THE YEAR THAT NOBODY EXPECTED

As I write this, my final SaskFlax chair's report, it is early October and my area is pretty much done harvest. It has been many years since I can remember harvest being done so early. The majority of flax producers will already know how their flax has preformed in this growing season. For me, it was an average yield with great harvestability and almost perfect quality. The one glowing bright spot is the price that flax growers are seeing for a bushel of flax at this time of year. On my operation, with the average yield and prices north of \$15.00 per bushel, flax will be one of my best net returns from all the crops that I grow.

This past year at SaskFlax has been interesting, with the first quarter starting out very busy. The SaskFlax board had many plans for market development, new research proposals, and representing flax growers on other boards like the Western Grains Standards Committee, the Grain Growers of Canada, the Canada Grains Council. Farm and Food Care Saskatchewan, the Flax Council of Canada, and the U of S Crop Development Center flax breeding program. In the middle of March everything came to a grinding halt. Plans for the year had to be put on hold and a new focus surfaced with COVID-19. The board at SaskFlax is slowing starting to meet again by way of virtual meetings and conference calls, but this is nothing like the normal pace compared to previous years. I have to admit, the SaskFlax board has a much slower schedule

As I look back on my term on the SaskFlax board I can honestly say I have enjoyed every minute and it was a learning experience all the way. I am always surprised how involved the flax industry is in everything from government policy to market development to research and flax variety development. A change in any one of these areas affects flax producers directly. I started as a board member in 2009. The difficult issue at that moment, Triffid, which the SaskFlax board was working hard to rectify, made me realize right from the start how being on a producer group board can make a difference.

Over the last decade I feel SaskFlax has moved forward and grown the flax industry by promoting flax in lesser export markets and in long-standing markets that continue to purchase large volumes of flax. Flax has got a voice and is noticed by other organizations and in government circles. The on-going research projects all have the same end goal: improving flax as a crop of choice. I feel confident that the producer levy dollars are being spent to improve the crop and help flax producers earn better returns from their flax crops. I am confident that there is a very bright future for flax and that there are still new areas to discover and room to grow the flax crop from markets to research.

I would like to thank the staff of SaskFlax for the excellent work they do and the commitment they have to you, the flax producers. This year brought the resignation of SaskFlax's Administrator, Janice Henriksen. We all wish Janice well, and would like to thank her for her many years of work and commitment.I would also like to thank each director for the time they have contributed, and for being flexible to accommodate all of the meetings and events each of them attend. I also appreciate the knowledge and direction they bring to the flax industry. Finally, I would like to thank the flax levy contributors for giving me the opportunity to represent flax over the past years. As I leave the board, I am still very excited about the future of flax.

Shane Stokke, SaskFlax Chair



Outgoing Message from SaskFlax Chair, Shane Stokke



"Every success story is a tale of constant adaptation, revision and change." - Richard Branson

SASKFLAX AGM

The Saskatchewan Flax Development Commission Annual General Meeting will be held online on January 12 at 1:30 pm. Register online at saskcrops.com. More information is on the SaskFlax website: www.saskflax.com.

GROWING FLAX IN THE TIME OF COVID-19

2020 will be a year that we all remember. At SaskFlax we saw impacts for how business is carried out. The face-to-face meetings for talking and planning have been replaced by video calls this year. Over the summer research projects were impacted but not as significantly as expected. The noticeable impact has been on market development in international markets. There have been more video presentations, but without the face-to-face conversations it has been difficult to build upon the relationships from past trade missions.

The day to day operations at SaskFlax have been different this year. However, we adapted and board meetings continued to set direction and we continued to provide agronomy extension services to our flax growers.

The positive outcome of 2020 might be that consumers are demanding flax as their desire for healthy and high quality food has grown.



Want to receive the latest news from SaskFlax about agronomy, marketing, upcoming events and more?

Sign up for our email list at saskflax.com

(at the bottom of our homepage)

Saskatchewan Crop Organizations Virtual AGMs

Registration is now open for the virtual 2021 Annual General Meetings (AGMs) for the Saskatchewan crop organizations.

Monday, January 11, 2021

Canary Seed Development Commission of Saskatchewan Saskatchewan Winter Cereals Development Commission Saskatchewan Mustard Development Commission Saskatchewan Forage Seed Development Commission Saskatchewan Alfalfa Seed Producers Development Commission

Saskatchewan Leafcutters Association

Wednesday, January 13, 2021

Saskatchewan Seed Growers Association

Tuesday, January 12, 2021

Market outlook for all crops - Marlene Boersch and Chuck Penner Saskatchewan Canola Development Commission Saskatchewan Barley Development Commission Saskatchewan Wheat Development Commission Saskatchewan Flax Development Commission Saskatchewan Oat Development Commission Saskatchewan Pulse Growers

The **Saskatchewan Agricultural Graduates' Association (SAGA)** will be holding its 86th Annual AGM on Saturday, January 9th, 2021 at 7:00 pm. The link to the meeting, meeting ID, and passcode will be posted on the SAGA website: saskaggrads.com

For more information and to register, please go to

saskcrops.com

BOARD DIRECTOR

SASKFLAX PRESIDENT SHANE STOKKE LEAVES A LEGACY

Shane was acclaimed as a SaskFlax director for the first time in 2009. He has served as a director, vice-chair, and chair of the Board during his 11 years with SaskFlax.

Shane has been part of many changes at SaskFlax. He joined in time to be part of major upheaval for the flax industry when the flax trade with the European Union stopped almost over night because of Triffid.

Along with the other directors Shane participated in a change where flax farmers were asked to increase the flax check-off from \$1.18 to \$2.36. This change was precipitated by the rapid decrease in flax production and the desire by flax growers to see the work of SaskFlax continue. The increase in the check-off meant the ability to fund research and market development was possible. The support of flax growers for this change was important for flax growers to have the ability to lead flax research.

For Shane, SaskFlax has been an organization that continues to evolve and grow in a changing flax industry.

Growing SaskFlax

Over his term Shane has participated and led continued growth for SaskFlax. Shane has been part of an increase in funding to the Crop Development Centre flax breeding program, growing from smaller, but significant research projects to the implementation of the first five year agreement for flax breeding at the Crop Development Centre. This led to a significant research program at SaskFlax through the Diverse Field Crop Cluster.

In 2014, SaskFlax saw Linda Braun, the Executive Director of 17 years retire from SaskFlax and the Commission brought on Wayne Thompson. In 2018, Shane lead the board to hire a flax agronomist at the Commission. The addition of the flax agronomist was important as longterm and new flax growers did not have a dedicated agronomist in Saskatchewan as a resource about growing flax.

With Michelle Beaith as the SaskFlax agronomist the Commission has been able to expand its ability to do more agronomy extension and development to help flax growers grow a better flax crop.

A Changing Landscape

Over the years Shane has been on the board many other changes have taken place including an office move across Saskatoon from Sutherland to the north end as the Commission expanded staff.

During Shane's time the Commission has grown its presence in the agricultural industry. Shane has been part of the growth in how SaskFlax interacts at the national level. In 2018 SaskFlax became a member of the Grain Growers of Canada in order to bring a flax voice to the producer voice in Ottawa. It was in 2018 that SaskFlax became a sustaining member at the Canada Grains Council to



ensure the flax industry continued to have representation on many issues the supply chain needs to present to the federal government and international stage. The change and growth of SaskFlax has come from the desire of Shane and the other directors to seek opportunities and ability to represent flax growers. Shane has been part of the growth, but leaves many opportunities to still be explored. The opportunities for flax as a food ingredient have been identified and in collaboration with flax traders and processors along with the Food Centre in Saskatoon there will be something happen.

Developing Flax Markets

Shane has been part of a continual growth in market development work at SaskFlax. Over time, SaskFlax has taken on a

continued next page

"Shane's goal has been to put flax farmers in front of the people interested in flax around the world..."

SaskFlax President Shane Stokke Leaves a Legacy continued

larger role to promote flax in Canada and internationally. SaskFlax has changed its role in market development from the development of recipes to working on the international stage to develop relationships to provide a direct connection for international companies with flax growers. SaskFlax and the Flax Council of Canada worked to develop the HealthyFlax.org website to provide health professionals and consumers with information about flax that Shane and Linda promoted at IFT in New Orleans. SaskFlax took on a major role in promoting flax to Chinese traders, Mexican traders, processors, and consumers.

Shane's goal has been to put flax farmers in front of the people interested in flax around the world whether it be the United States, Mexico, India, China, Japan, or South Korea. The Mexican market has been a market of effort for many years with almost annual missions for the past 8 years.

The COVID-19 pandemic impacted holding a mission for 2020. Stokke says this work has increased sales in Mexico, opening some new doors and making consumers aware of the health benefits of flax. "I strongly feel there is more potential there," Stokke says. One of the highlights of Shane's time with SaskFlax would be when SaskFlax worked with the Saskatchewan Trade and Export Partnership and Premier Scott Moe to hold a media event in Seoul, South Korea to inform the Korean consumer about the health benefits and safety of Canadian flax in an effort to restore the trade in a market that had been impacted through negative messaging.

SHORT-STATURED FLAX

In the summer of 2016 while touring flax plots at the Crop Development Centre we noticed a very short flax plant. Based on the plant's height we were reminded of a lentil plant and we asked ourselves "Would it be possible to combine a very short flax plant and would we be able to solve residue issues for seeding the following spring without burning flax straw?"

The Crop Development Centre was amenable to the idea and multiplied enough seed that SaskFlax was able to

plant a few acres in 2020.

The flax was planted and managed like a commercial crop and combined with a flex header. From the experiment the takeaway for SaskFlax was that it is possible to combine a very short, bushy flax plant with today's combine technology.

The flax flowed onto the header and into the combine nicely. After going through the combine the flax straw chopped well and did not seem to leave residue that would cause problems to seed into the following spring. We also learned that the agronomy management practices for a short flax plant will need to be researched as a short flax plant is not as competitive with weeds.

SaskFlax will take this information back to the Crop Development Centre flax breeding program and see if there are opportunities to explore the development of a short flax plant.



SaskFlax Fall Newsletter 2020

BETTER DIGESTION THROUGH STEAM EXPLOSION?

The health benefits of flax seed have been welldocumented for people and animals. So why aren't livestock producers feeding more flax? It's the composition of the seed. Flax, canola, and camelina seed hulls contain high amounts of lignin, which can be thought of as a type of glue holding the fiber together. Unfortunately for flax growers, lignin is difficult for livestock to digest. Canola growers also have a significant problem in this area. Because canola seeds are so small, the indigestible hull makes up 12 to 20% of the total seed weight. If the energy in the seed hulls of flax, canola, or camelina could be made available to livestock, demand would increase.

Blowing up the problem?

Dr. Rex Newkirk put his mind to solving this problem. Newkirk is an Associate Professor and Research Chair in Feed Processing Technology in the Department of Animal and Poultry Science at the University of Saskatchewan. He'd seen steam explosion used in the forestry industry to modify wood for products like high-density particle board. He thought a similar process might work to de-lignify flax, canola, and camelina.

Consider popcorn. When a kernel is heated, the moisture inside expands and blows the hull apart. That, Newkirk says, "is sort of what we're trying to do." Because flax, canola, and camelina seeds don't have enough internal moisture to cause an explosion, steam explosion uses pressure to drive water into the cell walls while the seeds are heated. Newkirk and his research team hoped this would explode the hulls.

Flax growers will know that things do not always go to plan. "We weren't able to effectively blow that fibre up from within," Newkirk says. The basic shape of flax seed made it difficult to dehull, so they attempted to blow up the whole seed. They could dehull canola and blow up the hulls, but even then, the team couldn't access the nutrients. The lignin in the hulls wasn't destroyed, it was just modified. It reformed again and remained indigestible.

The good news

Mucilage, the sticky, soluble fibre on the seed coat of flax and camelina, is very beneficial for human health. We need soluble fibre. But too much mucilage is not ideal for chickens. Too much soluble fibre in chicken feed can interfere with the way they absorb nutrients. To ensure poultry get the nutrients they need, flax in poultry diets is typically capped at about 11%.



The research team used the custom steam explosion system installed at the Canadian Feed Research Centre in North Battleford, Saskatchewan.

Newkirk's steam explosion broke down the mucilage on flax and camelina seeds, causing it to lose its viscosity. With degraded mucilage, higher levels of flax and camelina could be fed to poultry.

The even better news is that steam explosion isn't necessary to degrade mucilage. Extrusion has a similar effect. Regina-based feed producer O&T Farms already uses dry extrusion to make omega-3-enhanced livestock feed. The heat and friction of extrusion gives O&T a feed product that works, but as Newkirk points out, it was hard to know exactly why it works. "Once the flax has been extruded, it's hard to measure the mucilage."

Armed with the information that mucilage can be broken down by extrusion, marketers may be able to increase sales of flax (and camelina) as livestock feed.

Pulling up demand

Extrusion is less expensive than steam explosion, but it's still not free. To make it economically viable, poultry producers need to sell premium-priced omega-3 enhanced eggs to choosy consumers. "I'd like to see the benefits of omega-3's promoted more heavily," Newkirk says.

Newkirk tells the story of his recent (pre-COVID-19) trip to Southeast Asia. In Malaysia, farm-raised fish and a reliance on palm oil have resulted in a population with low omega-3 intake. Higher omega-3 consumption could bring real benefits for consumers as well as flax growers. "Huge parts of the world are deficient in omegas," Newkirk says.

A MARKET FOR FLAX STRAW: PART 1

New flax straw buyers in Saskatchewan

Mark Cooper, Trevor Thomas, and David Whitrow are the Saskatchewanbased entrepreneurs behind start-up company Prairie Clean Energy. These three men want to buy your flax straw and sell it for use as a biomass fuel source. You may have heard about Prairie Clean Energy earlier in 2020, when Cooper, Thomas, and Whitrow held town hall meetings with farmers around the province.

While the project didn't get fully off the ground this summer, the proponents are still working hard to sign contracts with buyers and hope to be able to start moving flax straw next year.

You might remember that the idea of using flax straw as fuel has been studied before, and you might be wondering why it's different this time. Markets have changed, and Cooper believes Prairie Clean Energy can make it work.

Today, there are about 4,000 biomass power plants in the world, and more are being built all the time. "The demand for woody biomass fuel is phenomenal," says Mark Cooper. "There is not enough ready supply of fuel to meet the demand." This growing demand for biofuel is changing the economics for flax straw, making it more feasible to transport straw further from the field. In Japan, Cooper says, the price for pellets of wood biomass fuel is \$200/tonne. "With prices like that we can ship anywhere in the world."

It makes sense to use Saskatchewan's flax straw as a biofuel. Not only does flax straw burn hotter and faster than wood fibre, flax straw is a product that farmers would like to find a use for.

Another potential game-changer is the potential to pelletize flax straw. Prairie Clean Energy is working with a lab in B.C. to test this option. Pelletized flax straw would be much cheaper to ship around the globe than baled straw, although Prairie Clean Energy will need to compare the costs of pelletizing to reduce shipping costs against the costs of simply transporting baled flax.

Finding a Buyer

Although flax straw seems like a natural fit for the biofuel market, it's still a new product for potential customers. This makes it more difficult to make a sale. This spring and summer, Cooper, Thomas, and Whitrow found themselves working in a world disrupted by COVID-19. It was impossible to travel for meetings and many potential buyers were away from their desks.

Prairie Clean Energy is working to make agreements with buyers for 2021. "We're moving in the right direction," Cooper says. "We chose not to buy flax straw this harvest because we didn't have a buyer finalized."

Farmers who had hoped to sell their 2020-grown flax straw to Prairie Clean Energy will have to find an alternative. Although, Cooper says, some of the farmers they talked to earlier in the year are baling their flax straw to make it available for sale in the spring. Prairie Clean Energy may be able to make some purchases then, however, Cooper says, "We won't be able to be fully operational until harvest of next year."

Prairie Clean Energy hopes to be in full production mode by September 2021. Next winter they'll be back out talking to farmers, and they hope to be able to offer contracts.

Getting on board

Prairie Clean Energy prefers farmers supplying flax to have relatively weed-free fields, for a cleaner burn. They also prefer that farmers use sisal to secure bales, as most of their customers have a zero-tolerance for plastic in their biofuel facilities.

If you're interested in working with Prairie Clean Energy as they build their new business, visit www. prairiecleanenergy.com. Scroll down to the "Flax producer enquiry form." Fill this out to let them know where you live and how much flax you grow. Knowing how much supply is available in different areas of the province will allow Prairie Clean Energy to plan logistics in advance.

Also, Cooper says, "If farmers have flax straw bales available, they should make sure that we know that." They may be able to start buying flax straw before the 2021 harvest.

A MARKET FOR FLAX STRAW: PART 2

A long-term flax buyer in Manitoba

While a lot of prairie flax straw still goes up in smoke due to a lack of better options, some flax straw grown near the SWM Canada processing plant at Carman, Manitoba, is going into paper instead.

This is the twenty-fifth year that Denis Magotiaux has been the Straw Purchase Manager at SWM's Winkler, Man., office. SWM is an American company with flax-buying operations in Canada. The bales of flax straw purchased by Magotiaux and his team are processed at Carman, then shipped to France where SWM pulps the flax fiber to make fine paper. About 90% of this fine paper is used by the tobacco industry. Companies like Duracell use SWM's fine paper in battery production; most of the paper in U.S. batteries comes from SWM.

Finding the flax

Magotiaux sources most of the straw he buys from Manitoba, but he pulls in some from Saskatchewan as needed. "It depends on the Manitoba growers," he says. "Some years we have fewer growers and the crop is not as good. Then we have to reach a little further out."

Flax is contracted based on straw yield, measured in terms of tonnes of straw per acre. A typical yield, Magotiaux says, is about half a tonne per acre.

Growers selling straw to SWM must have relatively clean fields -- less than 5% weeds based on a visual inspection. At harvest, growers are asked to cut the plants as close to the ground as they can. "We want to get all of the straw," Magotaiux says. Weather determines whether the straw can be baled right behind the combine or if better results would come from leaving the straw in windrows.



The SWM processing mill.

In dry years, leaving the straw in windrows to wait for moisture will result in a better product. When straw is too dry and brittle, it's more difficult to separate the fibre from the shive, or woody part of the crop. "When it goes through our process we lose too much fibre in the waste," Magotaiux says. Leaving dry straw in windrows to wait for moisture softens the crop.

When there is green content in straw, growers are asked to leave the straw in windrows for two to three weeks. Moisture and sun will lower the green content over time.

Growers with baling equipment have the first opportunity to bale their own straw, but farmers without equipment can work with contractors. SWM buys only big, round 5' x 6' bales, and they must be tied with sisal twine. "Plastic can cause a bad contamination at the paper mill," Magotaiux says.

Once a farmer has an agreement to sell straw to SWM, if SWM asks them to make changes to their operation, such as leaving straw out in a windrow, Magotaiux says, "99% of the time we'll take the straw."

Some years bring better straw than

others. Last year's long wet harvest made straw collection difficult. Magotiaux guards against this by buying enough straw to have one season's worth in inventory. This year, Manitoba flax crops grew nice and tall, with thick stands. As a result, Magotaiux is seeing straw yields of 0.9 tonnes of straw per acre, well above the average weight of a half tonne per acre

Making the sale?

SWM books its annual flax needs from June through to harvest. They prefer straw grown as close to Carman as possible, to limit transportation costs. When there is not enough quality straw nearby, they'll look as far away as southeast Saskatchewan. Potential new clients living reasonably close to the Manitoba/Saskatchewan border can contact the plant at 204-325-7986, beginning in June 2021.

While the long-term business model is stable, Magotiaux says that business has plateaued and he doesn't anticipate SWM buying increased amounts of prairie flax straw in the near future. "For the next few years," he says, "we'll probably be staying at the number we have now."



SaskFlax was established in 1996 and represents registered flax producers in Saskatchewan. Directed by flax producers, SaskFlax operates via a mandatory but refundable producer levy on flaxseed and straw. These dollars are leveraged whenever possible to execute programs ultimately geared to increase net returns to its producers members and advance Saskatchewan's flax industry.

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