

NOVEMBER 2022



Aaron Hack says his favorite part about working on a Christmas tree farm is helping families find their perfect Christmas tree during the holidays.

Cornucopia happy to provide fresh cut Christmas trees

BY SIERRA D'SOUZA BUTTS
LOCAL JOURNALISM INITIATIVE REPORTER

The family owned business, Cornucopia Tree Nurseries, have been providing fresh cut Christmas trees to people and families in southeast Saskatchewan and surrounding areas for years.

The local Christmas tree farm is located two miles south of Rocanville, Saskatchewan.

Aaron Hack said Cornucopia Tree Nurseries is one of the few tree patches where people get to cut and choose their very own Christmas tree.

"It's great seeing the individuality of people when they come to pick out their trees," said Hack.

"What I think is the perfect tree isn't necessarily your perfect tree. Sometimes people find one that's flat at the back so they can stick them at the corner of their wall or they might prefer a wider, more bulky tree for their home.

"I like that people are happy when coming out because they're having fun, they're finding their spot and we're able to help them with something that they're doing.

"You don't see people who are mad or grumpy about having to find a tree for Christmas, that they don't want to do this. They enjoy it, and it's fun for us."

The average height of most indoor Christmas trees is about seven feet tall. Hack said it takes about eight to ten

years for trees to grow that size, and a bit longer for them to reach the 12 to 14 foot mark.

"For the Christmas trees that are six to seven feet tall now, we seeded them around 2005," Hack said.

"My sister Heather is the one who first seeded some of the trees and we just kept on going every year. Then in 2017 is when my wife and I took over, that's when we started expanding on the retail side.

"We started to get more trees that were ready to sell around that time, it's been a gradual process."

Hack spoke about why he enjoys growing and maintaining trees all-year around.

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USask agricultural economics graduate calculates the value of a wetland certification program

BY BRETT MAKULOWICH

Valentina Ofori's thesis research focused on whether a wetland certification program could help reduce wetland loss in Canada.

Would you pay more for a bag of flour if it had a wetland certification label? It's a question that Valentina Ofori set out to answer in her master's thesis research.

"While certification programs exist for forestry, marine and organic products, and have been studied extensively, no research has been conducted to assess a certification program for wetlands," said Ofori.

Ofori will officially receive her Master of Science in Agricultural Economics at University of Saskatchewan (USask) Fall Convocation, taking place in-person on November 9 at Merlis Belsher Place.

In June 2022, she successfully defended her master's thesis, Economic feasibility of a wetland certification program in the Canadian Prairies. Her thesis was supervised by Dr. Patrick Lloyd-Smith (PhD), assistant professor in the Department of Agricultural and Resource Economics in the College of Agriculture and Bioresources at USask.

For her research, Ofori estimated the price premium that consumers of prairie wheat would be willing to pay for a product that had a distinctive wetland certification label. The label would tell consumers that the product was produced on a wetland-friendly agricultural landscape and the level of wetlands restored on that landscape.

Ofori's research also assessed the profitability that a wetland certification program would offer wheat farmers.

"Although wetlands are very beneficial to the environment and society, farmers and landowners do not reap many economic benefits of maintaining wetland on their agricultural landscapes," said Ofori.

To conduct her research, Ofori developed and designed a survey questionnaire which was administered in Saskatchewan, Alberta and Manitoba.

"I enjoyed the survey design and development stage of my research," she said. "I had the opportunity to conduct focus groups and the interactions I had with participants were helpful in the final questionnaire design process."

Ofori analyzed the survey results using R statistical software (a programming language for statistical computing and graphics).

"The results of my research showed that Canadian wheat flour consumers were willing to pay about 16 to 40 per cent more for a bag of wheat flour with a wetland certification label," said Ofori. "Saskatchewan wheat farmers who adopt this program would enjoy a profit of about \$21 to \$32 more per acre than conventional wheat farmers."

Ofori's research was funded by Smart Prosperity Institute and the Global Institute for Water Security at USask. She also received the Dollie Hantelman Agricultural Scholarship, which is awarded for academic achievement by the College of Agriculture and Bioresources.

Originally from Accra, Ghana, Ofori received her bachelor's degree in economics from the University of Cape Coast. After attending a lecture on the economics of natural resources and environment, she realized that she wanted the focus of her graduate program to be on agricultural economics. She heard about USask via a friend who was alumni.

"I chose to study agricultural economics at the USask College of Agriculture and Bioresources because of the level of high-quality research produced by both faculty and students," she said. "I have passion for research, and I was excited to learn that the faculty has built such a great program with a strong research component."

Currently, Ofori is working as a Research Assistant for the College of Agriculture and Bioresources, with plans to pursue a PhD and become a professor, with a focus on natural resources and water economics. Ofori is interested in how the needs of society, policymakers, and producers can be jointly met via economics research.

"I hope a wetland certification program will be developed by policymakers as it has great potential, aligning society benefits to producer costs and helping reduce wetland loss."



Valentina Ofori chose to study agricultural economics at the University of Saskatchewan because of its high-quality research.

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USask student's wheat pathology research helps producers in practical ways



CDC graduate student Mackenzie Hladun.
Dave Stobbe photo

BY NYKOLE KING

Mackenzie Hladun is fascinated by the basic principles of how a host can defend itself from disease, whether it comes to animals, humans or plants.

"I'm just so intrigued with how a host can identify a disease and fight it off. I don't know if it's the resilience factor or if it's the have-to-survive factor in the host, but pathology has always just clicked in my brain," said Hladun.

Hladun, originally from White City, Sask., is a graduate student at the Crop Development Centre (CDC) in the College of Agriculture and Bioresources at the University of Saskatchewan (USask). Her research is focusing on assessing many mechanisms that contribute resistance Fusarium head blight (FHB) in wheat.

"I'm measuring many traits in wheat that allow the wheat plant to fight off Fusarium head blight, and it's saving itself from being killed by this disease," said Hladun.

Hladun's undergraduate studies focused on studying human and animal diseases. After finishing her Bachelor of Science in Cellular and Molecular Biology at the University of Regina, she worked in an administrative role for Saskatchewan's Ministry of Agriculture.

Hladun had already spent her previous summers during her undergraduate program working for the Ministry of Agriculture, and she realized she had "fallen in love with agriculture."

From that point on, Hladun decided to research her options for a master's degree, landing on the USask website. Once she found Dr. Randy Kutcher (PhD), who specializes in disease resistance in wheat, she knew she wanted to conduct research in his lab.

Part of what made Kutcher's research stand out to Hladun was that it has practical applications for producers.

"The results can actually provide producers or other researchers' information that they will need — which to me is just a fantastic concept. We're actually helping people by doing this. You can see where it's impacting the industry," said Hladun.

By combining genetic data and statistical information, Hladun is looking to understand the genes resistant to FHB and help to improve varietal resistance through "marker-assisted selection."

"It's tracking this genetic information throughout the crosses so that the breeder can identify what disease-resistant traits are still in the population," said Hladun.

During her graduate research, Hladun collected all her field data and appreciated working side-by-side with the lab technicians in the CDC field lab, in the field, and at the USask Department of Plant Science greenhouses.

Hladun is currently collecting the last set of data for her master's thesis and her projected completion date is set for early 2023. After completing her research, she sees herself as an agronomist working directly with produc-

ers to support their work with "boots on the ground".
What drives Hladun is seeing her work positively impact local producers. During a CDC Field Day last year, she recalls a moment after she wrapped up her speech on her project. After a long pause, one producer thanked her for how it strengthens their crop productions on their own farms.

"This one woman just put up her hand and said, 'Thank you for doing the work that we can't do.' It just clicked that not everyone can do what I'm doing," said Hladun. "That's really rewarding."

To learn more about how to apply for graduate student opportunities with the Crop Development Centre, please visit the Plant Sciences graduate studies webpage.

APAS asks for explanation on why farm inputs are 11 per cent higher than 2020

BY SIERRA D'SOUZA BUTTS

LOCAL JOURNALISM INITIATIVE REPORTER

Agricultural Producers Association of Saskatchewan (APAS) representatives expressed their concerns about the lack of price transparency and supply certainty for critical farm inputs, such as fertilizer, fuel, seed, and chemicals, at the Agriculture Producers Association of Saskatchewan's fall district meetings on Nov. 15.

APAS President Ian Boxall said the association does not know why farm inputs have increased drastically in a short period of time, but plan to further investigate why.

"Over the last month we've had district meetings across the province," said Boxall.

"I don't want to say that it's price taking, but producers' minds immediately go to price taking. There is no logical reasons for the increases that we've seen."

Farm cash expenses exceeded \$11.5 billion, which was 11 per cent higher than 2020 and the largest year-over-year increase since 2012.

Boxall was asked how this has impacted farmers.

"This is a complex story this year because commodity prices are good. Besides some pockets in the province in the southwest, I think overall Saskatchewan had a very good, average crop," said Boxall.

"I think we will be okay because commodity prices are high, but when you start hearing a shortage of the chemical in spraying time which puts farmers in a tough spot and hearing record fertilizer prices, our question is to why?"

"Why is this happening? What we're asking is to tell us why, 30 and 40 cents increase in the price of fuel in a month. What is causing these increases?"

If critical farm inputs continue to increase, Boxall said it can possibly affect farmers' production of food.

"My fear is what happens next year because as I start to price out and get inputs on my farm for this coming spring's crop, the prices are the same or higher," he said.

"I don't know what the market will be this time next year when I go to sell my crop. There is some fear and some uncertainty as to what it is going to look like next year."

Although prices for farm inputs were expensive last year, 2022 was least impacted because the commodity prices were fairly reasonable, Boxall said.

"This year we're going to be okay because commodity prices are strong. I'm not going to deny that our prices



Agricultural Producers Association of Saskatchewan President Ian Boxall said APAS plans to find out why critical farm inputs, like fertilizer, fuel, and chemicals, are continuing to become so expensive.

are good," he said.

"Cash receipts will probably be up at the farm gate, but what is it going to look like in the future? We need some indication to why this is happening, why are there shortages, what are we doing to increase this, what is causing it so that farmers can make more informed decisions."

APAS has been hearing from farmers about how they have been impacted by the higher prices.

"I think it's eating away their bottom line. Now, I don't want to discount the fact that commodity prices are high because that's what everyone is going to say," said Boxall.

"But, are the commodity prices high because the manufacturer of our inputs are just taking extra? That's where the producer's mind goes, they're traditional indicators. Back when oil was \$140 a barrel, we paid a buck a liter for fuel. Oil is hovering around \$80 a barrel and we're paying \$2 a liter for fuel."

"There are traditional indicators on some of the stuff, like the length between natural gas and anhydrous ammonia, those numbers don't correlate anymore. They used to use that as a reading, and anhydrous ammonia is up because natural gas is up."

"So, what's causing these increases? As our products are needed around the world especially right now with what's going on, this could have an interest on production."

Boxall was asked what his biggest concern is regarding the matter.

"If these prices continue to stay up and the market drops. We can't afford it," he said.

"We spent \$11.5 billion last year, that's an 11 per cent increase from the year before which is the highest increase we've seen year over year since 2012. Inflation has gone up 14 per cent since 2019, and prices for fertilizer have gone up 129 per cent, why? Tell us why."

APAS has requested the House of Commons Standing Committee on Agriculture to begin studying retail food prices later this fall and continue into 2023.

"We'll be in contact with the standing committee on Ag, as they look at the cost of food and all the other things. That maybe, the cost of inputs is something they need to be looking at as well," said Boxall.

"I believe the war on Ukraine and some of the supply issues we're seeing, as well as coming out of Covid, sure that's affecting it, but it needs to get under control because we can't continue to pay what we're paying. Especially if the markets fall off."

He said APAS would like to have a discussion to understand why critical farm inputs have become so expensive.

"Let's get the industry in a room and let's sit down to have them explain to us why we're seeing these increases," Boxall said.

"What's driving these increases? If farmers have the information we can make better informed decisions to ensure we're able to grow the biggest and best crop that we can, but we need to understand why."

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A look into the inspiration for my column

I have been inspired by the many people who tell me how much they enjoy these columns and those who feel like they “know” the twins about whom I often write. But ever since I began writing, what I feel is a light-hearted look at farm on the Saskatchewan prairies some 10 years ago, I have always hoped none of my English teachers from high school read them. And there’s a reason for that!

When I write, I intentionally (as if I am talking to someone in person) I switch between past and present tense, often in the same sentence. I also do other things I wouldn’t normally do when I write – I have quotations all over my paragraph in a bit of a haphazard manner, none of it necessarily grammatically correct. I also miss types when I proofread which drives me wild because I am OCD about correct spelling.

On Remembrance Day this year, I had the pleasure of meeting some wonderful people at the Legion supper in Moosomin, some of whom told me how much they enjoy reading my columns. Awww, it just warmed my heart and that’s when I spotted her across the room – my high school English teacher. “Let’s hope she has never read one,” was my honest-to-goodness thought.

Before I left that night, I made my way across the hall to say hello to Mrs. McLeod and reconnect after many, many years. As I walked, I began to wonder if she had any idea that despite all that Shakespeare stuff, I really loved my English classes and even though I didn’t know at the time that I would ever have anything to write about, I knew in my heart that I loved to write.

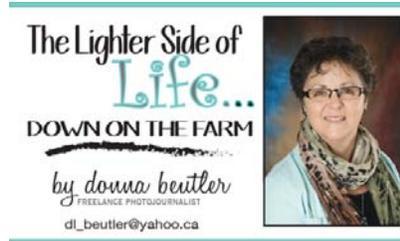
As it was, she was well aware of the columns and didn’t once suggest she ought to mark them for me before I submitted them. Whew – that was a relief. I would be remiss if I didn’t give credit where credit is due and Mrs. M. definitely deserves some credit!

When I think about this past harvest season, or any past one for that matter, it’s interesting what comes to mind. A little incident that happened to hubby and I on our way back from Banff in October caused me to remember one of our harvest days this past fall.

I had just started the combine up on a beautiful fall day after setting my lunch cooler on the floor, my water bottle on the seat beside me, the CB radio in the cup holder and my cell phone in the gripper holder thinger. I was rolling right along and had perhaps gone all of 50 yards when I heard three beeps that caused me to look up at the warning lights, already knowing those beeps were not combine-related. But what were they?

And that’s when I heard, “9-1-1, what is your emergency?” coming through my phone. “What the heck?” I wondered as I struggled to get the phone out of the gripper before finally hitting ‘speaker.’

“Sorry, no emergency,” I said as the combine kept up



its roar, the sound of men chattering came across the CB radio and the radio’s country station playing its songs. I continued rolling along.

“Ma’am, are you okay?” I hear back.

“Yes, I am fine. There is no emergency. I am so sorry. I didn’t mean to call you,” I said. I hadn’t even touched the phone, so I wasn’t really sure at that point what had happened.

“Are you sure you’re okay, Ma’am?” she asks again.

“Are you sure you don’t need fire, ambulance or police?”

“Oh no, no, no,” I assure her. Of course, at the same time we are talking, I am envisioning police, ambulance and fire trucks racing down the grid road to our field where three combines are just doing their thing, rolling along, picking up canola swaths.

And then I have this thought – if this lady sends emergency vehicles my way, my hubby is gonna be saying, “What has that woman done now?” and my son will be thinking, “Oh mother, only you could have an emergency where no emergency exists.”

So I repeat more firmly, “Absolutely no emergency here. Really. I never touched my phone. I don’t know what happened.”

“Oh,” she responds. “Pocket dial.”

“Okay,” I say. I don’t have a pocket (it was a shorts and tank top kind of day), “but whatever.”

“Ahh,” she continues. “Cup holder?”

“No, not a cup holder either,” I say. “I’m combining and I have my phone gripped tightly in an x-shaped gripper that I can’t even get out of the gripper’s grip, hence why I am on speaker phone,” I explain. “But as soon as I can release it, I assure you, the gripper is not where I will be putting it ever again,” I say as we conclude our conversation, me with one more apology.

Later that night I see my son as he jumps into the semi and I say to him, “Were you talking about selling this combine?” “Might,” the man of few words says back to

me. “Well, make sure that gripper thinger goes with the combine,” I tell him before he drives off and I head off towards the next swath.

With that behind me and mostly forgotten, hubby and I happen to be spending our last night of our post-harvest trip to Banff in Medicine Hat and on the morning of our departure towards home, we get into the elevator after breakfast to go back up to our room to grab the last of our luggage.

And that’s when I have a sinking feeling after pushing ‘floor 2’ that we aren’t going anywhere and nor is the elevator door opening for us. It appears I will actually need to call 9-1-1 for real this time.

I push the ‘emergency phone’ button only to hear: “All our lines are busy. Please try again later.” Are you serious? By this time, we are sweltering, literally. Who knew that elevators were that warm inside?

With my cell phone (that I always carry) left inside our hotel room, I have no choice now but to bang on the door and yell for help.

After 15 minutes of that, I am more than sweltering. But then I hear: “Are you okay in there? What’s your room number? I will go to the front desk immediately and have them call 9-1-1.” Long story short, four firefighters came to our rescue that day and yes, it seemed a bit like overkill but I won’t say I wasn’t happy to see them!

I would like to say that was the last of our adventures of the day but alas, it was not to be. Once we had crossed into Saskatchewan and driving along the Trans Canada we were happily listening to some Sunday morning gospel music when out of the blue and right in front of us was a little black Nissan coming straight for us, as in he was west-bound in the east-bound passing lane that we were in.

Now there’s something that will get your adrenaline running in high speed, something like the half dozen cop cars that were heading west in the west-bound lane trying to stop the car that we later learned had been stolen in Swift Current and that we happened to meet in the middle of a high-speed chase that eventually ended in success for the police who were in hot pursuit.

With our adventures over, we welcomed the warm lights of home, a comfy bed and the sweet treatment of two cats who had missed me just as much as I had missed them. And if you noticed the switch from “we” to “I” there, there’s a reason for that lol!

Here’s hoping, as we move from post-harvest season to all-out winter season, that your days are filled with warmth and maybe a bit of adventure on the side (just not the stuck in the elevator or having a car doing 160 kph coming straight for you kind of adventure). Take care, talk to you again soon!

Competition Bureau's application on Moosomin, Virden elevators dismissed:

Anti-Trust Tribunal says P&H can keep elevators

A federal antitrust tribunal’s decision may soon make Parrish and Heimbecker the owner of KK of Louis Dreyfus’ Prairie grain elevators.

In a decision on Oct. 31, the Competition Tribunal, which is a federal quasi-judicial body with the power of approval over any antitrust actions proposed by the federal Competition Bureau, dismissed an application from the bureau that would have ordered P&H to sell either the former Dreyfus elevator at Virden or the P&H elevator at Moosomin, which are only about 60 km apart.

“While we are disappointed that the tribunal has ruled against our challenge, we are carefully reviewing the tribunal’s decision to determine appropriate next steps,” the Competition Bureau said in a news release.

The bureau proposed the order following Winnipeg-based P&H’s September 2019 deal to buy all 10 of the primary grain elevators Dreyfus built in the four western provinces between 1998 and 2003.

Of the 10, six of the Dreyfus sites are about an hour’s drive or less from at least one other P&H elevator, but the bureau in December 2019 said it would ask the tribunal to make an order only regarding the Virden and Moosomin sites. The bureau also sought an order preventing P&H from buying any other elevator in those markets for a set period of time.

The Moosomin and Virden elevators “were close competitors due to their proximity” along the Trans-Canada Highway, the bureau said at the time, as the companies “closely monitored each other’s wheat and canola prices and responded to competitive activity from each other by offering farmers better prices.”

The deal “eliminates this rivalry,” meaning “farmers in the corridor between Moosomin and Virden will earn less for their wheat and canola,” the bureau said.

P&H, through its Dreyfus deal, got “the ability and incentive to unilaterally



The Parrish and Heimbecker terminal at Moosomin. The Anti-Trust Tribunal has dismissed an application by the Competition Bureau to have P&H sell either its Moosomin or Virden elevator.

exercise market power in the relevant markets,” the bureau said in its application, adding that P&H already “no longer intends” to follow through on previous plans to expand its rail car spot at Moosomin.

P&H challenged the bureau’s proposed order shortly after closing its deal with Dreyfus in December 2019. According to Competition Tribunal filings in January 2020, P&H said there was no evidence of any alleged imminent harm to farmers, other than allegations by the bureau that the company said “are based on a misunderstanding of the grain handling industry.”

The tribunal, in its Oct. 31 ruling, said the Competition Bureau’s commissioner “had not established that the acquisition lessened competition substantially in any relevant market, or was likely to do so in the future.”

Focusing on wheat and canola purchases from farmers in the Virden-Moosomin corridor, the tribunal said it found the “relevant geographic market for the purchase of wheat” was more likely than not to include “at least seven” elevators in that area. For canola, meanwhile, the area included “at least 10 elevators as well as four crushing plants.”

The tribunal said its evidence shows the price effects of the P&H deal for the Dreyfus elevators were “immaterial” and “several effective remaining competitors remained” in the market. It also found the relevant grain companies’ “post-merger” market shares to be below the 35 per cent safe harbour threshold for such cases.

The tribunal kept its specific reasons “confidential at this time.” It said it plans to release a full public version of its decision at a later date, after it reaches consensus with the involved parties about what exact information would still have to be kept confidential going forward.

USask announces new Precision Agriculture certificate



A new certificate program at the University of Saskatchewan (USask) will provide students the opportunity to gain knowledge and develop experiential skills in precision agriculture by leveraging competencies from their academic discipline.

Students in the new Certificate in Precision Agriculture will learn how to manage crops precisely to increase both production and sustainability. This includes knowledge of the technologies used in precision agriculture (satellite imagery,

global positioning and information systems, big data, yield mapping, management zones) to understand what drives within-field crop yield variability from year to year.

The new certificate program will be housed in the College of Agriculture and Bioresources and will bring together USask students from AgBio, the College of Engineering, and the Department of Computer Science to prepare them to be leaders in the rapidly evolving area of ag tech.

"The Certificate in Precision Agriculture is the third new academic program announced by the College of Agriculture and Bioresources in the last year," said Dr. Angela Bedard-Haughn (PhD), dean of the College of Agriculture and Bioresources. "Our college is continually growing and strives to respond to student and community needs: providing hands-on training that combines both the 'how' and the 'why' and learning directly from industry-leading researchers. With this new certificate program, we continue to equip students with the critical thinking skills they need that will go beyond when a certain technology may become obsolete."

"Many of the world's leading precision agriculture companies are based in Western Canada and look to USask to hire our graduates," said Dr. Steve Shirtliffe (PhD),

professor in the Department of Plant Sciences at USask. "By leveraging competencies from their unique academic discipline (AgBio, engineering, or computer science), students in the certificate program will be prepared for a variety of careers with a special focus on precision agriculture including agronomists, sales and marketing specialists, programmers and data analysts, and engineering machinery and control design."

USask students can earn the Certificate in Precision Agriculture concurrently with a degree program from the College of Agriculture and Bioresources. This certificate is also available to USask students studying computer science or engineering. The first cohort will begin classes in September 2023. Questions about the program can be directed to AgBio Student Services.

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Eight billion people now inhabit the earth

Do we have the capacity to feed them all?

On November 15 of this year, the world population reached a symbolic number: eight billion people. The planet took about 11 short years to add one billion more humans to its population. By 2058, it's estimated that the planetary population will reach 10 billion.

That's a lot of people. Whenever humanity is reminded that our population is increasing, we always wonder if we have the capacity to feed ourselves adequately, and for how long.

Amazingly, 90 per cent of the world's population lives in the Northern Hemisphere, and almost 40 per cent of the surface area of the Northern Hemisphere is land, compared with only about 20 per cent of the surface area of the Southern Hemisphere.

More than half of the world's population lives in Asia. A single visit to this part of the world will help you realize that the space in Canada is an overlooked asset. Our abundance of space defines our quality of life, our policies, and the way we eat. Most don't realize this, but it's true.

But are we producing enough to feed eight, nine or even 10 billion people on earth? The answer is yes.

The food sectors are adapting and developing new technologies at an astonishing pace. Many underestimate the ability of agri-food stakeholders, from farm to consumer, to adjust. While our planet produces enough food to feed the more than eight billion people who inhabit it, systemic inequalities and economic disparities have led to unbalanced distribution and irregular access to agri-food commodities. Corruption, pandemics, poverty, lack of infrastructure, and, of course, geopolitical conflicts, as we have seen this year with Ukraine and Russia, often undermine our global food security.

We produce enough to feed the planet, but climate change remains the greatest threat to our agrarian systems. For centuries, humans have adapted to risk. We are compelled to find solutions to problems that suddenly emerge: floods, drought, fires, hurricanes, and the list goes on. But with climate change, the risks never go away. Risks will essentially move and threaten other parts of the food supply chain.

"Band-aid" solutions are just no longer feasible. Greater resilience in the industry requires extreme adaptability, which is what our recent federal task force on supply chains was advocating.

And Canada is making a difference. In fact, the Barton



Sylvain Charlebois

Report, presented five years ago, offered us a road map in this regard. The Barton Report talked about unlocking the potential of key sectors and identified agribusiness as one of them. And fortunately, Canada has delivered the goods, yet we rarely talk about it.

The report mentioned expanding populations around the world, growing demand for protein in Asia, and a need for reliable markets, such as Canada. As the fifth largest agricultural exporter in the world, Canada can become a trusted global leader in healthy, nutritious, and sustainable food in the 21st century. The report indicates that Canada has the potential to become the second-largest exporter in the world. Second, no less.

The strengths of our agri-food sector include a reliable food supply, the availability of resources, the position of arable land, and strong research poles. In addition, global opportunities relate to exploding demand from emerging markets as well as growing global supply constraints on land, water, energy, and carbon emissions.

Our agri-food exports have continued to grow despite challenges in the sector, reaching over \$82

billion in 2021 and surpassing the previous goal of increasing agri-food exports to at least \$75 billion by 2025. With better resilient logistics networks and supply chains, we can do even better.

The catch is that when people discuss food security and leading countries internationally, Canada rarely gets mentioned. The Netherlands, Denmark, and the United States are often mentioned, but our reputation is simply not there. Our image as a global agrarian provider lacks a bit of pizzazz.

We have to brag about it and celebrate the incredible contributions of our agri-food sector internationally as often as possible.

Dr. Sylvain Charlebois is senior director of the agri-food analytics lab and a professor in food distribution and policy at Dalhousie University.

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Cornucopia happy to provide fresh cut Christmas trees

Continued from front

"There's a real need for it and that's part of the reason why we're expanding is because there's a shortage of quality, fresh cut trees," said Hack.

"A lot of the trees that are around are shipped in from out of Eastern Canada, but they've been on a truck, they've been cut early, they're dried out.

"Plus, when they've been cut down there, the trees aren't used to the Saskatchewan cold. That cold weather could affect and change the needle drop of the tree, and everything else because they are frozen when they get here.

"I'm a part of the Prairie Christmas Trees Grower's Association and that's where we source our seedlings. We get a nursery up in Prince Albert to grow our seedlings for us and everything that we use is all from Saskatchewan, it's all hardy for the environment. If you bring seeds from another area, it may not really thrive and grow in this environment."

People come from all different areas to pick out a tree at Cornucopia Tree Nurseries.

"Our purchases vary, it's been picking up more all the time. I think last year we sold around 175 trees," he said.

"Right now we're definitely trying to provide more because there is only one wholesaler in Saskatchewan which is up at North Battleford.

"We have people travelling up from the U.S. border, into southwestern Manitoba, we've got people travelling two hours to come and choose their tree from here."

Growing trees are great for the environment

Planting the seeds and growing the trees every year is also great for the environment, Hack added.

"With a lot of the Christmas tree farms (out there), the trees are being grown on patches of land that aren't normally as great for grain farming," said Hack.

"Because tree growing is more of an intensive agriculture, you can utilize small patches which is great because you're us-



Aaron Hack built his own tree baler to help with the wrapping and shipment of Christmas trees that he grows at Cornucopia Tree Nurseries, to help make it easier for families to bring back to their homes.

ing farmland that has never had trees on it before.

"Plus, we're planting trees on those lands every year and it's a crop we're growing for that specific purpose. It's not like we're going and cutting down trees, we're actually helping out because we're putting in more. Also with the landscape side of it too, we're scaling up the landscape by keeping the trees there that don't really make it out as a Christmas tree."

Hack spoke about the importance of providing a space that offers good quality and fresh trees to people in rural communities.

"There's a lot of people out east who are retired from growing fresh trees, and we're also seeing that here where we've got growers who are retiring," he said.

"It's a hard industry for a lot of people to start. We see that on the association where there's a lot of growers that start, and because it's a lot of years of investment, time, and work before you start getting a return, it's not always easy.

"We've got 2,000 seedlings coming in for 2024, but we won't see any income off of those for another, realistically, 10 years. Plus you have all the work that goes into them every summer, it's a lot of work, but it's a labour of love."

Hack said a lot of preparation goes into planting and maintaining the trees.

"We just planted some seeds this spring, those will be in the seeding bed for another year or two then they'll be transferred out in the field," said Hack.

"Once they get to be about three or four feet tall we start shearing them and shaping them every summer to get them growing nice and dense. We start filling them to get the shape that you want and then you keep on doing that.

"Those little ones that we planted in the spring, they'll probably be at least another seven or eight years before we start getting something in that seven foot range."

Hack said he enjoys maintaining the trees all year around.

"It's a beautiful spot to be in the sum-

mer out here shearing because you get the smell of Christmas in the summer," he said.

"It's really neat seeing them grow. The trees are one side of it, but I also love that it's connected to Christmas because it's something fun. Memories are being made and you get to see new traditions being started.

"It's really neat when you see families coming back and you see the kids grow, you recognize things like that."

Hack was asked what it is like for him and his family to pick out that special tree for Christmas time.

"What my family does is we go out and pick the most scraggly, Charlie Brown tree and give them a good home," he said.

"My kids love doing that because if a deer damages it or something happens and they're never going to make it as a Christmas tree, it's neat to have that tree serve a purpose."

Eventually, Cornucopia Tree Nurseries plans on creating a Christmas tree made at their site, along with activities for kids and families to enjoy while they are shopping.

"There's a lot of things that we're planning on for our future, as far as family activities and different things because as we get people who are travelling from farther, we're planning on providing things to make a day out of it for them and to have some fun," he said.

"Also, I enjoy the fun and excitement of everyone finding their perfect tree because we'll have it here. I'm sure if you look long enough we'll find a tree that will fit your spot."

Hack said people are welcomed to stop by Cornucopia Tree Nurseries any time they like to pick out a perfect tree that suits them.

Although appointments are encouraged, to help families out with the tree cutting and shipment, drop-ins are also welcomed.

More information can be found on the businesses website: www.cornucopia-trees.ca

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Soil seeker: Finding new ways for soil to be more sustainable

BY KATIE CHALMERS-BROOKS

Go ahead, make the mistake of calling soil “dirt.” The difference between the two opens the door to better small-talk for master’s student Shannon Mustard.

“People’s eyes will glaze over when I say I’m in soil science,” the 25-year-old admits. “You can definitely read someone’s body language when they’re losing interest in the conversation.”

But they perk up when she tells them how she’s finding new ways for soil—not just mud, given its nutrient-rich composition and complex microbes from growing crops—to be more sustainable. And how, with Canada being among the 120 countries committed to the United Nations’ appeal for zero net emissions by 2050, farmers are relying on researchers like her for the best options on how to do that. The pressure is on since the UN insists our planet demands a 45 per cent drop in emissions even sooner—by 2030—to mitigate warming to 1.5 C.

The University of Manitoba leads the longest-running field-scale greenhouse gas monitoring study in the world, launched nearly two decades ago and covering 16 acres across two sites. Mustard does her research under the wide-open skies several kilometres south of the university at the Glenlea Research Station. She’s investigating how adding an inhibitor to fertilizers can reduce emissions, while her colleagues ponder other angles, from sequestering carbon in the soil by covering crops, to better understanding the varying outputs of perennial growing versus annual.

With equipment involving laser technology, Mustard measures concentrations of carbon dioxide and nitrous oxide—two of the primary greenhouse gases associated with the agriculture industry and global warming. An inhibitor, designed for farmers to improve nutrient uptake by plants, also plays with chemical processes to keep these nutrients from being lost to the atmosphere in the form of harmful gas.

But it’s not an exact science, with weather conditions and topography complicat-



ing things. Specialized thermometers at four towers spread across 16 hectares of spring wheat track temperature and wind speed. She uses drone footage to monitor conditions.

“One area might be an emissions hot-spot, whereas another might be an area that could be sequestering gases and that would be interesting for a farmer to know because they might then target that area,” says Mustard.

Since this extra step of adding an inhibitor costs money, it can be a tough sell to farmers without an incentive package and concrete evidence.

“We’re testing to see if we do see significant results or, if the results aren’t significant, maybe if we added more inhibitor or less inhibitor or tried a different type of inhibitor, would that maybe produce more significant results?”

Soil remains so mysterious, says Mustard, who as a kid would escape the city to her grandfather’s 10-acre farm near Collingwood, Ont., with its sea of winter wheat and soybeans.

“There’s so much going on beneath your feet that you don’t even realize and most of it you can’t see,” she says. “It’s often said there are more microbes in one teaspoon of soil than there are people on this Earth—it’s almost incomprehensible to imagine.”

“Soil is the root of everything. It’s the root of the problem and the solution.”

— Shannon Mustard

New space

The tens of thousands of samples—from soil to grains—collected in the field every year by UM researchers and grad students exploring food and fodder production will have a new home for more high-tech analysis. An asphalt parking lot on the Fort Gary campus’ south-east corner will trans-

form into the Prairie Crops and Soils Research Facility where, for the first time, all departments from the Faculty of Agricultural Food Sciences will work alongside one another in a shared research space.

Beyond how to mitigate greenhouse gases, they’re tackling problems like: What new crop varieties should Manitoba farmers consider to better handle extreme weather brought on by climate change?

“It’s a new level of co-operation and the state-of-the-art building and its equipment will allow us to do more field experiments, work faster, more accurately, and to train more students and technicians,” says Mario Tenuta, Senior Industrial Research Chair in 4R Nutrient Management. “I’m pretty excited that we have the opportunity to do things we’ve never done before.”

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U of S ag research looks to stop 'cereal killer' in its tracks



USask College of Agriculture and Biore-sources graduate student Antonia Powell is working alongside her supervisor to develop disease-control methods for crops that are rooted in green technology.

With a growing movement to limit the use of synthetic chemicals on crops, University of Saskatchewan (USask) graduate student Antonia Powell is putting green technology to the test when protecting wheat crops from disease.

Fusarium Head Blight (FHB) is one of the most devastating fungal diseases for wheat crops, compromising harvest and the global supply of staple products such as bread and durum wheat that is commonly used in pasta.

"These crops are not only food sources for many, but they are the livelihood, income generator, and food staples in which many communities around the world depend on to survive, especially here in Saskatchewan," said Powell.

To maintain nutritional quality and the safety of grain products, Powell is working with USask professor Dr. Vladimir Vujanovic (PhD) to find effective green options that can be used to kill FHB rather than applying synthetic fungicides.

"Our research has revealed that a fungus called Sphaerodes mycoparasitica Vujan. limits the growth of fusarium by directly destroying the machinery that it uses to infect, invade, and kill growing wheat cells," said Powell, a Master of Science student in USask's College of Agriculture and Biore-sources.

This biocontrol agent can also be applied at any stage in the crop's lifecycle, rather than just at the flowering stage like many fungicides currently on the market—making it an easier option for farmers to use during the busy growth season.

"This treatment involves green technology that seeks to limit the dependence on synthetic fungicide," Powell said. "This management strategy is based on the use of biological control, which is the management or control of a pest by using a natural predator."

Besides helping to kill FHB, the biocontrol fungus has been found to serve as a potential helper for wheat crops in their seedling stage. Applying the fungus to crops in early growth stages provides an element of protection from fungus toxins, enhances seed quality and ultimately increases crop yield.

"Most FHB research studies are usually focused on

bread wheat, which is more commonly cultivated," said Powell. "Our research highlights the potential of this method to treat not only the more FHB-resistant bread wheat but also the potential to provide extra resistance to the more FHB-susceptible durum wheat, commonly used in pasta, that has low-level resistance."

At the time of writing, the study is the first of its kind to assess the potential of combining a biocontrol agent with bread and durum wheat as a treatment for FHB.

Powell's novel contributions to research have won her first place in multiple three-minute thesis competitions, in which graduate students conducting research explain

their work and its important findings in three minutes.

"There is currently no effective preventative method for this disease; however, this biocontrol agent we have identified is most effective as a preventative strategy (to date)," said Powell.

This research was funded by the Agriculture Development Fund, a Natural Sciences and Engineering Research Council of Canada Discovery grant, and the USask Food and Bioproduct Sciences Department's Devolved Scholarship.

Powell presented her project "Conquering a Cereal Killer" at the 2022 National 3MT Showcase on Nov. 2.



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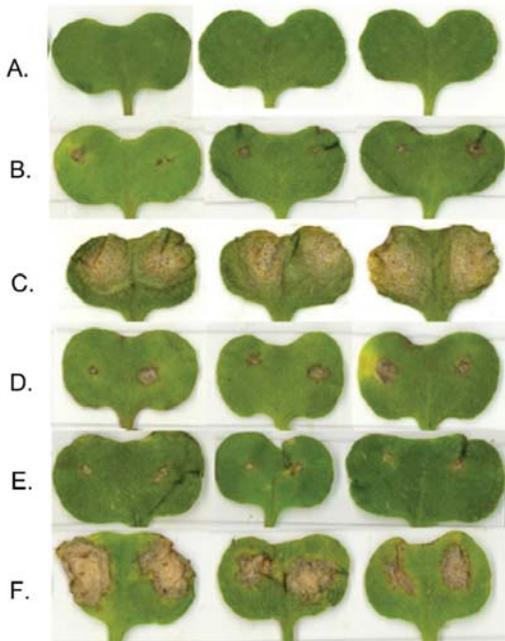


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Blackleg disease lesion development in seven-day-old canola cotyledons at 14 days post-inoculation with *L. Maculans* (pathogen) and *L. Biglobosa* (biocontrol agent) inoculations. Rasanie Padmathilake photo

‘Immunizing’ Canola against blackleg

A promising biological blackleg control mechanism may help farmers mitigate the worst effects of blackleg in canola. Dilantha Fernando is a professor in the University of Manitoba’s Department of Plant Science and co-author, with Rasanie Padmathilake, on a new paper that shows prior infection by a less virulent pathogen can successfully “immunize” canola against a highly virulent pathogen. Blackleg is caused by a complex of two species of fungus: *Leptosphaeria macu-*

lans and *Leptosphaeria biglobosa*. Until the 1990s, when resistance genes were introduced, the disease caused massive economic losses in Western Canada. Farmers now deploy a system of resistance gene rotation to manage blackleg. But over the last several years, disease incidence levels have been increasing. In the near future, new controls will be necessary, says Fernando—and biological control techniques like this show promise.

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Food inflation and higher input costs for farms and food processors: Is there a link?

BY MARTHA ROBERTS

This is the first of two articles looking at agri-food price transmission, or the effect of farmers' input prices on the prices that food processors receive for pork and dairy products.

In an environment of high and volatile commodity prices, it's fair to ask how much of an increase in the price of making bacon can be traced back to the cost of fertilizer used to grow the grains used to feed the pigs that make the bacon. In this post, we look at one important link in the supply chain—that of ag producer-to-food processor—to understand the inflationary pressures on price transmission from the farm gate to the manufacturing gate.

Inflation a global phenomenon

Food prices, and how much higher they are now, is a global story. The September Consumer Price Index (CPI) shows that food experienced a 10.3% year-over-year (YoY) increase in 2022, in no small part due to COVID-19's lingering influence on demand and supply. As the pandemic has worn on, pent-up demand has raised commodity prices sky-high in some cases, with supplies made worse by supply-side shocks such as severe weather and geopolitical turmoil.

At the farm level, input costs have ballooned since 2019. Obvious questions relate to the transmissibility of costs from the farm gate through the supply chain to the processors who turn the commodity into food. How much of those farm-level costs are passed on? Are they passed on quickly, i.e., when they're incurred, or is there a lag? What additional cost increases are applied at the manufacturing level, and how have those trended?

Price transmission refers to the effect of prices in one market on the prices of another.

This analysis relies on data from three Statistics Canada datasets.

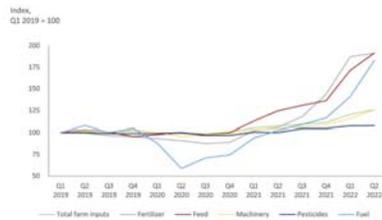
The Farm Product Price Index (FPP) measures the prices Canadian farmers receive from the sale of agricultural products.

The Raw Materials Price Index (RMPI) measures price changes for raw materials purchased for further processing by manufacturers operating in Canada.

The Industrial Product Price Index (IPPI) measures price changes for products sold by manufacturers operating in Canada.

A sharp increase in ag's costs of production since 2019

Figure 1 shows the steep cost increase at the overall farm level between 2019 and 2022. Although all major categories of farm input costs have become more expensive over the last 3.5 years, feed, fuel and fertilizer costs have exploded.



Source: CANSIM Farm Input Price Index - Table 18-10-0258

Figure 1: Feed, fuel and fertilizers top inflation index

As of June 2022, fuel costs had increased more than 80% since the first quarter of 2019, while average fertilizer and feed costs had come very close to doubling, with some fertilizer types more than doubled. While they didn't reach the same highs, machinery and pesticide costs have also risen, leading to overall farm input growth of 25%. And as of September 2022, the cost of farm labour (not shown) had increased almost 13% from January 2019 levels.

At the processing level, the prices manufacturers pay for raw materials have gone up, along with other costs. According to Industry Canada Financial Performance data, raw material purchases and sub-contracts in dairy processing (for businesses with revenues <\$20M) accounted for nearly 60% of revenues in 2020. Total wages (salaried and hourly) have increased by 10.6%, on average, annually between 2019 and 2022.

In this post, we look at the extent to which the inflationary pressures of farm inputs (grain prices) are transmitted through the manufacturing used to turn unprocessed milk into dairy products and lean hogs into pork products.

Price transmission in a supply-managed supply chain

In 2022, processors are paying dairy producers more for unprocessed milk components than in early 2019, and much of that is captured in the transmission of the sharp increase in feed prices. Growth in the Farm Product Price Index (FPP) prices paid for grain is highly correlated (94%) with movement in the FPP Unprocessed Milk Index, so it's not surprising that another hike in milk prices has been set

for February 2023, with expenses continuing to creep up. Figure 2 shows the low volatility of grain prices throughout 2019 and most of 2020, then the tremendous price movement in 2021, which continued in the first half of 2022.



Source: Statistics Canada Table 32-10-0098-01 Farm product price index (FPP), monthly

Figure 2: Inflation in dairy feed costs shows up in unprocessed milk prices

However, the higher grain prices shouldn't generate the same inflationary measures for raw milk at the farm or processing levels. Their impact depends on their proportion of total costs: in dairy, feed costs represent roughly one-quarter of total costs (unindexed). Because inputs other than grains are used in raw milk production at the farm level (as illustrated in Figure 1), each of which is subject to its inflationary pressures, the steepest grain price inflation was only mimicked with an inflationary trend in milk prices.

Nonetheless, the last 12 months have been difficult because, in addition to rising grain prices, other costs of production have also risen. According to the Canadian Dairy Commission and indexed to June 2022, dairy's feed rationing has climbed 22% since 2021, fuel and oil by 66%, and fertilizer and herbicides by 35%. Machinery and equipment repairs and other miscellaneous costs have also increased.



Source: Statistics Canada Table 18-10-0268-01 Raw materials price index, monthly; Statistics Canada Table 11-10-0266-01 Industrial product price index, by product, monthly

Figure 3: Higher raw milk price correlates with higher industrial dairy product prices

Dairy product manufacturers have faced significant inflation pressures too. Record job vacancies in food manufacturing pushed weekly employee earnings (excluding OT) up 14.2% YoY in August. Energy, buildings and other materials saw significant growth. As a result, the Industrial Product Price Index (IPPI) increased 13% since January 2019 (Figure 3). Increases in the price of the milk they purchase are strongly correlated (94%) with the movement in the prices they receive for processed dairy products.

Price transmission in the hog sector's supply chain

At the farm level, higher grain prices are the same for supply-managed and non-managed sectors. But because the hog sector experiences more volatility in the prices received for live swine, movement in those prices is only moderately correlated (57%) with movement in feed costs (Figure 4).



Source: Statistics Canada Table 32-10-0094-01 Farm product price index (FPP), monthly

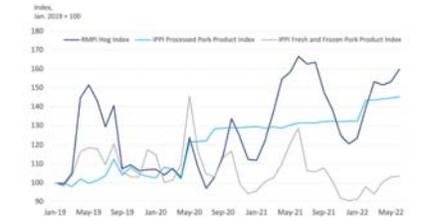
Figure 4: Hog prices show more volatility than grain prices

Between January 2019 and October 2021, even the biggest downward swings in hog prices still managed to mostly stay above the small but rising inflationary pressures in grain prices. And as grain prices rose, the hog price moved largely in tandem, albeit with more volatility, until October, when grain prices continued to rise, and hog prices fell. Since then, the upward trend in feed costs has

outpaced the movement in hog prices.

Feed costs account for the largest proportion of the hog sector's costs of production. FCC Economics' modelling suggests that as feed costs have risen, they've taken up an ever-increasing share of the overall cost of hog production. In 2019, they were 60.8% of total costs; in 2022, they've grown to account for 65.5% of total costs, while total costs have also risen.

The general trend in the movement of the prices paid to hog producers is reflected in the movement of prices received for both processed pork (e.g., ham and bacon) and fresh and frozen pork (Figure 5).



Source: Statistics Canada Table 18-10-0268-01 Raw materials price index, monthly; Statistics Canada Table 11-10-0266-01 Industrial product price index, by product, monthly

Figure 5: Inflation trends in the hog/pork supply chain often diverge

The RMPI Hog Index correlates moderately (54%) with the IPPI Processed Pork Product Index and weakly (22%) with the IPPI Fresh and Frozen Pork Product Index. Throughout most of 2019 and between March and November 2021, the inflation in live hog prices easily exceeded the inflation in processed, fresh, and frozen pork. However, there have been several times (e.g., between May 2020 and March 2021) when the IPPI for processed pork inflation exceeded the inflation in the RMPI.

Bottom line

Inflation in labour and input costs, primarily feed, fuel and fertilizer, have shown up in prices paid further along the supply chains. But they do so inconsistently, especially when compared between supply-managed and non-managed sectors. In an era defined by high inflation, it's a reminder that price transmission is complex and subject to multiple influences.



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Hebert selected as EY Entrepreneur of the Year

BY SIERRA D'SOUZA BUTTS
LOCAL JOURNALISM INITIATIVE REPORTER

On Nov. 4, the president of Hebert Group, Kristjan Hebert, was recognized as a Prairies region EY Entrepreneur of the Year at an awards ceremony in Calgary.

Hebert was one of the seven Prairies region entrepreneurs across Canada to win the EY Entrepreneur of the Year award.

"The event was good, I took my wife, my mom and dad, and Jeff Warkentin and Evan Shout, that's my CEO and CFO, with me," said Hebert.

"There were seven Prairie winners, it was good to meet the other companies. It's always neat to talk to them and find out what they're doing different."

Hebert said it was exciting to be one of the winners.

"It's always pretty exciting if your business gets nominated, yet alone happens to win," said Hebert.

"For me, I think it's because of the great team that we have around us that does pretty much everything. Some days I wonder what I do anymore. It's always good for them to see, the team, that they're going in the right direction."

"It's always humbling to see the people that you're beside. One of the other Prairie winners was the guy who owns all the Peavey Mart stores, 96 stores across Canada. To even be on the same stage as him is pretty humbling."

The Hebert Group is a family of agriculture-based businesses based in Moosomin, Saskatchewan.

Since 1978, the farm has grown from 320 acres to over 30,000 acres. Hebert Grain Ventures also utilizes the latest in climate positive practices and cutting-edge technology.

"In my mind it's still a family business, my dad's there everyday, my mom's kind of recently retired," he said.

"I just explain it as I want to give my kids the opportunity to go to Harvard, but it's my job to build something cool enough or progressive enough that when they are done university and get a job offer from Goldman Sachs and Facebook, that the Hebert Group offer is on the kitchen table with it."

"If they choose it that's great, and if they don't, that's fine too, but, if I don't build something progressive enough to at least be an option then I didn't do a very good job."

"That's sort of how I explain the growth and the goals for our business. Secondly, our team is growth oriented. They like the change and challenge, to me that's part of the reason that we've had success not only as a farm, but on the human resources front is because we've just surrounded ourselves with a group of people who are ambitious. I think the more ambitious people you get in a room, the more things you can accomplish."

Secret behind building a large business

Hebert spoke about how his business has increased its size over the last couple of decades.

"You only grow your business by people. We've been able to recruit and retain really good people on the team," he said.

"We've been able to maintain and build pretty good relationships with landowners and also the companies we consult with on the other side."

"When I went to business school I read a lot of books and kind of rolled my eyes that if you focus on people and execution, to do what you say you're going to do, that growth and money will follow that. I have to admit that I was wrong when I first read those books because it is."

"The business side is super important, but the people side, the relationship and networking side is what drives most progressive businesses in my mind."

Hebert was asked what are some of the challenges for running a successful business.

"I would say some of the challenges, even though agriculture is the oldest industry in the world, it's been pretty slow to adapt in certain areas when it comes to risk and financial management," said Hebert.

"Banks and insurance companies still treat farms like they're all pretty small and are not really educated. We spend a lot of time with our banks and insurance companies to really move them forward on some of the new innovative ideas that are available to other businesses that currently don't always become available to farms."

"The other part is, I'll use it because everyone says it, you're always on the hunt for good people. I wouldn't say it's been really hard for us because we've been super lucky that our team helps us recruit, but we're always looking for innovative ways around to find improved people to add to our team and continue to grow our team."

"I like to promote internally, not really bring outsiders in at a high level, we're always trying to find new ways for our team members to grow and we can add another layer in underneath them."

Winning as a Prairies region EY Entrepreneur of the Year, Hebert said this award will help shine a light on Hebert Group.

"These types of things for the Hebert Group are really good when it comes to human resources and recruiting talent," he said.

"We've had to bring some



Kristjan and Theresa Hebert at the awards ceremony in Calgary on Nov. 3, 2022.

young guys and girls over from New Zealand and Australia, when they're looking on the internet to go look for a farm or an agriculture-consultant company. Everyone uses Google nowadays, it's something that differentiates us compared to some other agriculture operations.

"That award really helps there. Our consulting company is based in Saskatoon, talent's hard to get there and it's no different than it is in Moosomin."

"I think that's the biggest thing when it comes to stuff like this, it just allows you to differentiate and utilize social media and the internet to help attract talent."

"Also, it brings opportunities to you. It's no different for a company like Ernst & Young (EY) who hosted this and probably had never heard of us because they're not real big in the agriculture space. Now all of a sudden when we're out there, we met most of the partners that are in M&A for instance, they started quizzing us on opportunities in agriculture and where they may be able to help us out."

He said he is glad to be a business owner and is proud of Hebert Group for growing to be as big as it is, today.

"I'm pretty lucky to get up every morning and feel like I don't have to go to work because I enjoy what I do every day," said Hebert.

"I don't think everyone in the world gets to say that. At our last Christmas party I think we had 26 or 30 kids under the age of 14 from all the people in our crew. I do lots of hockey in the winter, I enjoy going to the rink all the time whether it's for my kids or someone that works for me whose kids are playing hockey. I enjoy having fun in the local community and building the local areas."

"Sometimes I think large farms and large businesses get thrown out as far as hurting the community and I would argue the other way."

"As I said, we have 26 to 30 kids in local schools. Our team members get to help pick where we put our donations to team sports, to education, and health care. I think our goal is to keep rural economies alive and that's probably the part that's exciting for me."

Hebert was asked how he was selected for the

award.

"I was nominated by someone in the business world and then I went through an interview process," he said.

"I think it was between 50 to 90 nominations and they chose seven Prairie winners. This group will go forward for the Canada award after."

The Prairie winners will move forward to compete against peers from the Pacific, Ontario, Québec and Atlantic regions at the national awards celebration in November 2022, where 10 national winners will be named.

The future of Hebert Group

Hebert sees a bright future for the Hebert Group.

"We'll probably keep growing one way or another. I don't always say that acres is growth, there's lots of different ways to grow," said Hebert.

"We've got a consulting company in Saskatoon, we're looking at a couple value-add opportunities, but really it's just a matter of maximizing the opportunities that our people allow us to take."

"We're constantly looking for ways to grow our internal team and to add collaborations and joint ventures on the outside that might add value internally for us."

"I think everyone is important. I think team sports and rural roots are two things that I want to see on every resume that comes to our group, and I think it can benefit a lot of companies."

"That's one of the highlights of being where we are, we're lucky to be in Moosomin and in the area. It's a little town with little town morals, but acts like a big city because of the area that it deals with. We're pretty lucky to be based there."

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Students and elders discussing ideas.



A picture of bison on the prairie

Students from Carry the Kettle Nakoda Nation using science to help bison

BY GREG BASKY

Bison have long held a prominent place in the culture of the Carry the Kettle Nakoda Nation, located about 100 kms east of Regina. The once-abundant animals were a vital source of food and furs for the ancestors of today's Carry the Kettle people.

Now, high school students from Nakoda Oyade Education Centre at Carry the Kettle are using synchrotron imaging to study the health of a local bison herd, with an eye to protecting and growing their numbers.

Armin Eashappie, a student involved in the Bison Project, says the work she and her classmates are doing is a chance to give back to an animal that was once integral to the very existence of her community. "We don't want them to go extinct, says Eashappie. "They helped us with everything. We got our tools, our clothes, our food from them. We used every single part of the buffalo, nothing was left behind...they even helped us make our homes—the teepees—we used the hides to cover them up."

Eashappie's classmate, Leslie Kaysaywaysemat, says that if their team can identify items the bison are eating that are not good for their health, these could potentially be replaced by other, healthier items. "We want to preserve them and make sure all generations can see how magnificent these creatures are," he says.

The students, who are participating in the CLS's Bison

Project, gathered samples of bison hair, soil from where the animals graze, and plants they feed on, then analyzed them using the IDEAS beamline at the CLS. The Bison Project, coordinated by the Education group of the CLS, integrates Traditional Knowledge and mainstream science in a transformative research experience for First Nation, Métis, and Inuit students.

Timothy Eashappie, Elder for the Bison Project, says it's "awesome" that the students can use the Canadian Light Source machine to learn more about an animal

that his people have long taken care of on the prairies. "That's how we define ourselves—as Buffalo People," says Eashappie. "Since the beginning of time, they gave themselves to us, and now these young people are finding out how important these buffalo are to them, because it preserves their language, their culture, and their way of life. And now it's our turn to take care of the bison."

Once they've completed their analysis, the students will share their findings with the Chief and Council for Carry the Kettle.





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