

Chair's Report

As your new Chairman of the Flax Commission, I would like to welcome two new directors to our Board. Edmond Aime from Redvers and past director Allen Kuhlmann, of Rouleau who took a years leave and has come back to help promote the flax industry. I look forward to working with the Board members and staff as we move forward in the next year.

This next year poses many challenges for everyone involved in the flax industry. At the Flax Commission we are continuing to pursue the further use of flax not only as a healthy food choice, animal feed and industrial use but also the fiber potential. As the crop acres grow our challenge will be to encourage better utilization of the straw residue. The future holds great promise in this area.

In trying to stretch our budget a change to the newsletter may be noticed. It will now be in only two colors. This will bring about a 10% cost saving. We will further continue to fine-tune our committee structure and the inclusion of advisors, resulting in the committee chairs reporting back to the Board with recommendations.

Our Annual Meeting in January was very well attended throughout the whole day. Attendance was much higher than we had anticipated and more chairs had to be brought in. Thank you again to our most able speakers for excellent presentations. The program was

Events Calendar

June 14 to 16 **Bio-Logical Futures Conference** Saskatoon, Saskatchewan Contact: Bio-Products Saskatchewan Inc. 306.668.2665 a change from the past and gave an overview of the opportunities for flax in the future. Thanks to all who made the event a success.

On behalf of the Board and staff our Best Wishes to the retiring directors. Past Chairman, Chris Hale worked untiringly providing leadership and promoting the flax industry. Your presence will be missed in many circles. We know that your knowledge is only a phone call away. Thanks again Chris and family, the industry would not be what it is today if it were not for those who gave their best. Thanks to Terry Boehm for six years on the Board. I know that Terry was interested in the promotion of flax and that the decisions of the Board reflected the interests of the primary producers. Although over the past year some of new directors didn't get to know Terry as well because of conflicting meeting dates we wish Terry all the best in his new position as Vice President of the National Farmers Union.

The future for flax looks most promising in the coming year. Prices have continued to post gains over the winter months. The accumulation of snow across the prairies lends itself to the promise that maybe the drought is beginning to subside. We are looking forward to a more successful year in agriculture.

May each and everyone have a great spring.

Gordon B. Compowell

Gordon Cresswell

July 29 SaskFlax/Mustard Field Day Saskatoon, Saskatchewan Contact: SaskFlax 306.664.1901 Bill Greuel 306.787.2756

Gordon Cresswell Chair, Saskatchewan Flax Development Commission

2003 Volume 4 Number 2 A Saskatchewan flax industry newsletter published by the Saskatchewan Flax Development Commission











Alvin Ulrich Fiber specialist SFDC

When people see fields of flax straw being burnt, they often wonder why it cannot be used for something instead of being burnt. Why aren't processors in a hurry to build more processing plants and start using more of the flax straw that farmers will practically give away. What could be wrong? For many decades in Western Canada, flax farmers have been willing to practically give their flax straw away yet the number of processors and the volume of flax straw being processed is almost the same as it was 20 or 30 years ago. Such experience shows that just because oilseed flax straw is cheap and available in large guantities, it is not enough to lure more flax straw processors to Western Canada. If we want to develop more flax straw and fiber based industries in Western Canada, it's time to consider some of the straw related factors that existing and potential new flax straw processors will consider before making investments in flax straw processing plants.

1. Litter - Processors often consider flax fields beside highways and near urban centers as undesirable sources of flax straw for processing because of the presence of plastic, metal and paper litter that blows into the field and gets mixed with the straw.

 Weeds - Weed stalks and weed seeds are very difficult to clean out of straw, and hence processors and even close neighbors will not consider weedy flax fields as a source of straw.

3. Height - Oilseed flax in Western Canada is often very short and the amount of flax straw that can be salvaged after combining is consequently often very low. This, in turn, means that the cost of inspecting the field, organizing the purchase, baling and hauling of the straw is relatively costly per tonne of straw collected.

4. Distance - Some flax fields are a long distance from other flax fields. This again raises the cost of collection per tonne since there is a lot of "dead" time while travelling between widely separated fields.

5. Fiber Content - The weather patterns in Western Canada are quite variable

because of our location in the middle of a continent. When this is combined with a wide range of agronomic practices and varieties, the resultant flax straw has a wide range of fiber contents. Recent research has shown that the range of fiber contents in flax straw in Saskatchewan can vary from 2% to 30% in the same year depending on the weather, variety and agronomic practice. This is a huge range and it means that processors must be very careful as to what straw they purchase since most processors would need a fiber content of 10% to 15% just to break even.

6. Dimensions of Straw Pieces -When we put straw through a combine, it is bashed and smashed and pieces of straw come out in all shapes and sizes. They may be long or short, fat or thin, bare fibers or thick lower stems. Most of the pieces are relatively short, especially if they have been put through a chopper or rotary combine. In general, the shorter and more uneven the pieces of straw, the harder it is for mechanical systems to get clean fibers out of the straw. Thus putting flax straw through combines makes the job of getting fibers from the straw much more difficult than if the straw had remained intact. Straw can be kept intact (i.e., in one piece) by using a stripper-header or just cutting the seed bolls off with a straight cut header.

7. Amount of Retting - When flax straw begins retting (i.e., a technical term for rotting), microorganisms start to dissolve the pectins that hold the fibers to each other and to the non-fiber parts of the stem. Once most of these pectins are dissolved, it is quite easy to mechanically separate the fiber from the non-fiber parts of the stem and produce fibers that are free of any non-fibrous material.

8. Orientation of Straw Pieces -Normally when flax straw comes out of a combine, the pieces of straw are pointed in many different directions. However, in general, the more "aligned" the pieces of straw are, the easier it is to process the straw and the easier it is to comb out long clean fibers for much the



same reason that straight hair is easier to comb out and re-arrange than is tangled hair.

The interactions of the above factors are very important to consider since flax straw becomes more and more valuable when more of these desirable factors are combined. Thus the highest value straw would be tall straw with a high fiber content that is aligned and retted evenly. This is, in fact, what is required to produce the best grades of flax fiber that are used in textiles. Somewhat lower value straw would be produced if only a few of these factors were combined. For instance, if the straw had a moderate level of fiber, was kept in long pieces and retted, a processor could profitably turn it into fiber for lower end dry spun textiles, for cottonizing, for high-end insulation and for higher end plastic composite products but could not turn it into fiber for high-end textiles.

However, if the flax straw has uncertain fiber content, is smashed into short and uneven pieces and is unretted, processors will have to be satisfied with selling roughly cleaned fibers for relatively low prices to manufacturers of specialty papers and lower end plastic composites. Unfortunately, at present, the vast majority of Western Canada's oilseed flax straw falls into this category or even worse. Hence farmers have problems even giving their flax straw away.

Fortunately recent research in Saskatchewan has shown that there are a number of things that can be done to change this low and unprofitable status quo. Yes, it will cost more money to alter the way flax straw is managed but the rewards of having improved quality and quantity of fiber can more than compensate for the increased straw management costs and, in addition, permit the development of a number of profitable added value flax fiber based industries in Western Canada. It's high time we started turning our flax straw "problem" into a valuable raw material and more value adding industries.

The Language and Literature of Flax

N. Lee Pengilly

In Scotland during the days of poet Robert Burns (1759-1796) (some may have celebrated his birthday on January 25th), flax was known as lint; a word that has its roots in Middle French as "linette" meaning "grain of flax." Later, lint came to be "flax refuse used as tinder or for dressing wounds." In its form as "lint for the dressing of wounds or ulcers" it was used interchangeably with the word linament; not to be mistaken with liniment, a medicinal liquid that is rubbed into the skin to relieve muscular stiffness and pain. A lint scraper was a person employed to scrape lint from linen fiber; a product that was used in hospitals for dressing wounds and a lint doctor was employed to remove the lint from fabric processing equipment.

A linstock was a long, forked stick for holding a match, formerly to fire a cannon

A Word About Check-Off

The regulations under which the Commission operates stipulate that any producer wishing his check-off back must file with the Commission by the appropriate date (February 28th and August 31st) using application forms provided by the Commission. Any application not received by these dates or covering flax sold outside the appropriate period is not eligible for refund.

Period 1 applications cover flax seed/straw sales between August 1, 2002 and January 31, 2003. Applications for this period must have reached our office by February 28, 2003.

Period 2 applications cover flax seed/straw sales for the period February 1, 2003 to July 31 2003 and must be submitted to (influenced by the presumption that lint was used as the tinder.)

The expression "lint white" was used interchangeably with "white as flaxen." The linnet, so named because flaxseed makes up so much of its diet, is a small songbird found in Europe, Asia and Africa.

Right here at home, one might travel to the eastern part of Saskatchewan and visit Lintlaw. According to "What's In A Name," the village name is derived from two Gaelic words (lint and law) meaning a "sloping field of flax."

Today, the word lint is primarily used to identify any fine ravelings, down, fluff or short loose fibers from yarn or fabrics. In its most modern context, lint may refer to an automated analysis tool for a computer programmer that "picks up bits of fluff" from programs. In another context, a writer may be asked to delint a document, indicating that it has "too much excess verbiage."

Enough said!

the office no later than August 31, 2003.

The Commission, after each period deadline, verifies each request for rebate and must have cheques to producers by April 30th for Period 1 and October 31st for Period 2 respectively. Flax producers who filed an application for Period 1 will automatically receive an application form for the next period.

The check-off (\$1.18 per tonne seed/\$.50 per tonne straw) supports the development of this province's flax industry by conducting research, market facilitation and communication programs.

For an application form contact SaskFlax at (306) 664-1901, (306) 664-4404 fax or email saskflax@saskflax.com



Edmond Aime

Gordon Cresswell

Allen Kuhlmann

Bob Linnell

Dave Sefton

Meet The Team

Edmond Aime (2003 to 2006) Edmond and his family farm 4,300 acres near Redvers, Saskatchewan growing wheat, barley, peas, beans and canola as well as flax. Flax industry priorities from Edmond's perspective include the development of flax varieties with higher/better fiber and straw utilization netting profits for the producer.

Gordon Cresswell (2002 to 2005) Gordon's 3,600 acre family farm south of Tisdale produces cereals, oilseeds and pulses. Gordon sees the Commission as a catalyst in the development of this ancient crop. As newly elected Chair, Gordon is enthusiastic about the producer, industry and government alliances being established. The idea is to collaborate with allied industry partners to further the industry with the bottom line being increased net profits for our producers.

Barry Karol (1998 to 2003) Along with flax, Barry produces mustard, canola and barley on his farm at Kelliher, Saskatchewan. He also runs a cow-calf operation. "Research and development are key to building the flax industry in Saskatchewan" says Barry.

Changing To Create The Future

Change is as far reaching as it is rapid, cutting across all sectors of the country; all countries of the world. Within agriculture new technologies, new materials, new ideas and new information continue to impact on producers. Organizations like SaskFlax rely on flax farmers from across the province to provide the leadership necessary to further advance the flax industry.

Allen Kuhlmann (2003 to 2006) After a brief hiatus, Allen rejoined the SaskFlax team this year. He sees the need to keep the flax profile high and to continue research and development in key strategic areas like fiber and human consumption. There is a bright future for flax!

Bob Linnell (2000 to 2003) Bob, a graduate from the University of Saskatchewan (agriculture) is active in the agricultural industry. He believes strongly in the need for research to advance the industry. Bob has and continues to represent SFDC at the PRRCG where new varieties are reviewed on an annual basis and committees put forth recommendations for varietal registration.

Dave Sefton (2002 to 2005) Flax has enormous potential and it's important for producers to lead efforts to achieve that potential. From functional foods to fiber, flax will capture opportunities that will benefit the industry. Dave believes we can positively influence flax consumption through research and market development.

Have a question? Concern? Suggestion? All comments are welcome. Contact any director or the office to express your views.

The Commission consists of six registered producers with two director positions open annually. They establish policy, allocate the levy (budget); define priorities (areas of activity) and represent flax producers on industry issues. If you are a registered flax producer interested in becoming involved as a director, contact any current director or the Executive Director for more information. Future editions of the SaskFlax grower will contain more information and nomination forms.

Broccoli Salad

1.5 50	L mL	chopped broccoli finely chopped	6 ¼	cups cup
175	mL	sweetened dried	3/4	cup
125	mL	pumpkin (pepita)	1/2	cup
25	mL	flax seed	2	tbsp

Resource Materials

For Registered Producers

Check out the latest edition of "Growing Flax - Production, Management and Diagnostic Guide" produced by Saskatchewan Flax Development Commission and the Flax Council of Canada with the cooperation of BASF, Aventis, Monsanto, Saskferco, Simplot, Syngenta and the governments of Alberta, Manitoba and Saskatchewan. The guide presents information on growth and development; weed control, pests, seeding and harvesting as well as environmental disorders and varieties. To obtain copies contact SaskFlax, with your name and complete mailing address.

Want to know how your levy dollars were spent last year? Producers wishing a copy of the Commission's 2001/2002 Annual Report may contact the office.

For Health Enthusiasts

Just released, "North America Flax Facts ... Important Questions and Answers for Improved Health and Nutrition" is a collaborative effort of producer funded organizations -AmeriFlax and SaskFlax. This resource reviews flax's role in health and nutrition. Order by contacting the office.

For Food Enthusiasts

We currently have a limited supply of flax recipe brochures but will be releasing a new comprehensive flax cookbook later this year. It will be sure to please the palate with a mouthwatering novel array of dishes using whole/milled flax and flax oil. Copies will be available free of charge from the office.

Dress	ing	
175	mL	light mayonnaise
25	mL	raspberry vinega

25

mL raspberry vinegar 2 tbsp mL granulated sugar 2 tbsp

CUD

In a large bowl place broccoli, onion, cranberries, pumpkin seeds and flax seed. In another bowl, combine mayonnaise, vinegar and sugar. Mix well. Pour over salad, toss well. Chill before serving. * *Sunflower seeds, chopped walnuts, or nuts of your choice may be substituted.* Yield: 6 servings Serving Size: 250 mL (1 cup)

Curried Couscous with Flax

500	mL	cubed sweet potato	2	cups
		(1 cm (½ inch)		
250	mL	chopped onion	1	cup
1		red pepper, diced	1	
		(250 mL/1 cup)		
2		stalks celery, chopped	2	
3		large cloves garlic,	3	
		minced		
15	mL	canola oil	1	tbsp
2	mL	curry powder	1/2	tsp
1	mL	turmeric	¼	tsp
375	mL	water	1½	cups
250	mL	whole wheat or	1	cup
		regular couscous		
2	mL	salt	1/2	tsp.
50	mL	whole flaxseed	1/4	cup

Cook sweet potato until fork tender, 10 minutes. Drain and set aside.

In a large saucepan, over medium heat, sauté onion, red pepper, celery and garlic in oil until soft, 5 minutes. Stir in curry and turmeric. Sauté 30 seconds.

Add water and bring to a boil. Add couscous, salt and sweet potato. Stir and cook one minute. Add flaxseed and stir.

Remove from heat. Cover and let stand 5 minutes.

Fluff with a fork before serving.

Yield: 6 servings Serving Size: 175 mL (¾ cup)



First Class Flax Recipes

This year's audience at Focus on Flax Day (January 2003) Saskatoon Inn was treated to a flax luncheon. As many requested the recipes, here are several for home sampling.





Flax Lignan Update

Neil D. Westcott and Alister D. Muir Saskatoon Research Centre Agriculture and Agri-Food Canada

Since the last report on the flax lignan (SDG) there have been several developments. The technologies related to processes for the isolation of pure SDG and the natural SDG complex (Drs. Westcott, Muir and Paton, Agriculture & Agri-Food Canada), the use of flax lignan in lupus nephritis (Dr. W. Clark, London, ON) and for heart disease and diabetes (Dr. K. Prasad, Saskatoon) have been licensed to Archer Daniels Midland (Decatur, IL) for commercial development. The AAFC technologies are capable of producing product containing anywhere from 35% to essentially pure SDG. The Guelph Food Research Program at AAFC (Drs. S. Cui and G. Mazza) in partnership with Natunola Health Inc. of Ottawa have developed improved technologies to separate the lignan rich hull fraction from flaxseed.

Numerous Canadian and international companies are entering the market with products containing SDG beyond the whole seed that has been available for many years. Flaxseed oil with lignan has been on the market for several years. The SDG that is present in these products is associated with the solids found in these products as SDG or its natural complex is not soluble in oil. Analysis of one product in the authors' lab determined that SDG was present at 0.1% by weight in a well mixed flax oil with lignan product. The amount of lignan that is present per serving is entirely dependent on the amount of particulate in the consumer product. Another product on the market is essentially the meal that remains after the oil is pressed from the seed. Again in this product the SDG is present in the form of the complex. One advertised product contained 0.5% lignan by weight. A third type of product that is entering the market is a flaxseed hull fraction. Of the three types of products mentioned, this one contains the highest lignan concentration. Several different hull fractions have appeared on the market with lignan concentrations in the range of 4 to 5%. Flaxseed with no oil removed

(either whole seed or whole ground seed) would typically contain between 0.7 and 1.9% SDG.

On the medical research front, a number of interesting findings have been reported. Professor Lillian Thompson of Toronto has reported that flaxseed or lignans induced structural changes in mammary gland that may potentially reduce mammary cancer risk. In another recent study, Professor Thompson also demonstrated for the first time, the potential of flaxseed and its components such as the lignans to reduce tumour growth in patients with preoperative breast cancer. In a cautionary publication she also concluded that flaxseed could potentially alter reproductive indices, depending on the dose and timing. Professor David Kitts of Vancouver demonstrated that SDG and two of its naturally occurring metabolites had antioxidant activity and may be evidence of the anticarcinogenic mechanism of these materials.

Professor Thompson also concluded that exposure to purified lignan does not have negative effects on bone strength. Professor Arjmandi of Oklahoma State University published that flaxseed supplementation improves lipid profiles but has no effect on bio-markers of bone metabolism in postmenopausal women.

Professor Demark-Wahnefried of Duke University conducted a pilot study of dietary fat restriction and flaxseed supplementation in men with prostate cancer. She concluded that a flax seed - supplemented, fat restricted diet may affect prostate cancer. Biology and research is ongoing to confirm these beneficial effects and determine what role flaxseed plays.

Increased glucose production in the liver leading to hyperglycemia is a characteristic of Type-2 diabetes. Recently Dr. Prasad showed that purified SDG inhibits the expression of a gene responsible for the increased production of glucose. The activity he observed was similar to that achieved by some anti-diabetic drugs.

As can be seen, there is considerable activity in all aspects of flax lignan development. Supplements based on flaxseed are one of the fastest growing products in the nutraceutical market today.

The percentages of the total levy paid by producers that may be claimed as federal tax credits for the various commodities.

CROP	PERCENT		COMMODITY ORGANIZATION
	2001	2002	
Canola	5	39	Saskatchewan Canola Development Commission
Pulse	57	N/A	Saskatchewan Pulse Growers
Flax	39	35	Saskatchewan Flax Development Commission
Wheat	41	N/A	Western Grains Research Foundation
Barley	61	N/A	Western Grains Research Foundation

For more information on the process of claiming the tax credit, please consult your accountant or the Canada Customs & Revenue Agency website at www.ccra-adrc.gc.ca/sred/

Commodity Organizations:

Saskatchewan Canola Development Commission 212 - 111 Research Drive Saskatoon SK S7N 3R2

Phone: 306.975.0262

The Government of Canada approved a Scientific Research and Experimental Development (SR & ED) tax credit program for producers beginning January 1 to December 31, 2001.

Saskatchewan Pulse Growers

310 - 111 Research Drive Saskatoon SK S7N 3R2 Phone: 306.668.5556

Saskatchewan Flax Development Commission A5A 116 103rd St East Saskatoon SK S7N 1Y7 Phone: 306.664.1901

Western Grains Research Foundation 210 - 111 Research Drive Saskatoon SK S7N 3R2 Phone: 306.975.0060

2003 Flax Varieties Update

Canada Customs & Revenue

Experimental Development

Program

Agency Scientific Research and

Thanks to Bill Greuel, SAFRR for providing flax varieties information from "Varietieis of Grain Crops 2003.

Flax - main characteristics of varieties									
			Yield as a % of Vimy						
Variety	Years Tested	Area 1	Area 2	Area 3	Area 4	Irrigation	Maturity**	Seed Size	Resistance to Lodging
Vimy	16	100	100	100	100	100	М	L	Р
CDC Arras	8*	104	106	104	104	103	М	L	F
CDCBethune	8*	112	117	114	116	111	L	М	G
AC Carnduff	7*	84	92	101	93	112	М	М	G
AC Emerson	8	96	96	95	93	98	М	L	F
Flanders	11	94	98	96	99	108	L	S	G
AC Hanley	5*	-	98	99	-	-	М	М	G
AC Lightning	6*	101	102	107	91	111	L	М	G
Macbeth	5*	-	97	96	-	111	L	М	G
AC McDuff	7	93	95	97	94	102	VL	М	VG
CDC Mons	4*	-	103	112	-	-	L	S	G
NorLin	16	91	96	96	99	105	М	М	G
CDC Normandy	8	99	100	101	104	105	М	М	F
Somme	10	94	97	98	97	109	М	М	F
Taurus	6*	98	102	110	-	115	М	М	G
CDC Valour	6	98	103	94	95	93	E	М	G
AC Watson	6	94	97	102	102	104	М	М	G
Solin									
1084	6*	93	94	95	106	99	М	М	G
2047	4*	-	93	115	-	-	М	М	G

* Data from Regional and COOP Yield Trials. ** Relative Maturity: The relative maturity of the check, Vimy, is M (on average 103 days from seeding to swathing ripeness)

Relative Maturity: E = Early, M = Medium, L = Late Seed Size: S = Small; = M = Medium Resistance: VG – Very Good/ G = Good; F = Fair, P = Poor

Additional Information

All varieties are resistant to rust and moderately resistant to Fusarium wilt. AC Hanley, AC Lightning, Macbeth, CDC Mons and LinolaTM 2047 are newly registered varieties. AC Hanley is distributed by SeCan Association, AC Lighting by Canterra Seeds Ltd., Macbeth by AgricoreUnited/Proven Seeds, CDC Mons by Quality Assured Seeds and LinolaTM 2047 by Proven Seeds. No seed is available for CDC Mons in 2003.

Solin is defined as a type of flax with Jess than five percent linolenic acid in its oil and having a yellow seed coat. Solin varieties produce food quality oil and, as such, cannot be sold in traditional flax markets. Linola TM 1084, Linola TM 2047 are available only for contract production.

Frozen flax should be analyzed by a feed testing laboratory to determine that it is free of prussic acid before using it as a livestock feed

Our Mission

"To lead, promote, and enhance the production, value-added processing and utilization of Saskatchewan flax"

Our Logo Tells A Story

The bright and lively crown of the sheaf of flax represents the coming together of many members into a solid organization.



The stalks of the flax plant positioned in a woven manner represent fiber-based products as well as the close interaction between

members of the organization.

The boll of the plant, made up of three oil droplet shapes, represents oil-based products as well as the overlapping areas of production, research and marketing.

2002/2003 Board of Directors

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Saskatchewan Flax Grower is published

tri-annually by the

Saskatchewan Flax

allied organizations.

Subscription rate for

organizations is \$50.00

per year. Contact office

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Canadian Publication Mail Agreement #40025241