flaxfocus

October 2017

Flax Council of Canada

POST-HARVEST CONSIDERATIONS & PLANNING

The 2017 harvest season continues on with roughly 79% of Saskatchewan flax acres in the bin at time of printing. Reports from Alberta and Manitoba are variable by region, either having been completed or progressing. Preliminary quality reports are indicating average oil quality, with iodine values at slightly above average.

Quality coming off the field is just the first phase in ensuring No.1 quality flax. At this time of year it is important to consider how we handle, dry and store flax, regardless of if it is coming off tough (10.1 – 13% MC) or dry (<10%). For long-term storage, the recommended seed moisture for flax is below 10%. Flax at 10.1-13.5% moisture is considered "tough" and >13.5% moisture is "damp".

Many regions of the Prairies were dealing with drier conditions than the two previous seasons, however producers should still be aware of the condition of flaxseed entering the bin. Spoilage occurs because of moisture and temperature. Warm, dry grain entering the bin should still be conditioned and monitored. According to the Canada Grains Council, grain binned at high temperatures can retain heat in unaerated bins for many months after being harvested.

Temperature and moisture influence enzymatic and biological activities and thus the rate of spoilage. For example, warm grain stored at 25°C and 9% moisture is more likely to spoil than grain that is 15°C and 9% moisture. Temperature gradients that develop in the bin favor mold development. As warm air rises, it carries moisture upwards through the grain resulting in moisture absorption near the roof of the bin. This can created pockets of condensation, especially as night temperatures cool.

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POST-HARVEST CONSIDERATIONS & PLANNING

Flaxseed coming off with higher moisture is at an increased risk for heating and spoilage in storage. To reduce seed moisture to a safe range, aeration and natural air can be used to condition flax. It is important to monitor the bin for changes in moisture and temperature by sampling the top, bottom and middle of the bin separately. Aeration (cooling) will result in a small reduction of seed moisture content. If the seed is very tough or wet, a grain drier may be more effective to bring the moisture content down to a safer storable level.

Achieving sufficient airflow rate is important to maintain consistent air movement. The size and orientation of flax seeds generates resistance, resulting in a lower airflow rate from fans. Partially filling bins to allow less resistance on the air is recommended.

Looking forward to the 2018 crop year, producers should consider their rotation and where they would like to pencil in their flax. Remember that flax does best on cereal or pulse stubble, but producers should be cautious of herbicide re-cropping restrictions (e.g. Odyssey products in Clearfield peas/lentils are two years for flax). Weed control is also something to think about the year prior for an uncompetitive crop like flax. What type of weeds were present and was there effective control in 2017? Flax has limited pre-seed (Group 8, 9 and 14) and in-crop herbicide options (Groups 1, 4 and 6). Difficult to control weeds or those with limited options in-crop offer up good reasons to consider using pre-emergent herbicides.

You can find out about these issues and more by following our FLAX TIPS or contact:

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UPDATE ON FLAX AGRONOMY RESEARCH

2017/18 is the final year of our four year Growing Forward 2 AgriInnovation Program (AIP). Over $2.6 million dollars provided by the Flax Council of Canada, Saskatchewan Flax Development Commission, Manitoba Flax Growers Association and Growing Forward 2 have funded six flax research projects. Program management is being provided by the Flax Council of Canada. Final research reports are due by March 31st 2018.

An important aspect of our AIP is that the program manager visits each scientist twice a year. Discussions are conducted in the lab or field. Issues and opportunities identified at one location are discussed with collaborators at other locations so that the collaboration is optimized.

A major research project of our AIP program is focused on pasmo disease management. Pasmo is the most prevalent disease of flax. The average prairie-wide yield loss due to pasmo has been estimated at 3 bushel/acre. Besides reducing yield, pasmo increases the incidence of lodging which usually reduces seed quality. 1000's of flax lines have been screened for tolerance in pasmo disease field nurseries in Morden and Saskatoon. Preliminary results appear to have identified a few pasmo tolerant flax lines. At the end of this study, these lines will be provided to our flax breeder (Dr. Helen Booker, U of S).

Dr. Khalid Rashid AAFC Morden & Rachel Evans, Extension Agronomist-FCC standing near pasmo nursery

Zisheng Xing, Research Tech – AAFC Portage standing near drought shelter

Dr. Scott Duguid AAFC Morden is the Principle Investigator involved with two research projects. The first is a seed study which will determine if there is a yield/quality loss from farm-saved versus pedigreed seed use. Part of this study is investigating whether increased seeding rate or use of large seed size will compensate for any potential yield loss. This study is being repeated in 2017 at AAFC Morden. The second study is evaluating the use of tillage treatments and flax varieties to mitigate the impact of excess water and drought on flax yield. Plastic shelters have been erected on some plots to study the impact of treatments under drought stress.

UPDATE ON FLAX AGRONOMY RESEARCH *CONTINUED*

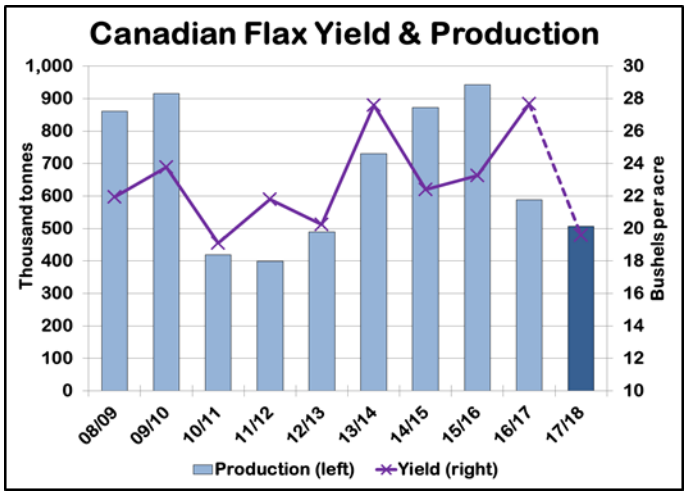
The fourth research project is focused on optimizing integrated weed management in flax. This study involves a network of weed scientists from the universities of Saskatchewan, Alberta, Manitoba and AAFC Morden. Dramatic visual differences were noted among crop management treatments, weed control and flax yield. In 2017, this field trial is being repeated at AAFC Morden.

Flax plots subjected to different crop management treatments

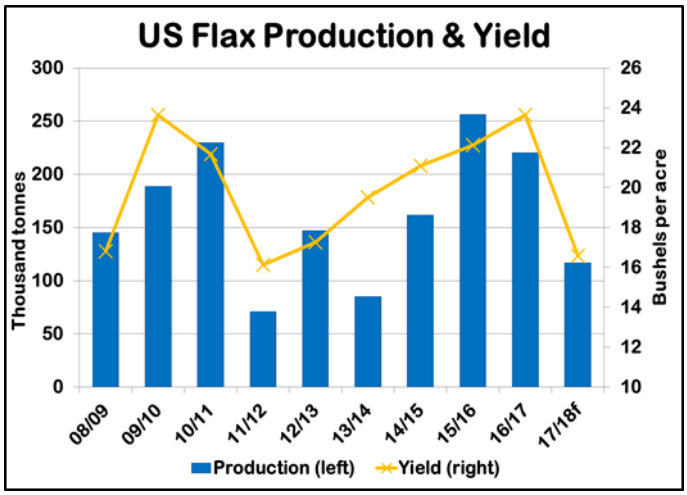
The final two projects are focused on identifying factors and genes associated with drought tolerance in flax. Dr. Sylvie Cloutier AAFC Ottawa is the Principle Investigator of a project looking for transcription factors (TF's) involved in drought tolerance. TF's are proteins that regulate the expression of a large number of genes. So far, it appears that some potential transcription factors may have been identified. The last project is complementary to Sylvie's project and involves looking for drought tolerance genes. The National Research Council working with the U of S (Dr. Helen Booker, Flax Breeder), UBC and AAFC are involved in this research network. Preliminary results indicate a number of promising genes for drought tolerance have been identified.

Dr. Helen Booker-U of Saskatchewan, Dr. Raju Datla (PI) & I. Mavraganis-NRC stand beside drought field study

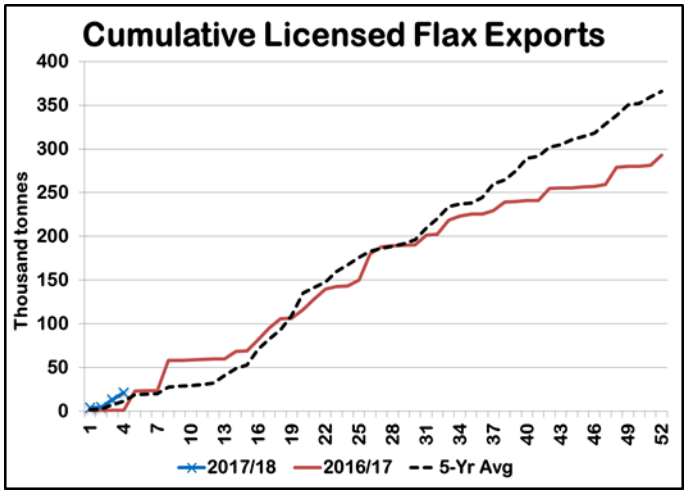
FLAX MARKET SNAPSHOT



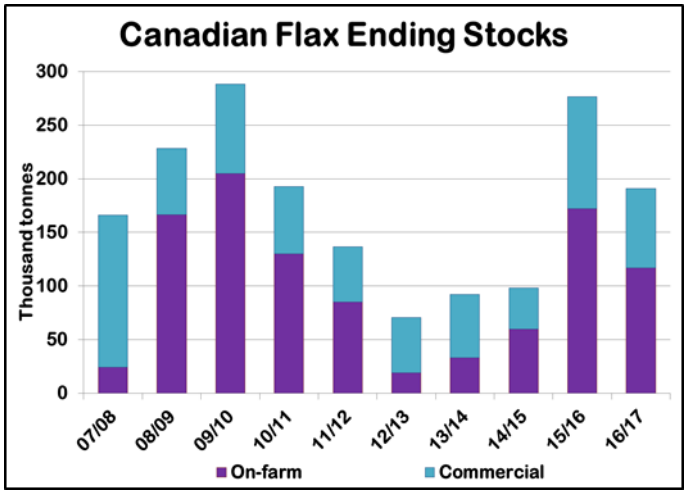
StatsCan's first estimate of the 2017 Canadian flax crop came in at 507,000 tonnes, 80,000 less than in 2016, in spite of an 11% increase in seeded area. Dry conditions have damaged yields, with the StatsCan estimate at 19.6 bu/acre, the lowest since 2010. With harvest underway, yields could improve slightly, but the 2017 crop will remain on the small side.



The 2017 US flax crop will be considerably smaller than the previous two years. Seeded area was lower by 24% and drought in key producing areas will reduce yields sharply. A USDA production estimate won't be released for some time, but this forecast shows a crop of 120,000 tonnes, 47% smaller than last year. This will likely require more US flax imports in 2017/18.

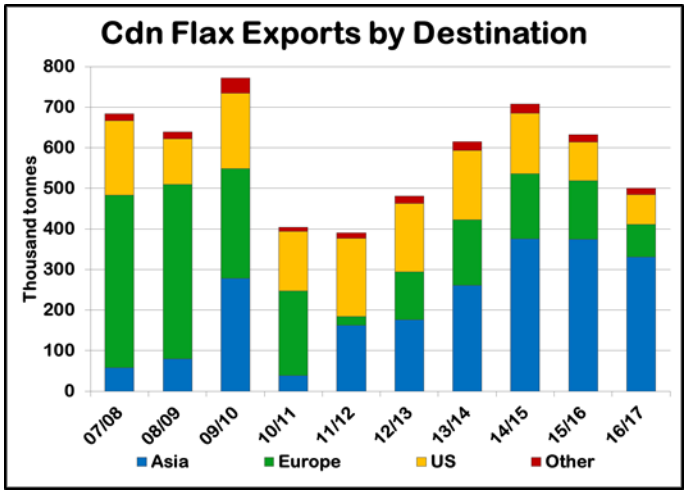


It's still very early in 2017/18, but August flax exports of 24,000 tonnes have outperformed last year and the 5-year average. These exports have included shipments off the west coast and south into the US. While still quite preliminary, initial volumes are a positive signal of solid export demand while availability of Canadian flax could be limited in 2017/18.

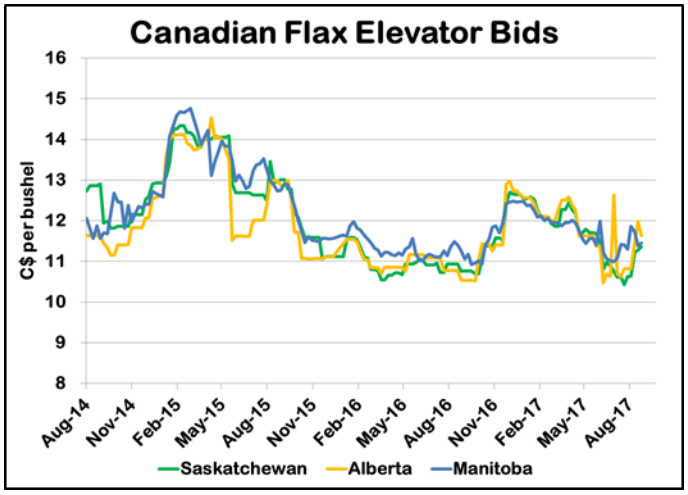


StatsCan has estimated 2016/17 flax ending stocks at 191,000 tonnes, 31% less than last year. While that's a sharp decline, it's still relatively comfortable, well above levels seen in the three previous years. There are questions however, about the quality of the 2016/17 ending stocks, which would make the supply situation in 2017/18 a little tighter yet.

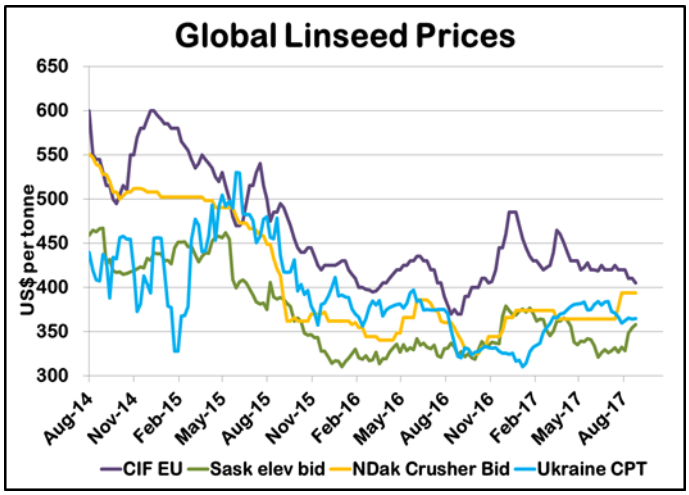
FLAX MARKET SNAPSHOT



Canadian flax exports totalled just over 500,000 tonnes in 2016/17, the lowest total since 2012/13. In part, this was related to reduced demand from the US due to its large 2015 and 2016 crops. European demand was also lower as Black Sea flax was available. Exports in 2017/18 could also be around this level, but that's more an issue of constrained supplies.



Flax bids at Canadian elevators were under pressure through the first half of 2017, but rebounded somewhat in the past few weeks. The drought-reduced yields in both Canada and the US are the main factors behind this price recovery. Even so, bids remain below levels seen in late fall of 2016 but could move further as the actual harvest results become known.



Flax prices in key markets are adjusting to the results and outlook from the 2017 crops. Prices in both Saskatchewan and North Dakota have turned higher due to reduced output. Meanwhile values in Ukraine have dipped and prices in northwest Europe have also softened because of the availability of flax from Russia and other Black Sea origins.

Canadian Flax Supply & Disposition

	12/13	13/14	14/15	15/16	16/17	17/18
Seeded Acres, 00(	980	1,070	1,585	1,640	935	1,040
Harvested Acres, (	950	1,043	1,534	1,595	836	1,019
Yield (bu/acre)	20.3	27.6	22.4	23.3	27.7	19.6
Supply ('000 tonnes)						
Carry-In	137	71	92	98	277	191
Production	489	731	873	942	588	507
Imports	15	14	11	14	25	**10**
Total Supply	640	816	975	1,054	889	**708**
Disposition ('000 tonnes)						
Seed	18	27	28	16	18	**30**
Other Domestic	71	80	143	131	178	**101**
Exports	481	616	707	631	503	**500**
Total Disposition	569	724	877	777	699	**631**
Ending Stocks	71	92	98	277	191	**77**
Stocks/Use	12%	13%	11%	36%	27%	**12%**

Source: Statistics Canada with LeftField projections in bold

The supply/demand balance for 2017/18 looks tighter. Reduced carryover and a smaller 2017 crop would mean the lowest Canadian supplies since 2012/13. This will limit domestic use and export potential in the coming year. Even with reduced consumption, ending stocks for 2017/18 will shrink considerably, especially compared to the previous two years.

SOCIAL MEDIA NEWS!

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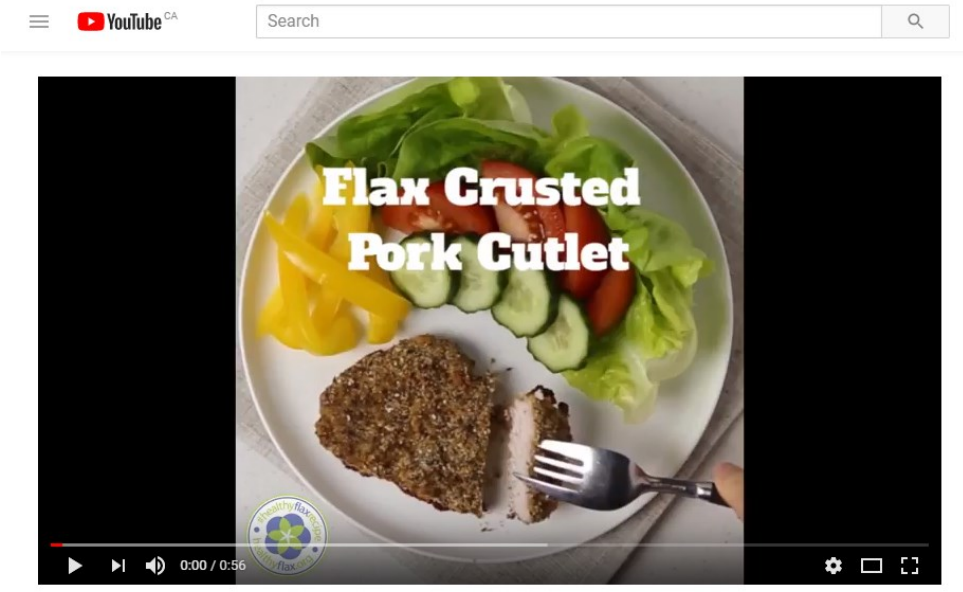
https://www.youtube.com/channel/UCBhHFKwKpnp0fkU4tx1waUQ

With social media users demanding more video we have launched a Youtube channel! We have several videos on the channel and plans to develop more. Subscribe to make sure you don't miss any.

Videos: combined 40K views

- **Supercharged Salsa:** https://youtu.be/GNYLYhAzQNQ - over 3K views
- **Frozen Yogurt:** https://youtu.be/oPInjcAWkTg - over 9K views
- **5 Easy Ways to add Flax:** https://youtu.be/FLk4WGEtK4o - over 2.5 K views
- **Types of Flax Video:** https://youtu.be/dFHpKoHG7aA - over 3K views
- **Flax Crusted Pork Cutlet:** https://youtu.be/aK4fF3OUPQk - over 10K views
- **How to Make a Flax Egg:** https://youtu.be/h0lf-M7QTr4 - over 11K views
- **How to make Flax Granola:** https://youtu.be/sUrI_fj365c - recently launched
- **Apple Bran Muffins:** https://youtu.be/7F06r5Zqgcc - just launched



Flax Crusted Pork Cutlet

HEARTY CINNAMON-APPLE PUMPKIN MUFFINS

Ingredients:

1 Tbsp (15 mL) ground flax seed

1 1/4 cups (310 mL) unbleached white flour

1 1/2 tsp (7 mL) baking soda

1/2 tsp (2 mL) ground nutmeg

1/2 tsp (2 mL) salt

1/2 cup (125 mL) plain unsweetened almond milk

1/4 cup (60 mL) maple syrup

1 1/2 cups (375 mL) diced tart apple (Granny Smith)

3 Tbsp (45 mL) water

2/3 cup (150 mL) quick cooking oats

1 1/2 tsp (7 mL) ground cinnamon, divided use

1/2 tsp (2 mL) ground allspice

1 cup (250 mL) canned pumpkin

2/3 cup (150 mL) brown sugar, divided use

1/4 cup (60 mL) canola oil

1/2 cup (125 mL) slivered almonds

Instructions:

* In a medium bowl, whisk together ground flaxseed and water; let stand 2-3 minutes.
* Preheat oven to 375°F (190°C). Lightly coat nonstick muffin tins with cooking spray.
* In a large bowl, combine flour, oats, baking soda, 1/2 tsp (2 mL) cinnamon, nutmeg, allspice and salt.
* Add pumpkin, milk, 1/2 cup (125 mL) sugar, syrup, and oil to flax mixture; stir until well blended.
* Combine the pumpkin mixture with the flour mixture and stir until JUST blended. Do not overmix.
* Divide evenly among 12 muffin tins, (the cups will be very full.), and top with apples and almonds.
* In a small bowl, combine the remaining 2 Tbsp (30 mL) sugar and 3/4 tsp (4 mL) cinnamon; sprinkle evenly over all.
* Bake for 25-26 minutes, or until a toothpick inserted into the center comes out clean. Let stand in the pan for 10 full minutes. Carefully remove and cool on wire rack.

Nutritional Analysis per muffin	
Calories	220
Total Fat	8 g
Saturated Fat	0.5 g
Cholesterol	0 mg
Carbohydrates	35 g
Fibre	2 g
Protein	4 g
Sodium	260 mg
Sugar	16 g
Potassium	115 mg

Yield: 12 muffins

Serving Size: 1 muffin each muffin contains 1/4 tsp (1 mL) ground flax

Cooks Note: May substitute the 1/2 tsp (2 mL) cinnamon, 1/2 tsp (2 mL) nutmeg and 1/2 tsp (2 mL) allspice with 2 tsp (10 mL)

CropConnect Conference 2018

February 14 & 15

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Early-bird deadline for sponsors and exhibitors – December 8.

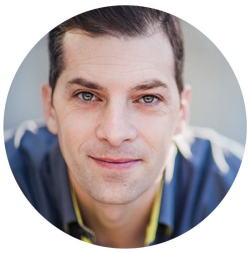
Early-bird deadline for attendee registration – February 3.

Keynote Speakers (visit cropconnectconference.ca for details and times)

The Right Honourable Brian Mulroney, PC, CC, GOQ
Canada's Eighteenth Prime Minister

David Frum
Senior Editor – The Atlantic

David Mead
Expert Start With Why Facilitator



Banquet Speaker

A highlight for this year is an evening with
Greg Johnson, Tornado Hunter
February 14, 2018

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