will be utilized. An integrated co-product strategy creates additional value for the producer that allows the value received from a hectare of land planted to flax to be compared to another crop. By following a whole crop utilization strategy, a significant differential will be developed between flax and any other crop.

Specific Industry Outcomes: The FC2015 strategy is targeted to specific industry outcomes. The five operating pillars (human health, animal health and products, fibre applications, industrial uses, breeding and production) represent specific sectors each having their own economic environment, and growth opportunities, but aligned to the overall strategy. The strategies within the operating pillars are industry-specific and designed to extract maximum value for each industry and each step in the production value chain from producer through processor to end consumer.

Solution Provider to Health: FC2015 will be seen as a solution provider to the rising health costs and will guide clinical research to provide the factual scientific data. Peer-reviewed science is a must if the medical community is going to be encouraged to include flax as a vital part of their prescriptive diets. The goal is a science package that shows impact of a flax-based diet on cardiovascular disease as well as Type 2 diabetes, and breast and prostate cancer.

Environmental Sustainability: As there is greater engagement of society in environmental sustainability, FC2015 will be a solution provider of bio-product options. These options will meet Canada's specifications and needs in low emission building materials and bio-based feedstock for industries seeking to comply with the Kyoto agreement.

About Flax Canada 2015 Inc.

The Flax Canada 2015 Phase II Initiative is managed by Flax Canada 2015 Inc. (FC2015 Inc.). FC2015 Inc. is a national, not-for-profit, wholly owned subsidiary of the Flax Council of Canada, based in Winnipeg, Manitoba.

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FLAX COUNCIL OF CANADA

Flax Focus is an electronic publication of the Flax Council of Canada. Letters, enquiries and comments are welcomed, and may be directed to the Editor, Barbara Metrycki. Staff of the Council are: President, Barry Hall; Executive Assistant, Monika Haley; and Financial Administrator, Maureen Jordan. The Board of Directors of the Council, under Chair, Eric Fridfinnson, is listed at www.flaxcouncil.ca

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