



Photo by Curtis Babyak

Three-year-old Kosta Babyak and his horses Zeus and Scotch watching another storm roll by north of Esterhazy on July 19.

Farmers say conditions are ideal

BY ROB PAUL
LOCAL JOURNALISM INITIATIVE REPORTER
 As summer reaches its midway point, farmers across Canada are pushing through the final months before harvest.
 Weather is something everybody in Canada lives with and thinks about, but for the most part, they don't feel the consequences of it in a tangible way, farmers on the other hand feel the impacts—both positive and negative—almost everyday.

After a dry spring, the summer has seen rain, something both crop and cattle farmers were hoping for in the hotter months.
Crop farmers
 Mark McCorrison is a Moosomin area crop farmer, and he says, the weather this summer has led to what looks like will be a strong harvest.
 "I feel they're (the crops) excellent," said McCorrison.

"We were kind of off to a bit of a slow start. We did get some very timely rain, but if they would have come 10 days or a week earlier, it definitely would have helped. Now that we've been getting timely rain, things have been very good. We're getting enough rain to sustain the crop for good growing conditions, but not too much rain to drowned out the low area. It's been as close to perfect as you can get from Mother Nature."
Continued on page B13

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Right: A flowering canola field near the Nutrien Scissors Creek site.

Crops advancing quickly in Southeast Sask

Crops are advancing quickly in southeast Saskatchewan with some producers indicating that harvest of some pulse and cereal fields will soon be approaching. Hot temperatures in the forecast will help dry down crops in the field. Crops in the region remain in fair to excellent condition with the majority at their normal stages of development for this time of year.

Scattered rainfall occurred across much of the region with the Weyburn area receiving 34 mm. The Carnduff area received seven mm of rainfall, the Kisbey area 12 mm, the Maryfield and Briercrest areas 30 mm, the Whitewood area 14 mm, the Glenavon area seven mm, the Grenfell area 11 mm, the Odessa area 10 mm, the Regina area 16 mm, the Moose Jaw area 24 mm, and the Radville area four mm. The Kisbey area has received the most precipitation in the region since April 1 (206 mm).

Topsoil moisture conditions remain steady from last week. Cropland topsoil moisture is rated as 84 per cent adequate, 14 per cent short and two per cent very short. Hay and pasture land topsoil moisture is rated as 70 per cent adequate, 26 per cent short and four per cent very short. Crop District 1B is reporting that 27 per cent of the cropland and 46 per cent of the hay and pasture land is short topsoil moisture at this time.

Haying operations continue in between rainfall. There have been many reports of hay crops not drying down due to moisture and high humidity. Livestock producers currently have 23 per cent of the hay crop cut and 25 per cent baled or put into silage. Hay quality is rated as four per cent excellent, 60 per cent good, 28 per cent fair and eight per cent poor. Overall, hay yields are less than average and many producers do not expect a second cut at this time.

Most crop damage this past week was due to strong winds, lack of moisture and diseases such as ascochyta and other leaf spots. Grasshoppers continue to be of concern and some producers are applying insecticides. Fungicide applications also continue as weather and field conditions permit.

Farmers are busy haying, scouting for disease and insects, applying pesticides and getting equipment ready for harvest.



Victor van der Merwe photo



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Young farmer-programmer pushes tech learning for rural-based kids

BY EVAN RADFORD
LOCAL JOURNALISM INITIATIVE REPORTER
REGINA LEADER-POST

As a kid who can't decide on his favourite computer language—Java, Python or Arduino—Luke Silinski doesn't fit the stereotype of a rural-based farm kid.

Then again, Silinski thinks farm kids don't really get a fair shake, as far as stereotypes go; long gone are the days of cover-alls and pitch-forks, and now is the time for frequent tech usage out in the fields, he says.

That's why the Alberta-based high school student is using his new company and software to give farm kids a fair shake for learning what he thinks is an essential skill—using computer code to write programs.

Dubbed Ag Tech STEAM, the program is getting financial support from several backers so Silinski and his mom, Sharyn, can ensure kids like Luke will download its content packs for free.

Among the backers is Farm Credit Canada (FCC), whose head office is in Regina, along with Olds College and Lethbridge College, among others.

"The main goal is to increase the amount of people who have experience in agriculture and experience in the field of computer science and technology, because there's really not a lot of overlap in those two fields," Silinski, 14, said.

Highlighting his multidisciplinary approach is the acronym in the program's name: STEAM stands for sci-



Alberta 14-year-old Luke Silinski created Ag Tech STEAM, for kids in rural and remote areas to learn about agriculture and technology through online programs. Photo submitted by Shannon Silinski.

ence, technology, engineering, art and math. He figures all five areas are applicable to agriculture, plus they expose learners to a wide range of ideas.

Silinski says accessibility is impor-

tant, too: He lives near the village of Carbon, about 110 kilometres northeast of Calgary.

"Power outages are kind of an issue. The Internet out here (isn't always) the

best, which is why there's offline stuff with Ag Tech STEAM: Not everyone has Internet that can go as fast as a jet plane," he said.

There's also the issue of proximity to a major urban centre where kids can attend tech-based day camps, he says. That was his experience a couple of summers ago.

For a whole week, he and his mom got up everyday at 5 a.m., drove through Calgary to the day camp and returned home each evening.

"After that, I was tired, I was beat. I'm like, 'what could be the solution to this?' It's not money-friendly ... your parents also have work to do over the summer, and then there's the fact of parking (a big farm truck in a congested city)," he said.

He found the fix—his newly minted program and company—in early 2019 at the University of Saskatchewan while attending a two-day innovation hackathon, a collaboration event intended to find tech solutions for the agriculture sector.

The program is now in its early stages, with its website just up and running. Silinski expects to have the first content pack, which focuses on entomology, ready for download later this summer. He's also planning to finish 49 more content packs, thinking there'll be plenty of practical applications.

"Maybe (kids) can help their parents or grandparents calculate the economics of their fields, after a storm or a disease come through," he said.

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Four ways to set yourself up for business success

Staying focused on the growth of your agricultural operation—whether you're a primary producer or in the agribusiness and agri-food sector—can help set up your business for success.

And to develop clear goals, you need to define success. Since goals can sometimes conflict—spending more time with family is challenging when growing a business—consider how decisions made today will guide your business and personal life in the future.

1. NETWORK

Getting out of the office, no matter what that office looks like, can help primary producers and agribusiness and agri-food operators stay connected to their industry. Specifically, networking can help you get to know the supply chain better, understand customer needs and gain insight into emerging business trends and opportunities.

Although producer and industry meetings and events may be on hold or moving to virtual due to COVID-19, participate whenever possible. Also, subscriptions to trade media, membership to the local chambers of commerce and business-related organizations, and social media participation can all help build valuable virtual and face-to-face connections and business networks.

2. STAY TECH-SAVVY

Whether it's a new social media platform, an app for a smartphone, a new implement or an inventive processing system, don't be too quick to dismiss the



possibilities. Nearly all new technologies have at least the potential to be adapted to make agriculture, agribusiness and agri-food more efficient.

3. BE FINANCIALLY ADEPT

Know the cost of production and cash flow situation on the farm and in the business. Also, be open to trying alternative financial arrangements such as creating joint ventures with others in the supply chain. Experts recommend to always think and rethink plans around buying or leasing

manufacturing space, economic forecasts and their place in farm transition. These all have a bearing on the best path to finance growth.

4. STAY CURIOUS

With goals firmly in place and focus

Ask lots of questions, even of yourself, and challenge traditional methods of doing business.

directed on moving ahead, remaining curious and open to innovation is what will propel agriculture, agribusiness and agri-food forward. Ask lots of questions, even of yourself, and challenge traditional methods of doing business.

BOTTOM LINE

Running a successful agribusiness means staying focused on goals. Consider how decisions made today will help achieve long-term goals.

At the same time, use networks to maintain relationships within the supply chain and with customers and insight into emerging trends.

Experts add that remaining tech-savvy and always searching for innovations, and maintaining familiarity with the operation's financial situation are also crucial on the road to success.

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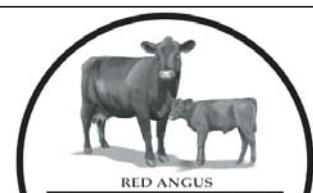
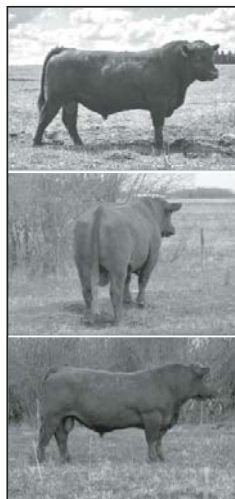
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APPROVED

New USask app promotes potential economic value of planting carbon-storing shelterbelts

A unique new app developed by University of Saskatchewan (USask) researchers offers agricultural landowners tailored information about the carbon offset value of planting shelterbelts—a tool that could help reduce the carbon footprint of farming and potentially put a little extra money in farmers' pockets.



Photo: University of Saskatchewan

Master's student Brooke Howatt collects tree cores from a shelterbelt tree to determine its age.



Photo: University of Saskatchewan

From left: Scott Wood, Beckett Stark, and Brooke Howatt preparing to survey and measure caragana shrubs in western Saskatchewan.

By KIRA GLASSCOCK AND USASK RESEARCH PROFILE AND IMPACT

"People tend to focus on the negative environmental aspects of farming such as the greenhouse gases emitted from vehicles, fertilizers and grain transportation, when in fact much of this impact can be offset through planting trees. In fact, with shelterbelts on their land, many farmers probably store more carbon dioxide (CO₂) than they use," said Colin Laroque, an environmental scientist in the USask College of Agriculture and Bioresources.

He noted that since the Dirty '30s, shelterbelts have been used to protect crops from wind, prevent soil erosion, and help retain moisture which increases crop yield. But now, field shelterbelts are being removed to make room for larger agricultural equipment and more crop production. What some farmers may not realize is that the trees, roots, and soil of shelterbelts sequester enormous amounts of CO₂ from the atmosphere, Laroque said.

His team estimates that a

total of more than 21.3-million tonnes of "carbon dioxide equivalent" (CO₂e) is stored in Saskatchewan's 60,000 kilometres of shelterbelts. That represents about \$639 million in total economic value under the federal \$30/tonne CO₂e pricing system.

"Landowners are eliminating shelterbelts on their land without basic knowledge of the implications of eliminating them," said Laroque, an expert in climate analysis. "We saw the need to better inform landowners, particularly as carbon and carbon taxes have become more important topics in Canada."

The free online app was developed by a large multi-disciplinary team of climate scientists, economists, soil scientists, and computer scientists led by Laroque, who was granted \$1.4 million by Agriculture and Agri-Food Canada in 2018 as part of an effort to reduce greenhouse gases in agriculture.

In its latest climate change action plan, the Saskatchewan government is proposing to pay farmers for storing carbon, not just

charging agricultural producers for emitting carbon into the atmosphere.

The new app helps landowners calculate how much carbon will accumulate in trees planted in shelterbelts under changing climatic conditions and determine how much their shelterbelts are worth in carbon offset value under the carbon tax system. It also includes a planning tool that shows the best type of trees to grow in various areas of the province and provides users with planting guidelines to ensure their new trees thrive.

"With our new shelterbelt decision support system app, landowners can see the economic and environmental benefits of shelterbelts under a carbon pricing system. It may persuade many to keep their shelterbelts, rather than remove them," Laroque said.

The researchers calculate that a quarter-section-long (0.4 of a kilometre) shelterbelt of caragana, or shrub planted today would be worth roughly \$1,900 by 2050 under a \$30 per tonne CO₂e tax. A three-row farmyard shelterbelt sur-

rounding a homestead with caragana, white spruce, and green ash would be worth about \$5,300 in carbon offset value by 2050. And a five-row farmyard shelterbelt surrounding a homestead with caragana, white spruce, green ash, Manitoba maple, and hybrid poplar would be worth about \$11,700.

"Each of these shelterbelt examples are common in Saskatchewan and may be worth even more under the \$50 per tonne CO₂e tax expected in 2022 in Saskatchewan," said Bryan Mood, Laroque's post-doctoral fellow, who began working on the shelterbelt project a decade ago when he was

an undergraduate.

"Farmers feel they are doing their part for the environment by building shelterbelts, and they benefit from the fact this offsets the carbon they are using. It would be fantastic if this type of app could be available in every province."

Based on years of scientific knowledge gathered by researchers, the app conveys the information in a way that is easy to navigate and understand from the user's point of view.

"We have worked on measuring how common shelterbelt tree species have been growing across southern Saskatchewan since they were planted,"

said Laroque. "Using that information, we looked at how these species may grow in the future using climate projections across different regions of the province, and more importantly, how the trees in each zone will store carbon through time."

To access the app, visit: www.shelterbelt-sk.ca. For more information, email: shelterbelt@usask.ca.

Dawn Nagy, CAIB

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How to manage vacation time on the farm

BY TRUDY KELLY FORSYTHE

Getting away from the farm for a break, much less an extended vacation, can be a challenge. Add in family dynamics, and it gets even trickier.

Jennifer Wright, Senior Human Resource Advisor and Stakeholder Engagement Specialist at the Canadian Agricultural Human Resource Council, says family members think they should be able to take a vacation when it's convenient for them, regardless of the season.

"There can be a feeling of inequity between family members about how much time is taken, when it's taken or who has priority to prime vacation weeks," Wright says.

To help avoid the tension that can arise around what should be a fun and relaxing time, Wright offers the following advice:

Develop formal processes

Develop formal processes, such as an organizational chart and job descriptions, so roles, responsibilities, and who reports to who is clearly defined and communicated. You should also have human resources management policies in place, even when working with family.

"Having policies and procedures provides a framework that supports equitable decision making," Wright says. "With vacation time, there will be fewer issues between employees if designated vacation days, blackout dates (like harvest) and instructions for booking time are outlined."

Create clear communication

Set expectations around time off over the summer months before hiring workers. It will help you successfully manage the issue once vacation time arrives.

If possible, implement a vacation calendar in advance. It makes it clear when people are coming and going and allows for proper coverage to maintain operational re-



quirements.

"Employers are legally required to provide vacation time to employees," says Wright. She adds that time away from work is essential for positive mental health.

Access helpful tools

CAHRC has developed the AgriHR Toolkit, which provides information on management practices, including HR policies around vacation time and leave, for any size

of a farm operation.

Bottom line

It can be challenging to schedule vacation time on the farm. Implementing formal processes, such as organizational charts and communicating using tools like a vacation calendar, puts everyone on the same page, so vacation planning doesn't become a time of stress.

Sask launches \$1 million AgTech Growth Fund

Applications are now being accepted for a new \$1 million fund created by the Government of Saskatchewan to encourage development of agricultural technology.

The AgTech Growth Fund is the first program dedicated to accelerating development of game-changing agricultural technologies in Saskatchewan and one of several additional supports for the tech sector announced in Budget 2020-21.

Administered by Innovation Saskatchewan, the fund will drive private investment in transformative farming and help attract international agtech companies to Saskatchewan.

"Saskatchewan farmers feed the world and the AgTech Growth Fund will create new innovations and jobs in our province," Minister Responsible for Innovation Saskatchewan Tina Beaudry-Mellor said. "Growing our ag economy is a key part of Saskatchewan's Growth Plan and by providing solutions in agtech, we add value to our rural communities, increase our sustainability and strengthen this province's global leadership in food production and

farming excellence."

Agtech is the application of emerging digital technologies in solving challenges in the agricultural sector. The agri-foods industry has the potential to become Canada's largest economic sector. With the proper investments in agtech, the Royal Bank of Canada forecasts \$11 billion in new goods and services could be added to the national economy by 2030.

"Continued investment in agriculture technology will be a significant driver of growth in the industry," Agriculture Minister David Marit said. "Saskatchewan is already an agriculture research hub and investing in farm equipment technology will complement our investments in crop breeding and production to bring us closer to achieving our Growth Plan goals."

Saskatchewan's tech sector contributes \$4.7 billion per year to the provincial economy. The AgTech Growth Fund replaces and increases funding previously available for farm-centric technology through the Saskatchewan Advantage Innovation Fund.

Details about the Agtech Growth Fund and application forms are available on the Innovation Saskatchewan website at <http://innovationsask.ca/research/agf>.



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\$1 million for water management

By VICTOR VAN DER MERWE

LOCAL JOURNALISM INITIATIVE REPORTER
Saskatchewan Minister Responsible for Water Security Agency (WSA) Greg Ottenbreit announced last week that the WSA will invest \$1 million to partner with 10 stakeholder organizations on 11 agricultural water management demonstration projects. The idea being that agricultural and environmental communities test innovative solutions and inform best practices to help farmers and ranchers manage water on their land and also mitigate water quality and quantity impacts downstream.

We don't know enough yet

This came on the heels of an extensive consultation period last fall and winter.

"The WSA started consulting with agricultural groups, environmental groups, individual farmers and individuals from all backgrounds over last fall and winter. We discovered that a lot of producers had projects either being built, or in place or ideas for projects that would answer some of the questions we had about drainage, runoff, habitat issues, water quality from drainage water and potential ways to mitigate some of the issues," said Lyle Stewart, the legislative secretary for WSA.

"Part way through that long period of consultation we came to the conclusion that we don't know enough yet. We are dealing with old science. Farming methods have changed since most of that research was done. We are working with old assumptions. We think we are doing better these days, but we don't know, because we don't have any up-to-date science," Stewart continues.

That is when the WSA slowed down at setting new drainage regulations and tried to learn some more about the issue.

"We have taken the end date off consultations for now and we are going to proceed with helping producers and a number of organizations that are interested in working with them and helping them do these projects well and correctly and helping us to monitor the results," says Stewart.

Proactive approach

This proactive approach that is being taken by the WSA is a bit different from how business was taken care of in the past. It seems that the WSA used to only go out to the country to help settle disputes between neighbours.

"Before, there wasn't much activity by the WSA out in the country until somebody complained and then they would go out and try to be the referee, mostly which didn't work. The rules (that they were trying to enforce) weren't hard and fast and they didn't have enough tools to work with and being a referee is a tough job sometimes," says Stewart.

The WSA is hoping that this new proactive approach will help farmers and ranchers improve the productivity of their land while not disturbing the wildlife.

"(We want to) improve farm-ability of the land. Where there are a lot of potholes close together that aren't really wildlife habitat, they are temporary and just in the way of seeding, it's unproductive land and just an expense. So we hope to help get more of that farmed and still save some good habitat" says Stewart.

The other issue that will hopefully be addressed in the quality of runoff water.

"With runoff water, we want to work on the quality of it. So its not overloaded with nutrients which causes algae blooms and things of that nature."

The idea is to help get more farm land without impeding on wildlife habitat by studying draining off sloughs and potholes that are not utilized or under utilized right now.

"Generally, it either doesn't get seeded, or it gets seeded late, or if a big rain comes along some gets flooded out. It is pretty unproductive farmland and it could be very productive. These are smaller sloughs we are talking about. They are not good habitat anyway," says Stewart.

This along with monitoring water quality is something the WSA is hoping to improve.

Water quality

With the changes in farming methods over the years, it has had some impact on the water used in farming. The WSA is also committed to helping monitor water quality.

"Farming methods have changed a lot. A lot of fertilizer used to be broadcast, before we had the equipment we have now, the technology. (Now) we can even do variable rate applications of fertilizer. A computer can tell us how much fertilizer to put down in a certain place, so you get enough to grow a crop but not too much. We have all these technologies at our disposal that weren't around when the last research was done on runoff water quality," says Stewart.

"We are looking to find real science on what doesn't hurt the environment or wild life habitat and what benefits agriculture," Stewart continues.

Who is helping and how?

Once the need for these projects became clear, it came time to find organizations that would most likely be able to help.

"Some volunteered, some we thought would have expertise in certain areas and we asked them if they would take part, and they were happy to do it," says Stewart.

This wasn't the plan at the outset of the consultation process, but it became clear that outside help would be useful.

The organizations that will receive funding from the \$1 million are:

- Saskatchewan Association of Watersheds (SAW), will co-ordinate and provide Qualified Persons (QP) services for demonstration projects. Qualified Persons are consultants who help farmers prepare applications for Agricultural Water Management project approvals.
- Saskatchewan Heavy Construction Association (SHCA), will evaluate the impact of drainage on Rural Municipality (RM) infrastructure. This will involve examining the projected flows to determine the implications for downstream and upstream RM infrastructure.
- Saskatchewan Irrigation Projects Association (SIPA), will co-ordinate engineering services for projects with an irrigation component. Engineering services may include detailed evaluations, and designs and cost projections.
- Saskatchewan Wildlife Federation (SWF), will select demonstration projects that will determine the impact on wildlife such as birds, mammals, reptiles, amphibians, aquatic insects and wetland plant species. SWF will examine changes in the quality or quantity of wetlands and upland habitat and species response to the changing



MLA LYLE STEWART,
THE LEGISLATIVE SECRETARY FOR WSA

material remaining after harvesting such as stalks, roots), fertility management, and cover crops that will reduce downstream flows and nutrient loading. Discovery Farm will conduct a public demonstration event at Ag in Motion and work to obtain approvals in the next few years.

"We are trying to look at how do we design our water management and our drainage projects on the agricultural lands in the province," says Blake Weiseth of Glacier FarmMedia.

Glacier FarmMedia will use Discovery Farm to help the WSA in two ways.

"We are working with the WSA to design a water management drainage plan. It will take place on about 40 acres (on Discovery Farm). Construction will start this fall. Following that, we are going to have a two year research study that will look at how different agricultural practices essentially influence and protect water quality on a land that had drainage done it," says Weiseth.

The goal is to help farmers and ranchers, but to do so in a responsible way.

"We also just want to make sure that we're being good stewards of the land as well and protecting those ecological resources," Weiseth continues.

Drainage has been a long standing issue in Saskatchewan.

"In 2015 the WSA announced a new approach on addressing water management in the province and they dubbed that the Agricultural Water Management Strategy. As a part of that program they really wanted to get some localized understanding and data. By conducting research and demonstration projects in different geographic regions across the province, you can get localized information," Weiseth explains.

Qualified Persons role helps

Wawota and Redvers will be hosting projects in South East.

Tyler Fewings who is the watershed coordinator at Lower Souris Watershed Committee, says that the proactive approach from WSA over the last five years have helped mitigate problems that have gone unnoticed in the past.

"In the last five years, they (WSA) recognized that there were challenges across the province with agricultural drainage both for down stream owners as well as land owners with drainage works. Permitting was unclear and inefficient and in the last five years they have been working hard to address that and make the process work better for everyone and have better outcomes at the end," says Fewings.

One of the WSA's methods of helping clarify matters was by implementing the roles of Qualified Persons as mediators between the WSA and land owners.

"As QPs we found that we can work through projects with landowners," says Fewings.

conditions as a result of agricultural water management.

- Prairie Agricultural Machinery Institute (PAMI), will research the agronomic and economic benefits and impacts of agricultural water management by examining crop yields, soil salinity and field operation efficiency.
- Saskatchewan Stock Growers Association (SSGA), will study the effectiveness of cocktail cover crops to reduce downstream flows and nutrient loading from wetland drainage. Cover crops are commonly used to suppress weeds, manage soil erosion, help build and improve soil fertility and quality, control diseases and pests, and promote biodiversity.
- Saskatchewan Soil Conservation Association (SSCA), will examine fertilizer management, identifying separate areas of each field that will receive different rates of nutrients. It is expected this will reduce downstream flows and nutrient loading from wetlands drainage and improve crop yields.
- Saskatchewan Research Council (SRC), will evaluate water quality, flooding, and determine peaks and total volumes across a range of weather event sizes.
- Saskatchewan Conservation and Development Association (SCDA), will look at potential downstream flooding, water quality and habitat loss impacts from various levels of water storage in wetlands or irrigation.
- Discovery Farm (Glacier Farm Media), will implement a multi-year research and demonstration project at the Ag in Motion Discovery Farm site to investigate the effectiveness of crop residue (plant

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Protect yourself when scammers come calling



Experts say Canadians, including farmers, need to have a healthy dose of skepticism when it comes to responding to requests for personal information in phone calls, emails and text messages.

Follow up on suspicious requests

Check with the person you deal with most frequently at the institution, says Jennifer Hogan, a senior security analyst within the IT division of FCC. If the request is fraudulent, that alerts the organization to the activity, she says.

Many companies use multiple defensive measures to protect from email scams, including spam filters, antivirus and anti-malware scanners.

"This way, if one control fails, there are others to help detect and delay the attack," Hogan says.

She says even with these measures, phishing emails can still get through—which is why individuals have a critical

role to play in protecting information.

Watch for the warning signs

Hogan says there are several signs Canadian farmers can keep an eye and ear out for if they receive a call demanding funds.

"Is the caller talking quickly? Are they trying to get the person on the other end confused? Are they asking for personal information? Financial information?" she says.

The same goes for emails. Hogan says there are questions people should ask:

- Does the email make sense?
- Is the request within the character of the sender?
- Is this how you normally communicate with this sender?
- Do you feel uncomfortable or pressured by the email?
- Is this an unexpected email with a link

It's always better to be cautious with requests for personal or confidential information.

or attachment?

- Is there bad grammar?
- Is there a request in the email asking for personal, financial or login credentials or information?

It's always better to be cautious with requests for personal or confidential information.

If a request for personal information is received, the request should be checked out before any information is shared, experts say.

Shawna-Kay Thomas of the Better Business Bureau agrees and says it's always better to be cautious with requests for personal or confidential information.

"If you receive a call asking for that kind of information, you may want to hang up the phone and call back a legitimate number you have for that particular government agency and then follow-up with the request that is being made of you," Thomas says.

Stay informed and tell others

Jeff Thomson is a senior RCMP intelligence officer currently managing the fraud prevention and intake unit at the Canadian Anti-Fraud Centre.

He says scams are tracked, and a list is available at the Canadian Anti-Fraud

Centre, or by calling their toll-free line 1-888-495-8501, where they have several resources.

"We try to give you some key indicators as to what to watch for," Thomson says of the website content.

Thomson says everyone gains when information about phone scams and how to avoid them is shared with family and friends.

"In doing so, you hear what is going on, on the ground," Thomson says. "They may have heard something that you did not hear about, and in hearing your story, they're able to prevent you from falling for those scandals."

Thomson says that when a suspicious phone call is received, Canadians may want to consider using an initiative that started in the United Kingdom to combat schemes, called Take 5, Tell 2.


"Any types of funny calls you get—whether it is someone calling and threatening you or scaring you into performing something or asking for personal information—take a step back, don't react, and then talk to other people."

He says taking a step back and reflecting for five minutes or so, then speaking about the experience with two friends or family members, helps spread the word.

Suspicious phone calls, email or text messages should be reported to the local RCMP detachment.

Bottom line

Schemes requesting confidential personal or banking information are a regular occurrence for many Canadians, whether by phone call, email or text message. Experts offer several tips for gaining knowledge and verifying the authenticity of the requests, such as confirming the source of the call with the Canadian Anti-Fraud Centre or calling the organization directly. Experts also recommend sharing stories of fraudster requests with family and friends to raise awareness.






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New Schools of Business report highlights importance of women ag entrepreneurs in SK

By U of R UNIVERSITY
ADVANCEMENT AND
COMMUNICATIONS

A new report by the University of Regina's Hill and Levene Schools of Business sheds lights on the status of women entrepreneurs in agriculture and outlines recommendations to continue the advancement of women ag entrepreneurship in Saskatchewan.

On Thursday, June 11, the Hill and Levene Schools of Business at the U of R released the findings of their first report as the "Women Entrepreneurship Knowledge Hub (WEKH) for Saskatchewan: A Report on Women Ag Entrepreneurship in Saskatchewan."

Led by Dr. Amber Fletcher, Associate Professor in the Department of Sociology and Social Studies, Christie Newton, Levene School of Business graduate student, and Dr. Gina Grandy, Dean of Hill and Levene Schools of Business, the Report was funded through WEKH to gain insight into the challenges facing women entrepreneurs within the agricultural sector, and future opportunities—for the entrepreneurs and for the economy. With 10 per cent of Saskatchewan's GDP—and \$13 billion annually—directly attributed to the agriculture sector, greater knowledge of the role of women in agriculture entrepreneurship will have significant economic and social impact for the growth of the province. The report is based on existing studies on women in agriculture, as well as 32 interviews conducted with Saskatchewan-based women entrepreneurs in agricultural and related industries.

"There is currently very little research on the relationship of women, entrepreneurship, and the agricultural sector," says Newton. "In many of the existing studies, the term 'entrepreneur' in agriculture only refers to farmers, but not those who work in the processing, financing, advocating, and technology side. Add to the mix that many farm operators do not even consider themselves entrepreneurs."

Across the country, there is a significant gap when the percentage of women-owned businesses is compared to the percentage of those owned by men. By addressing this gap, studies have found that by 2026, the Canadian economy could realize a \$150 billion-plus much-needed injection. As the global economy starts its COVID-19 recovery journey, agriculture will continue to play a vital role in building a strong Saskatchewan.



More than \$13 billion of Saskatchewan's annual GDP is attributed to the agricultural sector. A better understanding of the role of women in agriculture entrepreneurship will have significant economic and social impact for the growth of the province.



Christie Newton
BScHons '18,
Levene School of Business
graduate student.



Dr. Gina Grandy, Dean of the
Hill and Levene
Schools of Business.



Dr. Amber Fletcher
BAHons '06, PhD '14,
Associate Professor in the
Department of Sociology
and Social Studies

While more programs and opportunities are being created to aid in encouraging a greater gender balance in agriculture, more work is required.

"Our report found that there is continued gender inequality in agriculture, but conditions are changing for the better," says Fletcher. "The role of women entrepreneurship in agriculture is such an important topic and the timeliness of our WEKH report is significant."

Many of the problems women agriculture entrepreneurs experience,

based on the interviews conducted for the report, stem from established gender roles of women on farms, their access to capital and financing, stereotypes and discrimination, and a lack of visibility. In many ways, agriculture continues to be an "old boys club". Even though women have and continue to play a critical role in running farms, the work that women agricultural entrepreneurs perform often remains hidden, unrecognized, and undervalued. "The women interviewed told us similar

stories of attending agriculture conferences and being the only woman in the room," says Newton. "They would be in meetings with male counterparts and never be addressed as a decision maker. It's not always about having more female farmers but changing the perception of what a woman's role is on the farm and who is an agriculture entrepreneur."

Despite the obvious challenges and frustrations, Newton was encouraged by the information shared in the interviews

and the overarching positive outlook shared by most women agriculture entrepreneurs.

"There was a lot of optimism from these women," says Newton. "They are passionate about their work and want to help inspire change for the future."

Based on the research findings, the Report has eight recommendations for advancing women ag entrepreneurship in Saskatchewan:

- Recognizing women as agriculture entrepreneurs;
- Recognizing women

farmers for the work they do;

- Increased childcare support and child-friendly spaces;
- Men supporting change;
- Building coalitions;
- Access to training and education;
- Access to finance; and,
- Policy and commitment to change.

"Agriculture is a key driver of the Saskatchewan economy, and a more thorough understanding of the role women play in its future is great for the growth of the sector, great for the family farm, and great for the province," says Grandy.

The Hill and Levene Schools of Business and WEKH plan to continue their role in advancing women entrepreneurship in ag by working collaboratively with various stakeholders across the province and country to determine next steps.

"At a time when young people are leaving the family farm and the challenges facing our economy post-pandemic, there are significant practical and economic benefits to increasing the participation of women in entrepreneurship," says Newton. "It will take time, but our recommendations will help women entrepreneurs in agriculture to be role models, inspire the next generation of women to pursue careers in this sector, and underscore the economic engine waiting to be harnessed."

The Women Entrepreneurship Knowledge Hub, part of the Government of Canada's Women Entrepreneurship Strategy, is a national program comprised of ten regional hubs working to increase women entrepreneurs' access to financing, talent, networks, and expertise. The primary hub is located in Toronto at Ryerson University's Diversity Institute and has a national network of more than 250 organizations and reaches more than 100,000 women entrepreneurs. Recently, the Hill and Levene Schools of Business at the U of R were selected as the regional hub for Saskatchewan.

"Becoming a regional hub for WEKH is an opportunity to provide a voice and connection point for women entrepreneurs across the province to build networks, share resources, and advance the impact of entrepreneurship on our economic growth," says Grandy. "This report is the first example of the important work the Hill and Levene Schools of Business will be able to complete through the WEKH."

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Farm safety demonstration tractor unveiled

By Crystal Jorgenson
 Faculty of Agricultural and Food Sciences, School of Agriculture, U of M
 A collaboration between the University of Manitoba (UM), Red River College (RRC) and Keystone Agricultural Producers (KAP) driven by the need for an agricultural safety training tool has produced a unique vehicle that will help predict, teach and demonstrate tractor roll overs.

The Mini Roll Over Training Tractor (Mini ROTT) was demonstrated at the UM's Glenlea Research Station on July 16. Approximately the size of an average lawn tractor but with the appearance of a traditional tractor, the radio-controlled Mini ROTT will be used for teaching and demonstration of roll overs and activities that will enhance students' and farmers' understanding of farm safety practices.

The project was initiated by the UM's Faculty of Agricultural and Food Sciences to supplement hands-on safety workshops developed for diploma students and farmers. The UM teamed up with KAP's Manitoba Farm Safety Program staff to explore the concept of a remote-controlled tractor as an interactive training tool for teaching roll over prevention strategies.

UM and KAP then engaged with RRC's Technology Access Centre for Aerospace and Manufacturing (TACAM) and Vehicle Technology & Energy Centre (VTEC) for the fabrication process. The research staff at TACAM designed and built the tractor, with support from the VTEC team on the electronics and systems control components.

Going forward, the Mini ROTT will be housed at the Glenlea Research Station and utilized for farm safety training for post-secondary students and Manitoba farmers. The Manitoba Farm Safety Program and UM staff plan to collaborate on expanded tractor training and develop programs aimed at creating a safer agri-food industry.

Funding for the project came from a variety of sources, including the Faculty of Agricultural and Food Sciences Endowment Fund, the Natural Sciences and Engineering Research Council of Canada through Red River College's TACAM and VTEC-Innovation Enhancement grants, and Keystone Agricultural Producers.

"The Faculty, especially the farm safety training leaders in our School of Agriculture, are keenly engaged in farm safety training, both for our students and for our wider agricultural community," says Martin Scanlon, the Dean of the Faculty of Agricultural and Food Sciences at UM. "We were excited to partner with Keystone Agricultural Producers and Red River College to create this novel training tool that will assist the University of Manitoba in delivering potentially life-saving knowledge to the next generation of Manitoba producers. This project



Thea Green, Keystone Agricultural Producers, and Tom Prud'Homme, Red River College, demonstrate the mini roll over training tractor

underlines the high value and mutual benefit of collaboration with talented industry partners and other educational institutions."

"Keystone Agricultural Producers is proud to be a part of the roll over training tractor (ROTT) project through our Manitoba Farm Safety Program," says Bill Campbell, President, Keystone Agricultural Producers. "We look forward to using this innovative tool to further promote the need for safety awareness and training across our sector to reduce the risk of serious injury in the operation of tractors and large equipment on farms across the province. The partnership we have forged with the University of Manitoba and Red River College shows the importance of our industry to this province and showcases some of the brightest minds and ingenuity we have here

in Manitoba."

"Working with Keystone Agricultural Producers and the University of Manitoba on the roll over training tractor (ROTT) is the perfect demonstration of the value of applied research: providing tangible solutions to real-world problems," says Fred Meier, President and CEO of Red River College. "The ROTT highlights the skill and expertise of our TACAM and VTEC teams, and now that we've created this first product we're excited to explore similar projects in the future. We're proud to play a role in farm safety awareness and supporting the agriculture industry in Manitoba."

Roll overs, falls and contact with tractor attachments are the leading causes of injury and death to farm tractor operators, according to SAFE Work Manitoba.

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Government of Saskatchewan announces AgTech Growth Fund

BY ROB PAUL
LOCAL JOURNALISM
INITIATIVE REPORTER

The Government of Saskatchewan has announced a \$1 million yearly AgTech Growth Fund to encourage the development of agricultural technology.

It's the first program dedicated to accelerating the development of agricultural technology in Saskatchewan and one of several supports for the tech sector announced in the provincial budget. Agtech is the application of emerging technologies in solving challenges in the agricultural sector.

Minister of Advanced Education Tina Beaudry-Mellor is also Minister responsible for Innovation Saskatchewan, the agency leading the way on the AgTech Growth Fund. Innovation Saskatchewan provides recommendations to the Government of Saskatchewan regarding strategic direction in areas of research, development, science, and technology.

"Saskatchewan farmers feed the world and the AgTech Growth Fund will create new innovations and jobs in our province," said Beaudry-Mellor. "Growing our ag economy is a key part of Saskatchewan's Growth Plan and by providing solutions in agtech, we add value to our rural communities, increase our sustainability and strengthen this province's global leadership in food production and farming excellence."

In a press release the Government of Saskatchewan said the fund will help drive private investment in transformative farming and help attract international agtech companies to Saskatchewan. The agri-foods industry has the potential to become Canada's largest economic sector. With proper investments in agtech, the Royal Bank of Canada forecasts \$11 billion in new goods and services could be added to the national economy by 2030.

"Continued investment in agriculture technology will be a significant driver of growth in the industry," said Minister of Agriculture David Marit. "Saskatchewan is already an agriculture research hub and investing in farm equipment technology will complement our investments in crop breeding and production to bring us close to achieving our Growth Plan goals."

The AgTech Growth Fund will accept applications related to the following:

- Digital ag software/hardware (e.g., sensors, imagery, precision ag, data stewardship).
- Smart farm equipment (e.g., robotics, machinery, automation).
- Food processing (enabling technologies).
- Indoor agriculture (enabling technologies).
- Animal health/verification technology.
- Supply chain technology (e.g., traceability).
- Agricultural marketplace/fintech.

All applications must meet the following criteria to be considered for funding:

- Proposed by a group of active private sector partners that represent the project's value chain (researchers, those involved in the production/supply process, and customer/end users).
- Active partner: participating in the project either through cash and/or in-kind contribution, equity investment, and/or letter of intent to purchase.
- Majority of the R&D activities must

be conducted by Saskatchewan-based partners.

- Priority is given to proposals that also have an academic partner from a Saskatchewan post-secondary or research institute.
- Demonstrate how the technological innovation will solve a specific industry-wide challenge and benefit the agriculture sector as a whole, not just individual companies.
- Technological solutions must be novel and innovative.
- Demonstrate a feasible path to commercialization and how the benefits of the project will be sustained over the long-term.
- Industry partners must provide 50% or more of the project's budget. The amount requested from IS is no more than 30% of the proposed budget.

AgTech Growth Fund funding structure:

- Lead proponents can receive a maximum of \$450,000 in AgTech Growth Fund grants over their lifetime.
- In addition to the limit on grants, Innovation Saskatchewan will provide no more than 30 per cent of the project's budget. Industry partners must provide 50 per cent or more of the budget.
- Once funding has been approved, Innovation Saskatchewan will disburse payments based on the achievement of milestones, the submission of progress reports, and the dates specified in the contract. The final payment will be disbursed at the end of the contract after the final report has been received by IS.

Beaudry-Mellor says Innovation Saskatchewan saw the agtech boom happening and wanted to do what they could to empower it.

"Through Innovation Saskatchewan we had a fund called the Saskatchewan Advantage for Innovation Fund," said Beaudry-Mellor.

"It's used as a fund that we provide to a consortium, a mix of industry members, practitioners, tech developers, and it's more favourable if people have university researchers. It provides funds to let them take an idea and pilot it and get it ready for commercialization.

"We were finding that the number of agtech applications to that fund was growing. In a two-year period it grew from zero to a little over a third of the entire fund applications were coming from agtech. That was the first thing, we saw a growing need. Secondly, our experience at Agritechnica last year and seeing the growth of the agtech space in general was a huge factor.

"Saskatchewan is really well positioned there with one of the fastest growing tech hubs in Canada. Also, we're a world leader in agriculture.

"The convergence of all of those things and then finally, John Stackhouse did a report called Farmer 4.0 where he talked about Saskatchewan's natural advantages in these areas. So we decided to create a dedicated agtech fund."

For those interested in applying for the AgTech Growth Fund, Beaudry-Mellor says, there's two different funding application dates and the application goes before a board who then makes a decision.

"If people are interested, they can go to our Innovation Saskatchewan website and they'll find the application," she said.



Minister responsible for
Innovation Saskatchewan
Tina Beaudry-Mellor

"The first intake deadline is September 30," she said. "September 30 is (the deadline to) an expression of interest and if your expression of interest looks good then by October 31 you'll be invited for a full proposal then December 31 is the deadline for the full proposal. We then make our decisions at the end of February. There's two intakes per year so twice a year there will be funding. The second intake begins April 30."

With agtech's growth and Saskatchewan being a leader in the industry, Beaudry-Mellor says, it was the perfect combination of reasons to launch the AgTech Growth Fund.

"We know that agriculture is critical and it's becoming increasingly technical," she said.

"There's a funny saying, but it's true, 'John Deere has more programmers now than Apple does' and it's true! It's not just with machinery and ag equipment, but we're talking about precision spraying and feeding through drone technology, all the data captured, how equipment speaks to each other, in-ground sensors, all of those things.

"What we're hoping comes out of this is that Saskatchewan can lead the way with respect to commercialized agtech innovations.

"We can be a leader in this area and also of course we have the Growth Plan pieces. 100,000 jobs and tripling the tech sector are in our Growth Plan as well as growing our agri-food exports 20 billion, increasing crop and livestock production.

"All these things mesh extremely well," she said. "We have two incubators and accelerators, the protein supercluster, all these things provide us with a strategic advantage in this area relative to the other provinces in Canada, at a time when with Covid-19 everybody is using technology to a great degree and we recognize how important the food supply-chain is. We're amplifying a niche area that we're already doing well in."



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Agricultural and Food Sciences alumni honoured for their contributions

By CRYSTAL JORGENSEN
ALUMNI, FACULTY OF AGRICULTURAL
AND FOOD SCIENCES, SCHOOL
OF AGRICULTURE, U OF M

Two alumni of the University of Manitoba's Faculty of Agricultural and Food Sciences have been honoured for their outstanding contributions to Manitoba's agricultural community.

JoAnne Buth and Marcel Hacault are this year's recipients of the Certificate of Merit from the Faculty of Agricultural and Food Sciences in recognition of their leadership with agricultural organizations and outstanding service to the community at large.

The honour is usually bestowed at the School of Agriculture convocation but due to COVID-19 restrictions, the presentation will be made at the 2021 event.

JoAnne Buth graduated with a Bachelor of Science from the University of Winnipeg, and following a job with the City of Winnipeg insect control branch, went on to receive her Master of Science in Entomology in 1982 from the University of Manitoba.

After graduation, she worked for Agriculture and Agri-Food Canada's Winnipeg Research Station as its first information officer. She later joined Dow Elanco where she served as a research and development manager, and then served as weed specialist and manager for eight years with Manitoba Agriculture.

In 1999, JoAnne became the vice-president of crop production and biotechnology at the Canola Council of Canada. She served as its president from 2007-2012, where she brought her vision and insight into the entire value chain to see unprecedented growth for Canadian grains and oilseeds. She played a prominent role in maintaining canola exports to China despite concerns about blackleg disease in 2009.

In recognition of her expertise in the agriculture sector and her service to the community, Prime Minister Stephen Harper appointed JoAnne to the Canadian Senate, where she served for two years as Manitoba's representative, and sat on the Senate Agriculture and Forestry Committee and the Senate Finance Committee.

JoAnne then became the CEO for the Canadian International Grains Institute (Cigi) where she guided the organization through a priority-setting process and into a new structure and funding model. Using a collaborative approach and her extensive connections in the agri-food industry, JoAnne helped elevate Cigi to a respected leader in technical training for the use of Canadian grains. She retired in 2019.

JoAnne has generously contributed to her community in a wide variety of other ways. She has served with the Golden Prairie Arts Council (a non-profit organization that provides educational programs to the southern rural Manitoba



JoAnne Buth



Marcel Hacault

arts community), the Entomological Society of Manitoba, the Canada Grains Council, and as chair to the Manitoba Agriculture Research and Innovation Committee.

In recognition of her many accomplishments, JoAnne was presented with a Motivator of the Year Award by Manitoba Agriculture and the Distinguished Alumni Award by the University of Winnipeg, and was recently inducted into the Canadian Agricultural Hall of Fame.

JoAnne now spends her time with her husband Grant on road trips exploring Canada. When at home, she can be found gardening, weaving, silk painting and reading or spending time with her nine grandchildren.

Marcel Hacault graduated from the University of Manitoba with a Bachelor of Science in Agriculture in 1983. Shortly after, Marcel and his wife Georgina purchased a farrow-to-finish hog operation in the Niverville area. Daughters Anais and Anastasie both completed Masters in Agribusiness, and his son Yves works in the social services. Marcel also completed his Master in Business Administration from the U of M in 2011.

Marcel was elected a Manitoba Pork Council delegate in 1992, and a director of the board in 1996. He was subsequently chosen by the board to be its chair each year from 1999 to 2003. He led the MPC board through a period of economic change and encouraged the development of innovative programming on sustainable agriculture, which included improved public relations, worker safety and

outreach efforts. He also encouraged support for new national programs for on-farm food safety and continued efforts to increase pork processing in Manitoba.

Marcel also served as vice-president of Keystone Agricultural Producers from 1997-99, where he established and implemented the Manitoba Farm Relief Fund. He chaired the trade, finance and sustainable development committees, and represented Manitoba on the Canadian Federation of Agriculture board.

Marcel became the executive director of the Canadian Agricultural Safety Association in 2004, where he has led and inspired a broad range of Canadian agricultural safety specialists and industry stakeholders to actively engage in promoting safe practices on Canadian farms and service providers. He has served as a national ambassador for farm safety, and his leadership has resulted in the establishment of many organizations that provide resources and

programs to support farmers in managing safety on their farms. His influence can be seen in initiatives such as Be-GrainSafe, Canadian Agricultural Safety Week Campaign, and a Canadian adoption of Progressive Agriculture Safety Days aimed at Canadian youth.

Coming full circle back to the University of Manitoba, Marcel has provided guidance and mentorship to the School of Agriculture in incorporating farm safety content in its Diploma curriculum and developing short courses and workshops aimed at Manitoba farmers.

In other service, Marcel served on the Board of the Manitoba Institute of Agrologists and is a past president of the International Society for Agricultural Safety & Health. He is also ex-officio for the Progressive Ag Foundation, and currently sit as the secretary/treasurer for the Farm Safe Foundation. He also continues to act as the secretary/treasurer for the family farm corporation.

A strong leader in his community, Marcel helped start up Les Boutons d'Or, a French pre-school in Iles des Chênes in 1988, which is now the Garderie Les Boutons d'Or. He also helped organize (and accompanied) "Boîte à Chanson" at the École Communautaire Réal-Bérard in St. Pierre and community theatre in Iles des Chênes.

In his spare time today, you can find Marcel driving around in his restored '68 Firebird convertible, wood working, tiling or installing pavers. Or if he is not too tired, spending time with his four grandchildren.

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Farmers say conditions are ideal

Continued from B1

"For the canola, we don't need too much heat, like what we're getting right now is cool cloudy days with the odd shower is perfect for the canola crops," he said. "It's good for the wheat as well. We just don't want that 30 degree weather with the sun beating down and the wind howling away. It would be hard on the canola because the canola is all flowering right now and canola likes cool damp weather and the longer the canola flowers, the better the pods will be so the more yield you'll get. Cool shady days like we've been having recently with lots of cloud coverage is very good. The worst case would be if we got a hail storm. That would be the ultimate worst case scenario."

Not only has the weather been great as of late, McCorrison says, he's had no issues with pests or diseases.

"There's not really pests this year," he said. "I did spray a fair amount of fungicide on the plants for a leaf disease and Sclerotinia, but not really any diamondback moths or Bertha armyworms this year."

"If I had any negative things to say, I've had some problems on my headlands with compaction issues and that's because we were about that week to 10 days late on our first rain. Some of the ground got packed too tight because it was kind of damp when it was seeded and the little plants couldn't break through the crust, but in the general vicinity of the field, things are excellent and as good as you could potentially hope for. In the Moosomin area we're in for an excellent year if things keep going the way they're going."

The main concern for McCorrison at this point are the crop prices, making for it even more important to have a top-notch harvest.

"I would say things are looking up and the potential is there for an awesome yield," he said. "The downside of things would be grain prices are still lower. Canola has never really rebounded properly since China closed the border taking canola. Grain prices are a little lower than they have been in the past, I'm not saying they're devastatingly low, but they're not as good as they have been. That would be the downside."

"We do need a good crop in order to make the same money that we have in the past. The potential is there. In all honesty things are looking pretty good. Fingers crossed that we don't get any poor weather, like a hail storm would be the ultimate worst case. But things are really looking good. I've got crop at the Moosomin and Rocanville area and it's widespread with things looking pretty good."

Kevin Hruska is the owner and operator of Bridgeview Manufacturing in Gerald as well as a farmer and despite the early trouble with the dry



Canola farmers in Saskatchewan are happy with the recent rain.

weather, he says, crops are looking good with the current conditions.

"As far as our farm goes, we had good seeding conditions, but very little rain," he said. "We got a couple small rains that just barely tied us over. Then eventually, here, it sort of broke and we've gotten a bunch of nice timely rains. I would say we're in an ideal spot at the moment and we didn't see any rainfalls that are too much. We've had all nice, small, and timely rains with no pooling of water and that's darn near ideal, except for one cloud that went over and hailed out 4,000 to 5,000 acres for us. Other than that it's been good conditions."

In general the crops in the area are all looking good at this point, says Hruska, and a little more rain would make it an ideal situation.

"I would say everything in the area is looking good," he said. "Nothing is looking very bad. There's some cutworm issues for some people, but we didn't have that on ours. Some beans took a hit from cutworms, but we didn't grow beans this year. Generally speaking, everything is poised for a very good crop. We will need another rain, but we've been getting little showers, it seems to have stopped now, but a rain in a week or so would really finish it off. A half an inch of rain every week for the next month would be ideal."

"With the stuff that got hailed out, we're crossing our fingers and hoping lots will grow back. It will delay it three weeks, but if we don't get an early frost then we'll recover some of the hailed out stuff and that's what we're hoping for."

"Hail is worst case, it costs you and it's really hard to come out of, but it hit our canola quite young so there's a chance that it

reboots. Lots of our neighbours got hail too and it cut right through us, but the beauty of being a large farm is you usually don't get your whole farm hailed out. The disadvantage, of course, is if there's hail anywhere in the area you have a good chance of getting hit by it."

In this area, Hruska says, along with the great weather, there have been basically no issues with pests or diseases.

"Very low insect pressure this year," he said. "Fungicides and stuff like that we're always able to control those anyway. Nothing that I've heard of, no outbreaks or anything like that. We've been lucky with that and the weather. There was a big hail storm up north and of course the big rains in the Minnedosa area—we have friends over there."

"They said they'd be happy to give us three quarters of what they got, they got a lot. But we were lucky, we didn't get anything big. But we've taken our turn over the years. They got five or six inches in one night and I told them we had 13 about six years ago. It seems like everybody has got to take their turn. Who knows what will happen now, we've had a few warm days and there's a south wind blowing so we'll probably pick up some more stuff, I would expect."

The cooler summer weather in Saskatchewan over the last few years has been a huge help to farmers, says Hruska.

"I have a hypothesis that the cooling of the atmosphere in our area is very conducive to growing bountiful crops," he said. "What I mean by that is, the sun spots have rolled to this side of the sun. We've been in a cooling trend for a decade now and we hardly bust 30 degrees Celsius and that has been saving us every year for

several years. What that allows the crops to do is survive the dry spells because you don't get the heat blast that dries the flowers and knocks the seeds out."

"Our region is in a cooling trend, when I was 12 years old we used to get to 40 degrees Celsius every summer for two weeks. We don't get anywhere close to that anymore and it's really ensuring that we grow better crop. That's my feeling on the climate."

"When it's too hot the reason your plant can die off is because the process of osmosis can't keep up," he said. "The plant can't draw the moisture in the ground up fast enough and that's what happens with heat blasts. When you don't get that heat, whether it's raining or not, you get the moisture in the ground and can maintain the growth of the plants. I think last year the hottest it got was 33 degrees for three days."

Overall, considering everything, Hruska says, it looks like a good year, especially with the impacts of Covid-19 being minimal.

"I'd say so (it's a good year)," he said. "Prices are down, probably across the board a dollar a bushel. That takes out most of the profit, but it appears we've weathering the coronavirus disaster fairly well. In my opinion it's going better than I would have expected. I think people still want to eat and countries aren't rationing their supplies and their carryovers so we've been okay. I'm glad we're not a restaurant."

In the Maryfield area, grain farmer John Van Eaton says, everything is looking good and some warm weather would be perfect for the crops down the stretch.

"At this point I'd say they're (the crops) looking quite nice," he said. "We weren't really desperate

for rain in this little area, but certainly the last rains were nice and as long as we get some warm weather now that should finish the crops off pretty good."

"It was a little dry in the spring, but we had so much rain here last fall and then snow and then rain again that we had lots of subsurface moisture. There was no concern for us about enough moisture to get our crops started."

"We just need some, not extremely hot weather, but just some warm weather," he said. "As we start heading to fall we just want some warm sunny days and we don't want hail or a bunch of thunderstorms and then we should be good."

Van Eaton says, they have had to deal with pests during the spring and he expects diseases could come at some point this summer.

"Flea beetles were a big problem for us earlier this spring," he said. "We sprayed quite a bit of fungicide, but I would expect that with the recent rains we'll see some disease pressure start to show up. We did spray the majority of our crop with fungicide."

Overall, it's looking like it will be a good crop this year, says Van Eaton.

"I'd say this crop looks above average," he said. "We haven't run out and bought a whole bunch of grain bins yet, but you never know until you get started. At this point it looks pretty nice."

Cattle farmers

The dry spring was hard on cattle farmers with pastures in poor conditions and in need of rain, that rain finally came in the summer and Bridgeway Livestock owner Karl Sauter is pleased.

"Right here the conditions have been pretty favourable," he said. "The

rain helped a lot. These little showers have been good for the growing conditions of the grass, but putting up hay is a little tricky."

The occasional shower would be the best conditions for pastures the rest of summer, says Sauter, and he says everything is looking good at this point.

"I think it's been pretty nice," he said. "Hasn't been too hot, hasn't been too cold. It's been a pretty nice summer so far."

Both crop and cattle farming conditions have been ideal thanks to the recent rain, says Perry Rasmussen.

"I think things have turned around quite a bit here since the rain three weeks ago," Rasmussen said. "Everything looks really good. We could use another half an inch of rain per week here for the next three weeks, that would help a lot. It would help the crops grow. Something not ideal is the guys with hay are having a tough time getting anything out to get bailed so I don't know how much good hay will be around."

The canola crop and cattle pastures have benefited enormously from the rain, says Rasmussen, and he hopes the scattered showers continue through the summer.

"I think our crops have the potential to be better than average at the moment," he said. "I think if we can continue to get these little showers that we've been getting the last while then we can definitely be above average. I think the last three weeks have been pretty well optimum."

"Seeding conditions were pretty good, a little wet to start, but the later seeded canola didn't get off to a good start because it was a little dry. The pastures have been really good the last month here since we got that rain."

New USask disease detection tool may save millions for canola industry

The new testing can be done in the field in just one hour with accurate results

By FEDERICA GIANNELLI

University of Saskatchewan (USask) researchers have developed a new testing tool for faster, cheaper and easier detection of aster yellows, a leafhopper-borne disease that can devastate canola yields and farmers' income.

"Our tool will help save precious time and resources for scientists, agronomists, and producers," said USask biology PhD student Karolina Pusz-Bocheńska. "Farmers will be able to mitigate the potential damage to their crop yields. Our tool will help them understand whether they should spray pesticides right away to kill infected leafhopper insects."

The canola season in Canada is short, and the disease spreads very fast, so understanding whether crops and insects are infected saves time and money. In 2012, the canola industry saw 80 per cent of fields infected and at least a \$270-million loss.

The new testing can be done in the field in just one hour with accurate results. Regular lab tests can take from several days to two weeks, and are more expensive.

Aster yellows, caused by a bacteria-like organism, is carried by a variety of insects. It reaches Canada mainly through leafhoppers moving from the southern United States in the spring. When leafhoppers feed on infected crops they are unharmed, but they carry the organism in their bodies, ready to spread it to healthy plants, including vegetable crops such lettuce and carrots, when

is collaborating with the Saskatchewan government to calibrate their new test for detecting the disease.

"Our testing technique may also apply to human and animal health, such as for testing ticks for Lyme disease or mosquitos for Zika," said Pusz-Bocheńska. "Now researchers at other universities are even trying to adapt a similar technique for rapid COVID-19 testing of human blood samples."

The next step is to use the new technique to establish an aster yellows risk index for canola in the summer. While farmers cannot directly access the test yet, the research team is in touch with companies in Canada interested in licensing the technology and offering the

test.

The novel testing is the result of a collaboration between AAFC scientists Wist, Tim Dumonceaux, and Chrystel Olivier and USask researchers, including former post-doctoral fellow Edel Pérez-López. The research is funded by AAFC.

Federica Giannelli is a CGPS-sponsored graduate student intern in the USask research profile and impact unit.

This article first ran as part of the 2020 Young Innovators series, an initiative of the USask Research Profile and Impact office in partnership with the Saskatoon StarPhoenix.



Photo by Tyler Wist

PhD student Karolina Pusz-Bocheńska holds a canola plant.

they feed again.

To detect whether leafhoppers are infected, the USask researchers extract and analyze DNA from the insects.

"It's actually very simple. Farmers could even do the testing in the back of their trucks," said Pusz-Bocheńska. "All you have to do is to crush a leafhopper on a special piece of paper and expose it to a certain temperature."

After 20 minutes, the researchers use a fabric puncher on the crushed insect to obtain a sample that can then be analyzed with a LAMP assay—a DNA-amplifying method that also can be adapted to the field. The analysis accurately reveals whether the insect is positive for aster yellows. The test also can indicate whether plant tissues are infected.

The USask research team's results, published in Plant Health Progress, show that in the case of aster yellows, the LAMP assay technique more accurately detects the disease and is more sensitive than the usual gold standard test for DNA lab analysis.

"The development of this novel and more sensitive test was driven by one of our molecular scientists, Tim Dumonceaux, in response to our need to rapidly identify whether individual aster leafhoppers had aster yellows disease," said Tyler Wist, Agriculture and Agri-Food Canada (AAFC) researcher and Pusz-Bocheńska's co-supervisor along with USask biology professor Jack Gray.

"Now we can more accurately assess the risk of disease spread from those early arriving leafhoppers and warn the agricultural community if there is a risk."

The novel testing technique could also be used for detecting a variety of insect-borne plant diseases, such as Dutch Elm Disease. Current testing for beetles carrying the disease can take weeks, so the research team



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Preparing your farm for agriculture technology

BY JESSE HIRSH

There are considerable benefits to using ag tech, but advantages come from asking questions, coming up with a plan for the farm and understanding how agricultural technology can empower a farm's unique needs.

Technology is having a transformative effect on agriculture, helping farmers increase yields, reduce costs and increase overall capacity. And as society adapts to physical distancing and gathering in small groups as a means of fighting COVID-19, using technology to connect is even more common.

If there's uncertainty about how to start, or what technology to try, there are ways to experiment and embrace technology for agriculture.

Chad Colby is an ag tech consultant and public speaker based in Illinois. Here are his tips on embracing technology to improve agricultural operations, large and small.

Don't be afraid to ask for help

Understanding how technology can help an operation requires experimenting. And experiments mean failure.

Everyone must start somewhere. For example, Colby encourages farmers to upgrade their smartphones and tablets for optimal functionality, battery life, speed and application updates. Symbolically, keeping up with these small tools as they advance helps reinforce the need to keep up with the larger tools.

Similarly, don't be afraid to ask questions. Understanding how technology can help an operation requires experimenting. And experiments mean failure.

"When you screw up, you learn," Colby says.

Develop a technology plan

Every farm is different, and every farm has its own set of problems that technology might be able to help fix or improve. Colby encourages farmers to wonder where technology can make the biggest impact on the farm, citing it's often the simple steps that can make the biggest difference.

For example, consider practical upgrades like extending Wifi access across the property so web cameras can be installed in barns and around the farm. Alternatively, if a farm struggles with time management, Colby notes there are lots of tools available to help better manage staff and tasks.

When it comes to more advanced agri-tech, Colby recommends farmers do their research, and find people who they can trust to ask for help and critical perspective. Try this technology blog at FutureofAg.com, or try an ag tech-specific forum at Reddit.

There are a growing range of tools and systems available, and manufacturers are increasingly responsive to the needs of farmers, which is why researching purchases is so important.

Drones are an easy tool to start with

As a licensed pilot, Colby already knows the value of a view from above and has been an avid drone enthusiast for over a decade. He runs a drone boot camp for farmers and argues that unmanned aerial vehicles are quickly becoming an essential tool for agriculture.

"A \$2,500 drone can get you



Understanding how technology can help an operation requires experimenting. And experiments mean failure.

airborne in 30 seconds," Colby says. "With features like auto take-off, auto-land, sonar and object avoidance, you can easily sit on your pickup truck, survey a 160-acre field in three or four minutes and produce high resolution imagery that can be analyzed and integrated with other systems."

The more acres that a farmer works, the more value that can come from this modest investment.

Automation is essential when buying a tractor or combine

When Colby speaks to farmers, he's generally disappointed at how few recognize the value

of automation. They see automation as a \$20,000 checkbox they can ignore, when instead, it offers them a tremendous opportunity to expand both their capacity and their yield.

Large equipment manufacturers like John Deere are taking automation to the next level by recording and storing field management data. FCC AgExpert and John Deere recently announced a partnership making it easier for AgExpert users to digitize farm data. The integration with My John Deere application allows premium users to import existing fields from My John Deere application to AgExpert Field. Planting, spraying, fertilizer and harvest activities

along with associated application rates, will be mapped to field in AgExpert.

"You can't afford to ignore automation," Colby says. "Do farmers go to their seed dealer and ask to purchase seeds from five years ago? No. They expect to get the best and latest seeds. Why do farmers not do the same thing with their technology?"

Bottom line

There are considerable benefits to using ag tech, but advantages come from asking questions, coming up with a plan for the farm and understanding how agricultural technology can empower a farm's unique needs.

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