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Prince Edward Island POTATO NEWS

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In This Issue:

- Climate Lab Research
- Cover Crops In Action
- Marketing Initiatives

Prince Edward Island
PEI
POTATOES

Prince Edward Potato Board Annual General Meeting 2020

Connect via ZOOM

(All growers will be sent a link via email)

November 18, 2020

9 AM - 10:45 AM

Agenda

Chairman's Comments

Financial Report

Sector Updates

Market Report

Open Discussion

Prince Edward Island
POTATO NEWS

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Features

Regular Departments

Cover: Mustard grown as a rotation/cover crop on Black Pond Farms in eastern PEI is chopped and incorporated in late July. The field will be planted to potatoes in 2021 and is part of the Living Labs Project. Photo: Morgan MacNeil.

Chairman's Comments

by Jason Hayden, PEI Potato Board Chairman

The empty rain gauge tells the story for 2020. While early areas had enough moisture for crops to bulk up, yields were still below average. Other areas of the province are expecting more severe yield reductions, particularly the hard hit central region. Many other regions across North America are expecting no better than average crops. We will know the full tale when production estimates are released after harvest.

The lack of rainfall during the growing season has meant that the Board has spent considerable time speaking with politicians about the need to include fair and science based access to water for supplementary irrigation as one of the tools in the tool box for all agricultural producers on PEI. We are also communicating the need for improved overall safety net programs. Crop Insurance is losing its effectiveness as a result of several years in a row of drought-induced low yields reducing growers' guaranteed yields. The Board is continually advocating for growers for changes to address these issues.

It was very disheartening to learn of the fish kill in early August. Growers participate in local watershed groups at the grassroots level, follow regulations for buffer zones and are constantly working to improve their soil conservation practices. There are many factors that could have contributed to this incident. As an industry we will proceed in working with our partners and look for continuing improvement in practices that enable us to farm in an environmentally and economically sustainable manner.

Adaptation to COVID-19 continues and we have been quite fortunate on PEI that our case levels have been low with no evidence of community spread. This has allowed our farm businesses to continue operations in a fairly smooth manner. The risk is always there as we see case numbers rise and fall all over the world. We encourage all growers to continue to take precautions to keep staff healthy during the harvest season.

As we approach the fall harvest season, we it is important for all growers to be mindful of biosecurity and to follow regular disinfection protocols for visitors to the farm and for workers or equipment that may be moving between farms or back and forth from packing or storage facilities off farm.

Wishing everyone a safe harvest.

PEI Potato Board News

Land Matters Advisory Panel

The Land Matters consultations have been underway, via an online survey, since June 26. An Advisory Committee has been selected through the Engage PEI Process. This committee will advise government and guide the process. Committee Co-Chairs are Jim Bradley, recently retired from the position of CEO/General Manager of Amalgamated Dairies Limited where he worked for 36 years, and Lori Robinson Lori is the Farm Manager at Eric C. Robinson Inc., a 6th generation family farm, is the former Chair of the Crop Insurance Board and currently sits on the Board of Mid Isle Farms and the Advisory Board for the PEI Rural Business Women's Centre. The rest of the committee members will be announced shortly.

During Phase Two, the Land Matters Advisory Committee will host presentations, guided by feedback received through the Phase One survey. Additionally, a "What We've Heard Report" will be released that is based on feedback received through the website (feedback will be grouped into themes and aligned with potential changes to legislation, regulation, and/or policy).

Canada No. 1 Round Potato standard.

The CFIA approved a continued Test Market Authorization (TMA) for the reduced size standard of Canada No. 1 round potatoes in the fall of 2019 and this is set to expire September 30, 2020;

The CPC carried a Motion on an April 21, 2020 conference call to adopt on a permanent basis, the 2"/4 ounce minimum standard for Canada No. 1 round potatoes.

The DRC review of the potato grade standard is currently ongoing with a Working Group of CPC members. As part of this review, the reduced size standard for Canada No. 1 round potatoes will be included in the DRC Incorporation by Reference document for potato grade standards, but this will take some time to be fully implemented. In the interim period, CFIA has agreed that they can issue a TMA for the reduced size for Canada No. 1 round potatoes, which would be effective for up to 5-years or until the DRC Incorporation by Reference document is in place.

The information requested by the CFIA to support an application for a TMA was submitted to the CFIA by the CPC, and approved to take effect on September 21, 2020. This authorization is valid from September 21, 2020 to September 21, 2025.

Irrigation Project

The following information is available on the PEI Department of Environment, Water and Climate Change website "On the Level" (https://www.onthelevelpei.ca/), a site dedicated to providing water supply information to the public.

The following information is found under the Section "How we use groundwater on PEI":

WATER USE ON PEI * Type	Water Use (billion litres/yr)	%
Residential	16.7 bn L	47%
Industrial	12.8 bn L	36%
Geothermal Heat	3.5 bn L	10%
Livestock Operations	2.0 bn L	6%
Irrigation (including agriculture)	0.6 bn L	2%

**https://www.onthelevelpei.ca/managing-water*

This is followed with the information that:

- Did you know? The amount of water withdrawn annually is only a small portion compared to the amount of water recharge each year – less than two per cent (2%).
- When considering applications for high capacity wells, government requires tests to demonstrate that enough water can be pumped from the well without affecting the local water table, nearby wells and the watershed itself.

These points would have been taken in to account when

Find a list of links with the latest news and information about items involving COVID-19 that relate to your farm operation on our PEI Potato Agromony Page:

https://peipotatoagronomy.com/covid19/

the province approved the development of new municipal well fields for Charlottetown and Cornwall (after the current well field for Charlottetown was causing water problems in the Winter River watershed) and would apply these criteria to any high capacity well permit application before approval, regardless of use.

UPEI and the Agriculture industry have had plans for an irrigation project in place for over two years. They are now awaiting approval for the four high capacity wells needed to initiate the project. Significant data is already there, but it was felt that a pilot project would put to rest lingering doubts that supplemental irrigation could be implemented responsibly under provincial monitoring and extraction permit restrictions. Over the past years, the industry has received indications that the project would receive approval, but this approval has not yet been received.

In recent months The Board and the Federation of Agriculture have been working to provide further information to the Premier and elected officials on this topic:

- An in-field meeting was held with the Premier and the Ministers and Deputy Ministers of the Department of Agriculture and Land and the Department of Environment, Water and Climate Change, to talk with drought affected growers about the role that expanded supplemental irrigation could play in supporting PEI Agriculture.
- A follow up meeting on this topic in the Premier's office.
- Presentations to the PEI Standing Committee on Natural Resources and Environmental Sustainability by the Federation of Agriculture and Dr. Michael Van Den Heuval, Canada Research Chair in Watershed Ecological Integrity and the UPEI lead on the proposed irrigation project.

With the repeated years of extended dry periods limiting agricultural production (a key driver of our Island economy) the time has moved beyond a need for research to confirm data already available, to the need to establish a process and limits that will allow supplemental irrigation to go ahead in a responsible manner.

Philippines Food Prints Videos on YouTube Feature Prince Edward Island

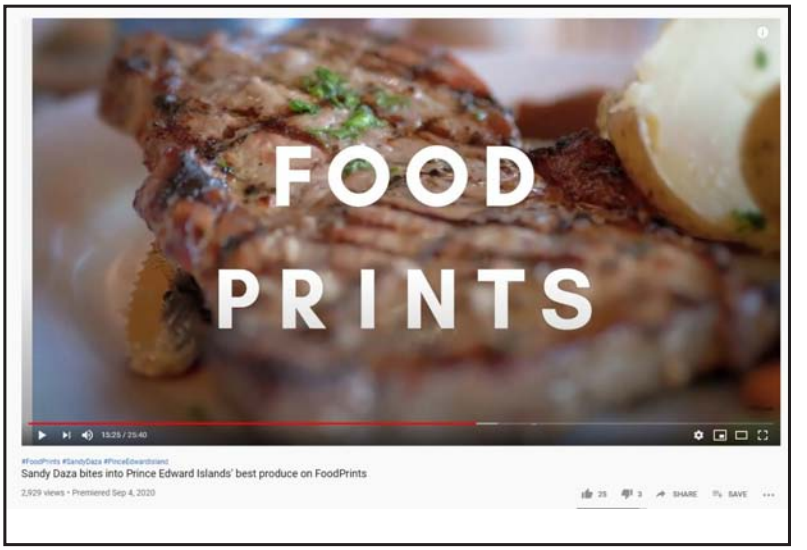
In the fall of 2019 the PEI Potato Board, the Atlantic Canada Opportunities Agency, Innovation PEI, and AAFC worked closely with the Canadian Trade Commissioner Service in The Philippines to organize three potato related trade missions to PEI that took place in September .

Since that time, commercial shipments of seed for table production took place with the seed to be planted as part of the Philippine Sustainable Potato Program. As well samples of varieties common in PEI, but new to the Philippines were sent to be grown in trials in a partnership between university research scientists, the Philippine Department of Agriculture and local grower groups. (See report and photos in the July/August 2020 issue of *PEI Potato News*).

Two episodes of a Philippine cooking show with celebrity chef Sandy Daza were also filmed last fall and aired in 2020. The first episode features Island seafood and PEI Potatoes while the second episode covers more tourism related information. The episodes are available on YouTube at:

Episode 2 - https://youtu.be/TBxTAAkb0ew

Episode 3 - https://youtu.be/nJpYVP4VoYo



Prince Edward Island was the focus of two episodes of the Philippine cooking show FOOD PRINTS featuring celebrity chef Sandy Daza. The film crew was on PEI in the fall of 2019.

They did a great job to capture the Island culture, what sets PEI potatoes apart, PEI seafood, other delicacies produced by the Island's Agrifood producers, and attractions on the island that will certainly entice viewers. They also did a wonderful segment on Canada's Smartest Kitchen at Holland College in Episode 3, highlighting their services and what they could offer to food processing companies.

Work continues with the Canadian Embassy in Manila and industry partners to develop the market in the Philippines for Canadian potatoes - fresh, seed and frozen product.

Seed Regulation Modernization

CFIA has launched a Seed Regulation Modernization Initiative to take place over the next two to three years. The project will look at all seed covered under the Seeds Act Regulations. Potatoes, which are unique from grain, pulse and oilseeds, are covered under Part II of the regulations. It is many years since the regulations were revised and CFIA and industry are interested in making changes to fix any sections that may be inconsistent, are causing duplications in paperwork and that may no longer be relevant in the way the industry operates today.

The process is just beginning and there are details to be worked out with regard to items such as representation of various sectors, information flow, etc. Activities that will be taking place will include an initial analysis of the current regulations and identification of issues, working group meetings, and an industry survey.

Responsible Grain

We know that you care how food is grown and about preserving our environment for the future. That's why the Canadian Roundtable for Sustainable Crops has developed the Responsible Grain Code of Practice.

What is Responsible Grain?

Responsible Grain is a voluntary, science-based Code of Practice that demonstrates Canadian grain farmers' care and commitment to the environment. It is a baseline of practices that will allow farmers to use the best modern agronomic practices to maintain healthy soil, clean air and water, respect native wildlife and provide a safe work environment for everyone involved on your farm.

Why Was It Developed?

Responsible Grain has been developed to help farmers respond to buyers and consumers who value sustainability. Developed around issues that are of interest to grain buyers and consumers, it includes modules such as nutrient management, pest and pesticide management, soil and water management and human health and wellness.

Responsible Grain will help promote what Canadian farmers are already doing to preserve our land, air and water.

How Can I Get Involved?

Now that Code of Practice has been developed in draft form, your feedback is needed. A formal consultation process will be taking place over the next several months to gather input to ensure the Code is practical and widely adoptable.

On November 24th, the Atlantic Grains Council and the PEI Potato Board will be holding a one-day workshop where farmers can review the Code in detail and provide feedback. For more information, or to get involved, please contact the PEI Potato Board, or visit www.responsiblegrain.ca.

Random Samples

Samples for Bacterial Ring Rot and Post Harvest Virus Testing are commonly collected during harvest. Accurate test results are based on the assumption that samples are collected randomly and are representative of the entire seed lot.

To obtain the best sample:

- **Determine the sample size required based on total seed lot acres.**
- **Take tubers from each load of potatoes that are harvested from the seed lot.**
- **Ensure that potatoes are taken from each field making up the seed lot if multiple fields will be combined in storage.**

UPEI Climate Lab Research

Using Drones for Precision Irrigation and Climate Resilience

By Stephanie Arnold and Dr. Xander Wang,
UPEI Climate Research Lab

The agricultural sector has been facing mounting pressures from increasingly severe climate change impacts. With the rate of climate change accelerating, the pressures on potato production systems (e.g., heat stress, water stress, pest pressures) will intensify the need to adapt. Although climate change is already happening, it is often seen as an abstract and distant problem that diverts resources from current production challenges.

Drone (i.e., remotely piloted aerial system) and remote sensing technology (see Figure 1) can address these issues without pitting them against each other. It can help growers better respond to current crop needs and reduce the use of inputs through precision agriculture.

The same remotely sensed data, collected over time, can also be used to increase the climate resilience of potato production by helping growers decide when and how to begin proactively adapting to changes in the climate. For example, drone data may have triggered an application of irrigation water every 9 days between mid-July and late August from 2015 to 2017. This has shortened to every 7 days for 2018 to 2020. Will the warming trend continue at this rate? Will this production system be financially sustainable over time? Will water allocation be a challenge? The dataset can also help long-term planning and investment decisions. For example, what if climate modelling indicates that within twenty years, production of current potato varieties will become unprofitable? Are there adaptation actions that can extend this window? Will new heat- and drought- tolerant varieties be developed in time? Should growers continue investing in more of the same equipment and strengthening existing relationships in current markets or will they need to consider other management approaches, markets, and crops? Would this change if climate modelling indicates there are thirty years until that happens? What about fifty years?

Figure 1: Pictured on the left is a multi-rotor DJI M210 that has two units onboard: a multispectral unit and a combined visual-thermal unit. Pictured on the top right is a fixed-wing senseFlyeBee X, which can only carry one unit at a time but offers a longer flight time. Pictured on the bottom right are a multispectral unit and a combined visual-thermal unit. (Photo credit: UPEI Climate Research Lab)

Precision Irrigation

One of the adaptation techniques that we have been researching is the use of precision irrigation technology to utilize water efficiently and target the use when indicators show it is needed. The ability of drone and remote sensing technology to collect data over large areas quickly can support more precise irrigation application by answering “where?”, “when?”, and “how much?” The technology does this by using the relationships among water stress, canopy temperature, and plant health. The potato plant adapts

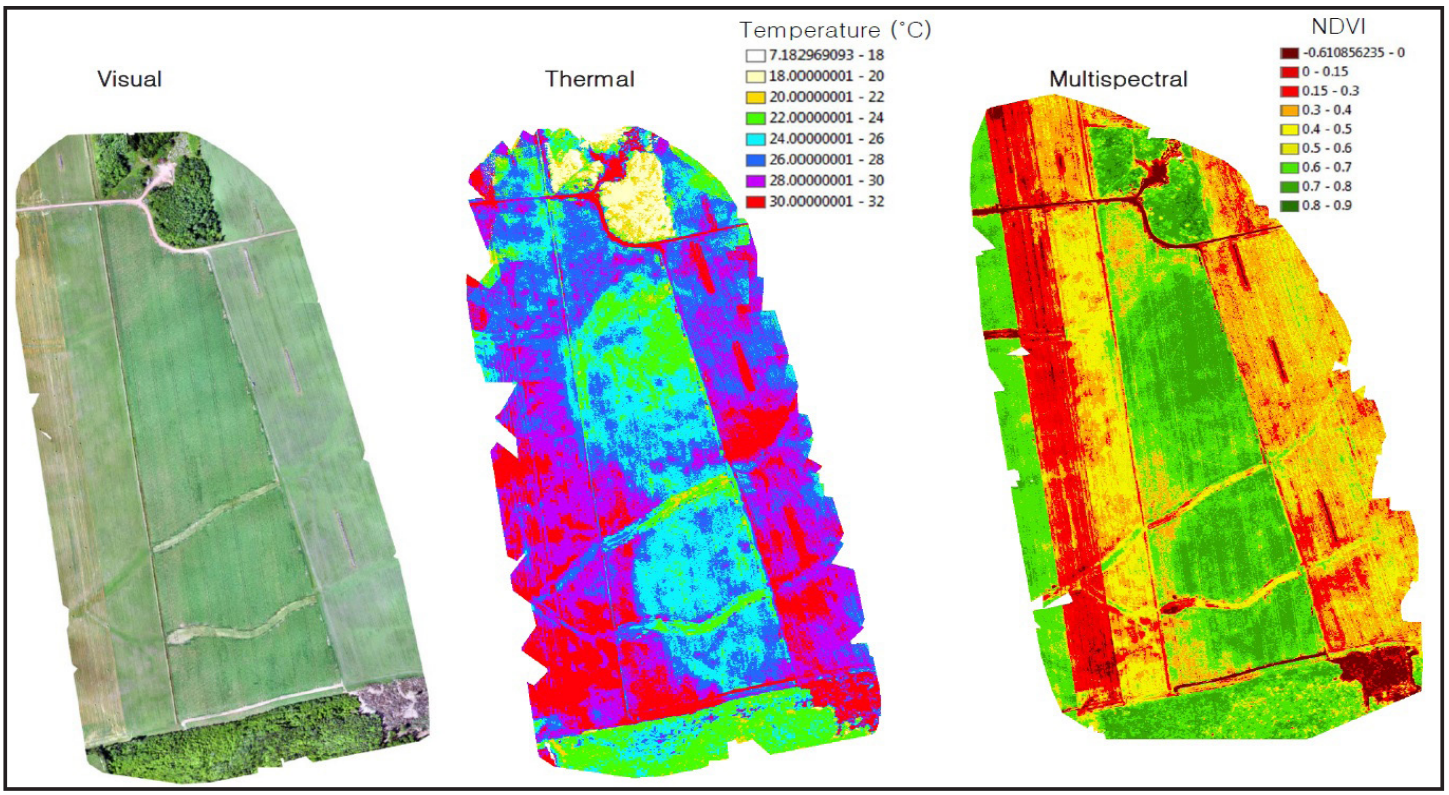


Figure 2: Three types of remotely sensed images of a potato field. The thermal imagery (middle image) shows the impact of irrigation on the potato field. The areas irrigated by center-pivot irrigation system were 2 to 8 degC cooler than the non-irrigated areas. The irrigated areas were also "healthier", as indicated by higher normalized difference vegetation index (NDVI) values shown in the image on the left. (Source: Stephanie Arnold).

to drought stress by reducing stomatal conductance (i.e., pore opening), to lower transpiration and minimize water loss [1]. Once the stomates close, the lack of transpiration warms the leaf [2,3]. On the other hand, a well-watered potato plant's leaf temperature will be cooler than ambient air temperature [3]. Therefore, leaf temperatures can be used to indicate the extent of drought stress in potato plants (see Figure 2).

In terms of "where", thermal datacan be used to detect how temperatures vary across a field, indicating which areas require more, less, or no irrigation. The thermal imagery in Figure 2 demonstrates differences up to 6 degC within the irrigated areas. By pairing thermal data with variable rate equipment, water can be delivered where it is most needed.

In terms of "when" and "how much", thermal data could be used in a number of ways. The most simple method is to apply irrigation when the remotely sensed canopy temperature exceeds the air temperature by a threshold amount (e.g., 5degC). More factors (e.g., weather station data, field variability, crop stage and soil moisture thresholds) can be included to increase precision. For example, thermal data can be used to calculate the crop water stress index (CWSI), which considers the temperature of the well-irrigated areas, the temperature of the areas that require more irrigation, and the difference between the non-irrigated areas and the air temperature when triggering irrigation [4]. Regardless of the method used, precision can be further enhanced by setting different irrigation amounts to different threshold values and tailoring those to the cultivar (i.e., based on its heat and drought tolerance) and plant growth stage (i.e., each stage has unique water requirements and impacts drought-induced tuber yield loss differently), determined in field trials.

Compared to traditional irrigation, precision irrigation can reduce water use by up to 50% [5]. Aside from minimizing costs and alleviating concerns regarding water scarcity, precision irrigation can achieve higher yield and higher tuber quality, by minimizing variation in soil moisture content [6].

Climate Change Adaptation

Combining the remotely sensed dataset with climate projections and adaptation options to build an "adaptation pathways roadmap" will give growers a sense of timing of decisions and types of decisions. The roadmap will use local climate projections to understand the timing and severity of impacts (e.g., heat stress, water stress, pest pressures) and sequence adaptation options from research and current practices to respond to external changes over time. Data collected at the farm (e.g., soil samples, drone data) can be

used to trigger adaptation decisions and actions. For example, efforts to increasing soil organic matter can be triggered now, if the soil's water holding capacity is not meeting crop needs. Increases in spring and summer temperatures, with an increase in the frost free period, could trigger a shift to an earlier planting date to avoid tuberization occurring at the hottest time of the year. As temperatures and extended dry periods continue to increase, the grower will be prompted to decide between irrigation and/or a switch to a more heat and drought-tolerant variety. The roadmap simplifies climate change adaptation by using triggers to prompt the grower to make a decision on whether to continue with the existing adaptation path (e.g., keep shifting planting dates) or begin a new adaptation path (e.g., switch varieties). This allows the grower's adaptation decision-making to be as dynamic as the changing climate.

Progress Update

Researchers at the UPEI Climate Research Lab have been collecting visual, thermal, and multispectral data of irrigated and non-irrigated fields growing a number of cultivars during different growth stages across the Island since the 2019 growing season. Collaboration with other researchers and stakeholders is taking place to tie the remotely sensed data to ground data. This dataset will help determine how industry-standard sensors compare with one another and establish when drone flights should be flown within the growing season for different applications (e.g., precision irrigation, testing drought tolerance of varieties). It will also help determine ways to effectively use drones and ground sensors in a complementary way.

Interviews and surveys with growers, agrologists, and other stakeholders will take place this fall to understand their preferred uses of drone and remote sensing technology to support potato production,how they might use the adaptation pathways roadmap, and what constraints they may face (e.g., time, budget). Then, the above-mentioned dataset can be used to see how those needs could be met. For example, can a mid-range sensor be used to schedule irrigation? How often do drone flights need to take place during the irrigation season? Can the data be used for other precision agriculture tasks (e.g., NDVI values for sprayers or targeted scouting for pests and disease)? An adaptation pathways roadmap for adaptation to future warming has already been drafted. A roadmap for changing precipitation patterns will be developed next. Findings from the interviews and surveys will help determine how remotely sensed data will be collected in the upcoming growing seasons to produce results that are most relevant and beneficial to growers. The researchers plan to begin precision irrigation field trials next season.

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UNITED
POTATO GROWERS OF CANADA
LES PRODUCTEURS UNIS DE POMMES DE TERRE DU CANADA

by Kevin MacIsaac, General Manager, UPGC

Crop and Harvest Update, September 18, 2020

As the first day of fall arrives, the potato crop in the country is in varying stages of growth and/or harvest. The production outlook is mixed after parts of Eastern Canada experienced one of their driest seasons on record while growers in Western Canada work feverishly to harvest their crop from the ground after Mother Nature's early onset of winter prevented them from doing so last year.

Based on current information, it is expected that Canadian production could be off by at least 6,000,000 hundred weight. If yields do not continue to add weight in late maturing varieties and the last harvested fields, production decreases could approach 8,500,000 hundred weight below last year's crop. These estimates assume and hope that all of Canada's 363,470 planted acres will get harvested. Last year, growers were unable to harvest 20,230 acres in the country due to cold and wet weather.

Nothing is for certain until the last potato is in the bin; however, this growing season may have changed supply availability in at least two sectors of the industry: table and processing.

Table production is prominent in the four eastern provinces of Canada. Promising crops in the central region of Quebec and Ontario will not likely be able to cover off the expected decreases out of Prince Edward Island and New Brunswick.

Processors also will likely see tightened supply to meet the needs of recently expanded plants in Alberta and Manitoba, with the overall crop projected to be one of the lowest going back to 2011. In addition, fryers were already playing catch up to a market demand radically reduced by COVID-19 in the spring which then recovered sooner than expected this summer. Unfortunately, this occurred after raw product had moved to other channels and contracted volume for the 2020 crop was reduced across North America.

Provincial Updates

Prince Edward Island

The growing season has been a disappointingly dry one for most PEI potato growers, with the central growing region being particularly hard hit. Fields did receive an inch of rain on September 3, but it was too late for many early maturing varieties which had already gone down. The hope now is that later maturing varieties such as Russet Burbank may be able to hold on as rain eventually appears this fall. Industry sources feel the overall yield could be down anywhere from

15-25%. As Canada's largest potato growing province, that could reduce production by five million hundred weight and make it one of the lowest crops since back in 2001 when the province experienced a major drought. There has been some limited early harvest of table, chip, and processing potatoes.

New Brunswick

Growing conditions have continued dry with no appreciable rain for the last three weeks. Early harvest of chipstock and field fry potatoes has been disappointing with growers reporting yields in the 200-250 cwt/acre range. Growers were reluctant to harvest much volume without additional incentive for reduced yields. Many fields had a reduced set which produced good size but lower tonnage. The drought has taken its toll on varieties such as Goldrush and Norkotahs, but growers are still hopeful on Innovators and Burbanks.

Initial predictions point to a reduction in excess of 30% for this crop. A five million hundred weight reduction would make it one of the lowest crops in the last 19 years.

The industry appears to be reacting to this shortfall with potatoes from neighboring provinces moving in to accommodate the needs of fresh shippers. Harvest for most growers began the week of September 21st.

Quebec

The growing season was dry resulting in some lower yields on early varieties; however, good moisture has been received over the last month. This should provide a decent finish for a province that experienced one of the better growing seasons in the country this season. Early harvest has been ongoing for some time. Growers report good size as a result of lighter set in some fields. Later varieties, particularly russets should bring up the yield average. Some growers started storing potatoes on September 14th, but many growers harvested to storage the week of September 21st.

Ontario

Although some of the early table harvest started off a bit light due to hot weather, fields now being dug are providing good yields. Increased chip consumption and resulting contract volume increased planted acreage this spring. This, along with strong yields, should bring Ontario's production up by one million hundred weight over last year.

Manitoba

Excess heat during the summer has taken the top off the crop this year, with yields down 10-12%. Temperatures dipped below freezing on September 8th and again on September 17th, so the yield potential has been halted on the later varieties. Trial results on some of the newer processing varieties such as Clearwater and Ivory have not responded favorably to the stresses of this growing season. Overall, yields in the province last year were 345 cwt/acre. At this time yields are estimated at 315-320 cwt/acre.

Harvest progress varies with some growers finished and some growers just starting. Harvest conditions are good compared to last year's horrific conditions, although they are also bringing in a few lumps from the dry soil. Growers are anxious to get their crop under cover but even with 100% success, the additional 2,500,000 cwt over 2019, will likely still be short on supply needed to feed the JR Simplot plant expansion in Portage LaPrairie. Table yields are lighter as well.

Saskatchewan

Even with hot and dry conditions, the crop appeared good throughout the season. Harvest is underway with about one third of the crop under cover. Temperatures at Lucky Lake dipped to -6˚C on the morning of September 8th, so growers will be anxious to complete their harvest.

Alberta

The potato crop has had its growing season stresses in Alberta this year as well. Most growers have been disappointed in their yields so far, yet many are also hopeful that the harvest in the last couple of weeks will bring up the overall yield in the province. Crop is of very good quality with high gravities and size – just not enough of it. Smoke from the California fires may be also inhibiting the photosynthetic process slowing bulking in the late varieties.

In addition to a yield reduction, growers were also affected by processing volume cutbacks in the spring, reducing planted acreage by 2,000 acres. Early production estimates would put the crop 1,500,000 cwt below last year. Processing supply will be tight in the province as the new Cavendish Farms plant expansion in Lethbridge was counting on production to meet its increased needs.

The seed crop is looking good considering the acreage that was lost to drown outs in early June. Harvest is going well and growers are pleased with conditions and their progress compared to a year ago. They should have all of their crop under cover in a couple of weeks.

British Columbia

The growing season in BC has provided for a high yielding crop which could exceed last year's 325 cwt/acre. Harvest for the fresh market has been ongoing for some time and many growers have started storing in the last two weeks. Progress to date is estimated at 50% with good digging conditions.

Marketing Initiatives

by Kaley MacDonald Butler and Mark Phillips

These are interesting times, and it requires innovative ways to market our potatoes.

Commercial Update

In 2017, PEI Potatoes developed "It Takes an Island" – a new direction in the way we would traditionally reach out to consumers. The commercial was a success and gave us three years of great content to promote as part of our media buys in our key Canadian markets. We decided this year that the commercial was now mature and we've begun development on a new commercial.

The original spot served two purposes: to raise awareness of our product and the people behind it to our consumers in market, but also as a reminder to Islanders that we are good corporate neighbours and that we put a lot of care into what we do here on PEI. Since we are developing our new commercial this year, we've put a pause on our large scale media buy, but we will still be featuring our "It Takes an Island" campaign locally on broadcast.

Our new spot will film on September 24. We are working with Furrow, a local company who developed and produced

"It Takes and Island" and also PEI Seafood's award winning video "Not Humble." "Made To Enjoy" is the intersection of curiosity, fun and a moral dilemma. It is the human drive vs. the human appetite and the taste buds win. This commercial piece is about a kid that chooses PEI Potatoes. It is a creative that will focus on people and product but also showcase place. It is about creating a piece that will connect with consumers, place the brand in the front of their minds and grocery lists and encourage sale. We are very excited to be working on it and can't wait to share it with everyone.

Virtual Tours

We are also working on a virtual tour experience for buyers and consumers. With trade shows and retail visits taking place virtually for the immediate future, we have decided to put some of our efforts into developing content that can create a unique virtual experience that will make the user feel as though they are standing in a potato field or on a packing line when they have not left their office, store or home. We will be working with Furrow who are

Shooting for the new commercial video material has begun and involves a lot of early mornings and camera mobility to get the best shots!

the first to have acquired the equipment and expertise with virtual platforms and we will be the first industry to use the technology on PEI. We will start the project with filming harvesting in the fall.

Website Updates

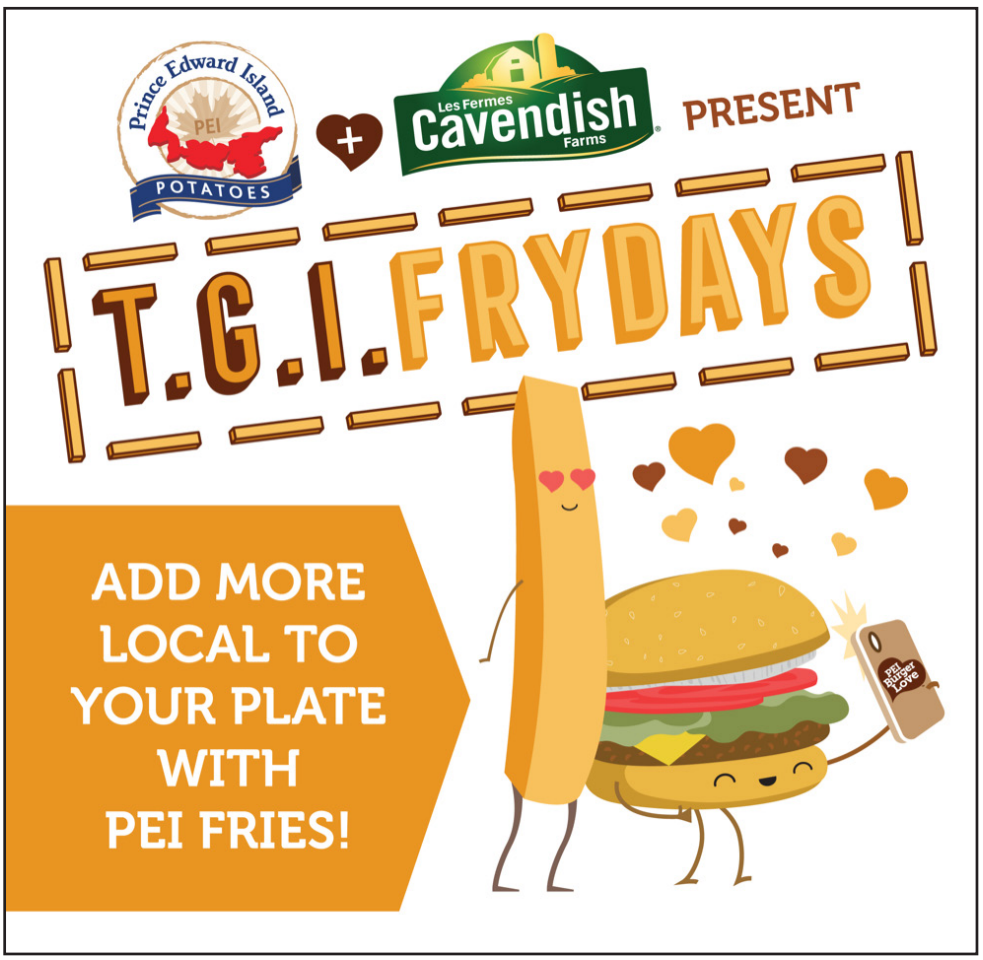
This budget year we are also focusing on updating the website. The project will ensure that the site is mobile friendly, more streamlined and working effectively on the backend for search engines. We will also focus on a more modern look and feel and highlighting our video content and active social media content.

Traditional Events

With COVID-19 restrictions we've had to put some of our favourite events on hold. Farm Day in the City, the Shellfish Festival, Fall Flavours, Open Farm Day, etc have all been put on hold. However, thanks to some hard work by our partners we were able to sponsor Island Summer Review with Patrick Ledwell and Mark Haines from July-September. We will also be sponsoring the sold-out Lennie Gallant show at the Indian River Festival September 25. Burger Love is also underway, and goes until October 15. We have continued our sponsorship and our Fry-Days promotion.

Traditionally we would head to Ontario and New England to meet with retailers to discuss our crop outlook, marketing initiatives, and co-op advertising program. We have had to adjust our schedules, and we will be doing these meetings virtually via Zoom. The PMA show in mid-October will also be virtual this year.

It is certainly different than a traditional fall, but there are plenty of exciting things underway. If you have any questions or comments on anything mentioned above, do not be afraid to reach out to mark@peipotato.org or kaley@peipotato.org.



Field Days

by Mary Kay Sonier

Meetings and gatherings of any kind have been very limited as a result of COVID-19, but with restrictions on gatherings easing up on PEI field days have been able to go ahead with modifications. Both the Agrology Initiative for Marketable Yield (AIM) and Cavendish Farms have hosted sessions that allowed growers to get out and see the early results of research trials in the field. Sessions were spread across the Island which kept numbers within limits and provisions were made for sign in, sanitizing and social distancing.

The AIM sessions were held on September 2nd and 3rd. AIM lead Ryan Barrett and Junior Agronomist Morgan McNeil, along with Steve Watts from Genesis Crop Systems and numerous grower collaborators, had prepared samples to look at early results of trials underway. These included a trial looking at the effect of the physiological age of seed planted, looking at the effect of various cover crops on soil health and the yield and quality of the subsequent potato crop, looking at the effect of subsoiling at planting on the subsequent potato crop, an early dying crop rotation trial site, and a Quash fungicide trial.

Cavendish Farms works with growers across the Island to grow commercial size demonstration plots of promising processing varieties. Standards used are Russet Burbank and Prospect. Every variety has strengths and weaknesses and these plots give growers a first hand view of how the new varieties compare to standards in terms of maturity, yield potential, response to stresses such as heat and drought and susceptibility to disease. Post harvest evaluation of processing quality from short and long term storage and marketable yield will be provided to growers later in the season.

During the AIM Field day on September 3, growers had a chance to view samples from a field of Goldrush that had strips of varying preceding crops of, left to right, buckwheat, clover and hemp. Soil samples so far showed a much higher population of nematodes in the clover strip.

Dwayne MacNeill (left) and Newton Yorinori of Cavendish Farms discuss the pros and cons of new variety Alverstone Russet with attendees at one of four variety demonstration plot sessions held across the Island. Photos: M.K. Sonier.

Cavendish Farms also carried on with their annual field research plot grower tours in a modified format. This year, on September 25, sessions were scheduled with different groups throughout the day with limited numbers in each group to meet Public Health guidelines.

The session began with a tour of the new research facility that was officially opened on September 17, 2020. This was followed by a field tour highlighting a number of different research areas.

Seed management trials include evaluation of methods to improve seed health and promote early, even emergence in our cool springs.

Under the variety evaluation and crop management section, they are looking not only at how new varieties perform under PEI conditions in general, but also evaluation of dryland vs. irrigated plots to see which varieties have a positive response to irrigation. They are also looking at crop management techniques such as seed spacing, fertilizer rates and seed handling practices that will have a positive effect on yield and quality.

New technology that can help improve commercial production efficiency is also being tested. Examples include SWAT Mapping and development of management zones within the field to promote the use of variable rate fertilizer and spray application. Drone imagery is also being used for various tasks.

The research plots are the starting point to choose practices that show promise for further testing on-farm.

Increasingly Variable Precipitation Patterns

by Mary Kay Sonier

Don Jardine has been involved with the Climate Lab at UPEI since it started in 2012. He has worked at locating and installing climate and tide monitoring stations across PEI and on compilation and analysis of data collected from these stations. Don has recently completed his M.Sc. at UPEI and will graduate this fall. He has been tracking all climate data from stations across the province and sending out precipitation data to farmers and other interested parties for the last few years. The data Don has compiled as part of his research studies includes historical precipitation data for Island weather stations including the graph in Figure 1 which shows the rain, snow and total precipitation data for Charlottetown from 1872-2019. While it has not been uncommon to see wide swings in precipitation from year to year, the overall total annual precipitation has been trending slightly upwards. Also noticeable in Figure 1 is the very low annual precipitation in 2001.

There have been comments from potato industry members this year likening the season of 2020 to that of 2001 - the year that the Island crop was reduced by over 30% from the previous year due to extreme drought conditions. Production rebounded the following year.

In Figure 2, graphs prepared from Don's data, show rainfall amounts during the main months of the 2001 and 2020 growing seasons (April to August). In 2001, while rainfalls were variable by location, precipitation decreased steadily in all areas of the province from planting season through June, July and August, the key months for plant establishment and tuber set and growth. Overall precipitation in the 2020 growing season to the end of August has been well below average but appears to have been much more variable by location rather than the steady downward trend in all locations seen in 2001. (Figures 2 & 3).

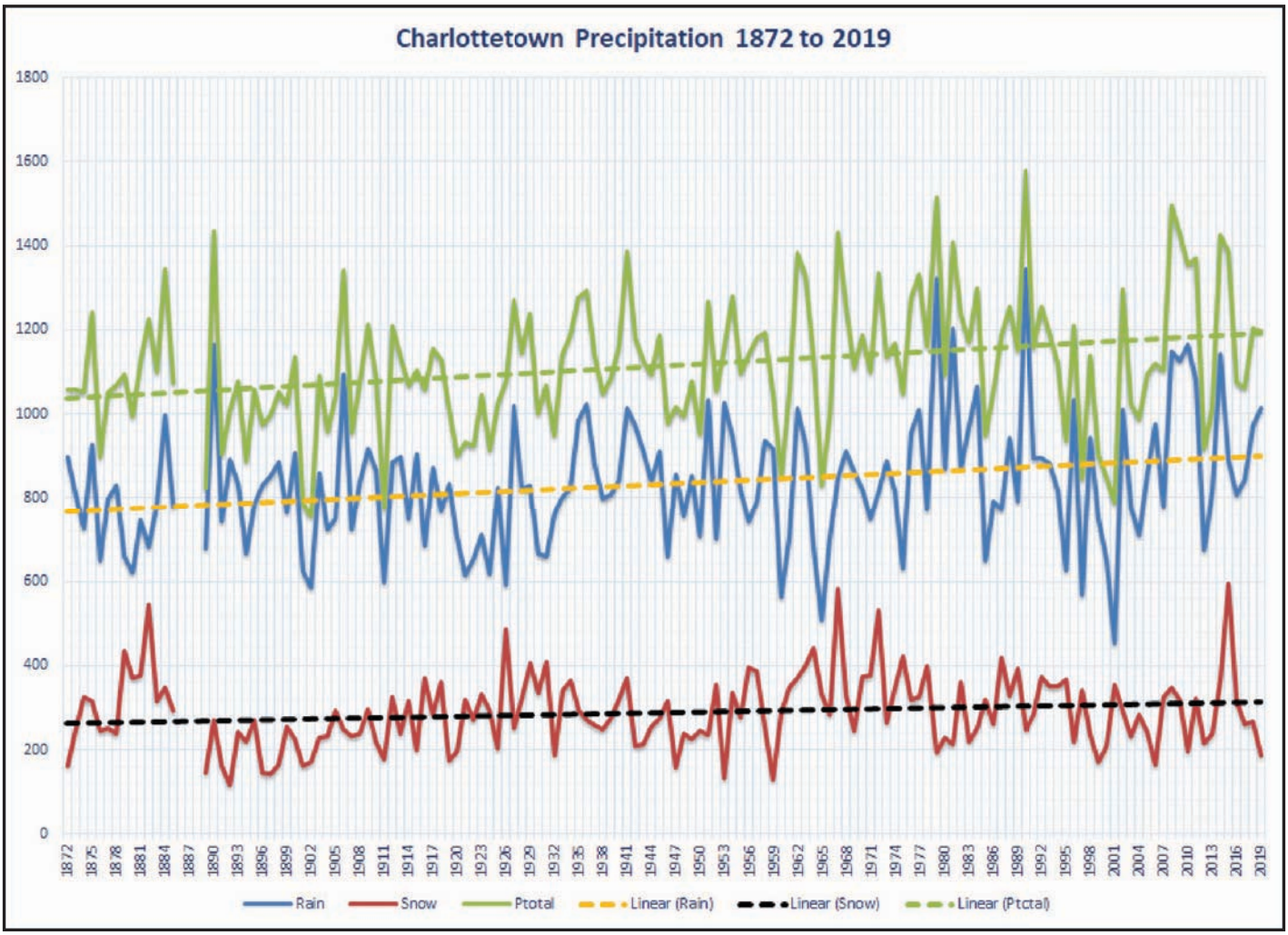


Figure 1. Charlottetown precipitation 1872-2019. Don Jardine, M.Sc. 2020, UPEI.

Jardine's records show that in the past six years (2015-2020) rainfall in July has been below normal across the province which is an issue for crops like potatoes that need moisture during this part of the growth cycle.

Don also has data showing that we are seeing a change in the pattern of precipitation, such as extended dry spells and more extreme rainfall events.

The dry summer in 2020 will impact the whole Island, but actual potato yield and quality on each farm this fall will no doubt be as variable as the rain.

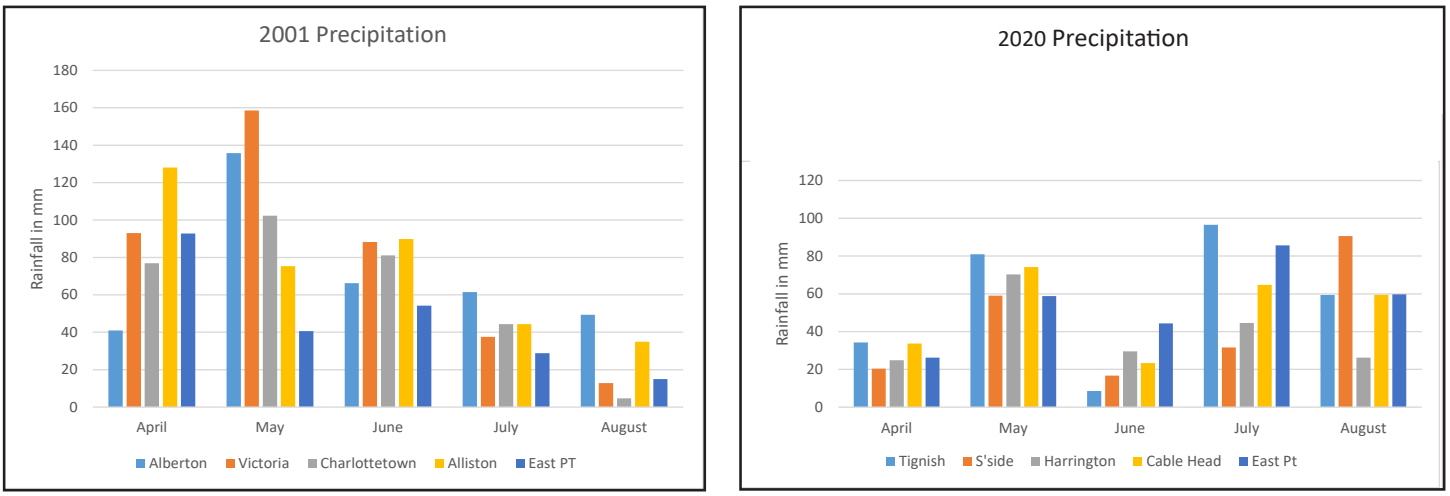


Figure 2. Graphs showing the precipitation records from five different weather stations situated across the province from west to east in 2001 and 2020. Values shown are on a monthly basis from April to August of each year. Rainfall data: D.E Jardine, UPEI Climate Lab.

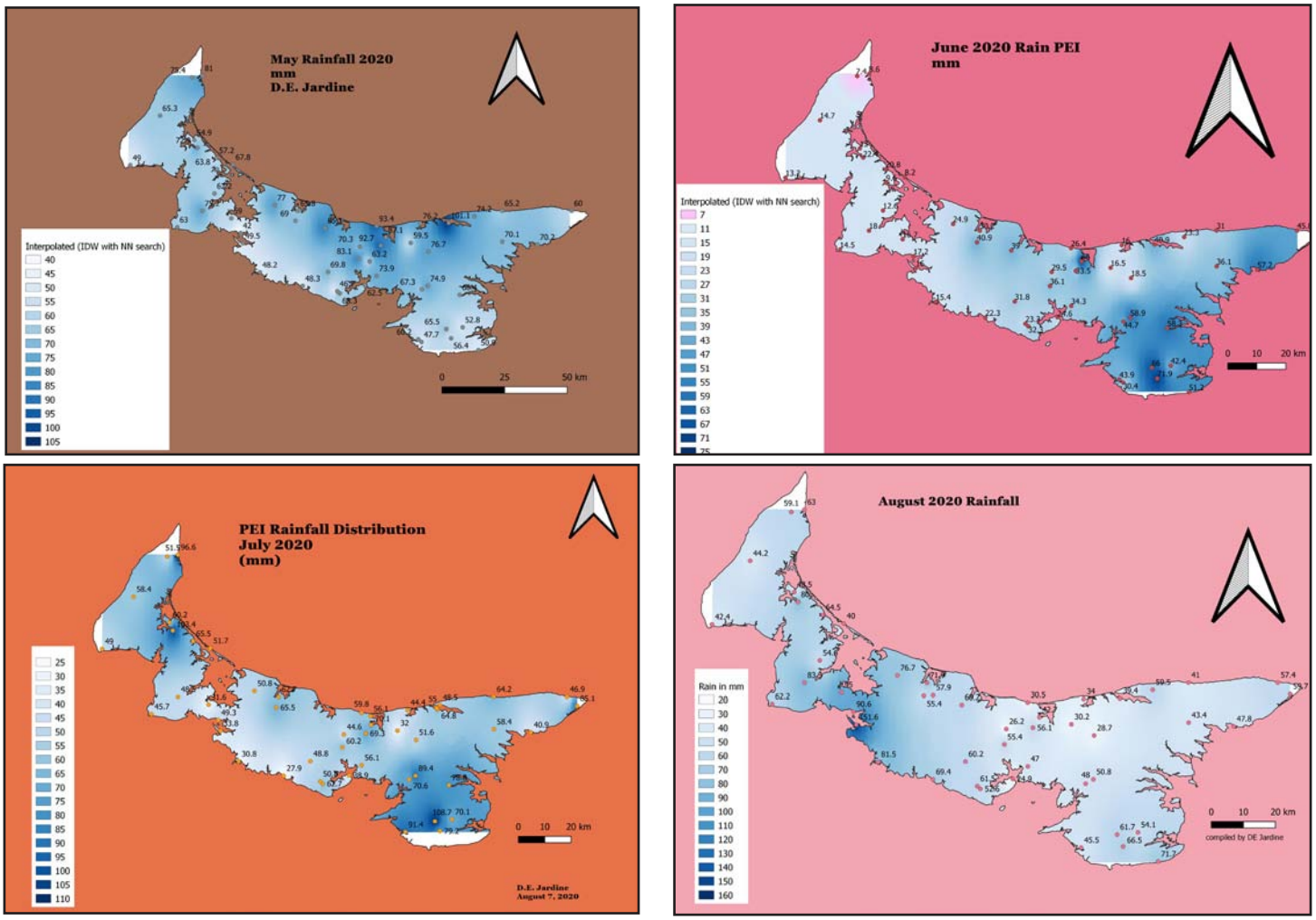


Figure 3. maps that visually depict the precipitation records from weather stations across the province during the months of May, June, July and August 2020 show the wide variation experienced across this small Island. Maps provided by D.E. Jardine , UPEI Climate Lab.

Cover Crops In Action

by Ryan Barrett, AIM Lead

Historically, potato rotations in PEI have included mainly small grains and forage crops. In recent years however, there has been growing use of a wider variety of rotation crops in between potatoes years, some planted strictly as cover crops. In contrast to many rotation crops, there is not always the expectation of a harvest or direct income from the sale of the cover crop, but cover crops provide benefits that are not directly monetary and include:

- As the name suggests - they provide a cover to prevent bare soil over the winter months and reduce wind and water erosion.
- To build soil health by increasing organic matter content and soil microbial activity.
- To break the cycle of soil borne pests by planting a crop that is not host to potato pathogens.
- Some cover crops have biofumigant properties that decrease the population of potato pests such as nematodes, Verticillium or wireworms in the soil.
- Cover crops help to reduce nitrate leaching in the fall months.
- Establishment of a commercial crop such as winter wheat or fall rye.

While there is still considerable research taking place on the benefits of cover crops and which crops will perform best in our location, the practice has moved beyond the small plot phase and is being put into practice on many Island farms.

In some cases, cover crops are used as a full season rotation crop and clipped and mulched or incorporated and the ground replanted. In other situations, cover crops are planted after the main crop of the season has been harvested - be it grain, peas, vegetables or potatoes. This accentuates the drawback of long season varieties in our climate - there is often not enough time for the establishment of a cover crop.

Nonetheless, the industry continues to change. The acreage of the standard late season variety Russet Burbank is declining and in many cases is being replaced with earlier maturing varieties.

Research continues into cover crop species that will establish in late fall in PEI. So far, fall rye is the best bet to quickly establish in cooler temperatures. For fields that will be planted in late summer or early fall the choice widens to include species such as tillage radish, oilseed radish, winter peas, and brown mustard as well as barely and oats. Sudangrass and buckwheat, which are becoming more popular as summer cover crops, are not recommended for fall planting as they do not stand up to frost.

Initially, crops such as mustard and sudangrass were just clipped and incorporated back into the soil, but work is ongoing to determine the suitability of some of these crops for added value. Sudangrass has been cut, baled, packaged as silage and fed to livestock with some success. On some farms, brown mustard and buckwheat are being grown out and the seed harvested, either for sale or to use as cover crop seed.

A survey was done in the fall of 2019, by the Board which showed that more than 37% of potato acres were planted with cover crops after harvest. In addition, a quarter of acres tilled in the fall before potatoes was planted to cover crops. This survey was done to provide a baseline of current practices with the hope of setting goals to increase cover cropping each year.

A. Sorghum sudangrass growing alongside a traditional barley rotation crop to compare how they impact soil health and potato yields through potato rotation. The sorghum sudan grass was clipped and the barley harvested. This crop residue will be incorporated prior to planting potatoes in 2021. B. A mustard field - the right side has been clipped and the left side was left to grow and the seed harvested. All plant material will be incorporated prior to planting potatoes in 2021. C. A mustard crop that has gone to seed and is ready to be combined to harvest the seed. D. A mulitspecies mix that will be clipped and incorporated prior to planting potatoes in 2021. These fields are all part of the Living Labs 2020 Best Management Practices trials. (Photos: Morgan McNeil)

An Update From the:

PEI Department of Agriculture and Land

by Lorraine MacKinnon, Potato Industry Coordinator

As the 2020 harvest gets into full swing, I'd like to wish all producers a safe and fruitful harvest. This year has brought challenges beyond our wildest imagination, outside the normal weather and market trends. While I admire the industry's capacity to face the challenges brought on by the COVID-19 pandemic, I'd also like to remind you to reach out if you're struggling. Several members of the PEIDAL (myself included) are trained in Mental Health First Aid, but for professional help (for you, your family, and staff) remember the Farmer Assistance program can be reached at 902-626-9787. For additional information and resources, check out www.farmerstalk.ca.

Aphid Alert 2020 Summary

In 2020, nineteen producers across PEI participated in the Aphid Alert program which provides twice-weekly monitoring of several aphid species - Green Peach, Potato, Buckthorn, Bird Cherry Oat, and "other aphids". This season, only one Green Peach Aphid was found. The number of green peach aphids has dropped substantially from the late 1990's.

The "other aphid" species have become more of a concern in recent years. Although they are generally non-colonizing in the potato crop, they are transient and able to mechanically spread virus without probing the plant. In 2020, pea aphid numbers were high in a couple of traps for a couple of weeks; however, pea producers were applying control measures and the numbers dropped off later in the season.

Of interest, numbers of "other aphids" have been peaking at different times in the growing season for the past few years. This is important as growers have been targeting aphicide and oil applications for these species. In 2020, the average PEI numbers peaked in week 6 (July 26-Aug 1). In 2019, the peak was at week 7; 2018 week 3, 2017 week 1, 2016 week 10, and week 7 in 2015. Remember that any aphids that are not identified as Potato, Buckthorn, Bird Cherry Oat or Green Peach are labelled "other"; and there could be different species of aphids showing up in different years. Remember also that these peaks vary in quantity from year to year - from an Island average of 5 "other aphids" per trap in 2019, to more than 15 average "other aphids" per trap in 2017. Early applications of oils (from emergence) are still advised.

Figure 1.

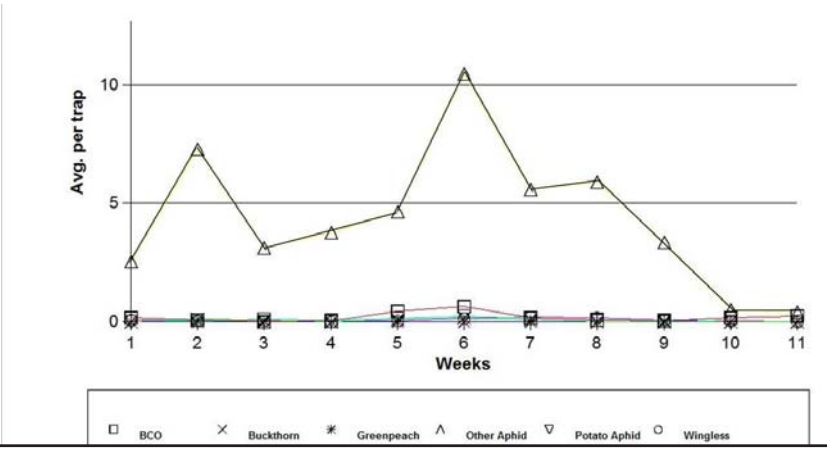


Figure 2.

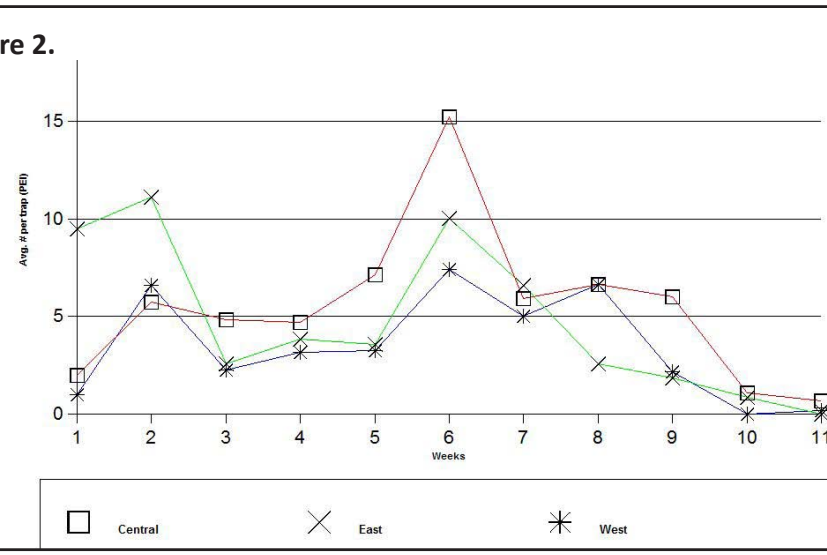


Figure 1 shows Aphid Alert trap catches in the 2020 season - other aphids were trapped in participating seed fields at higher levels than any potato colonizing species. Figure 2 demonstrates the variability that can be seen in aphid numbers by area. This can hep explain different post harvest test results that can sometimes be seen by area as well.

If you are interested in participating in the Aphid Alert program next year for site specific weekly aphid monitoring, please let me know before May.

Call For Applications For Soil Conservation – Erosion Control Structures

Applications are now being accepted for 2021-22 Erosion Control Structure projects under the Agriculture Stewardship Program - Beneficial Management Practices (BMP) Sub-Program. Applications are processed on a first come first served basis and funding will be allotted based on the 2021/22 Departmental budget.

Funding assistance is offered at 55% of eligible expenses up to $20,000 per fiscal year to a maximum of $75,000 under the Agriculture Stewardship Program over the life of the Canadian Agricultural Partnership Framework Agreement (2018-2023).

An application form and program guidelines for the Soil Conservation - Erosion Control BMP are attached or can be found online at: https://www.princeedwardisland.ca/en/information/agriculture-and-land/beneficial-management-practices-sub-program.

Contact Information:

Darcee Birch, Program Officer, 902-894-0340.

Janeen McGuigan, Soil and Water Conservation Engineer, 902-314-0782.

Tobin Stetson, Soil and Water Conservation Engineer, 902-314-0783.

Tyler Wright, Soil and Water Conservation Engineer, 902-314-0789.

Winter Training And Conferences

Efforts are underway by PEIDAL staff to carry out training and conferences to the agriculture industry as usual for the fall of 2020 and winter of 2021. The first such session for potato producers is usually the CEC training for pesticide applicators in early December. Staff are ready to adjust plans if need be. Watch your mailbox and email inbox for announcements of training and conferences. If you'd like to sign up for my email updates, please send a request to lormackinnon@gov.pe.ca, and follow me on Twitter @SpudIslandGirl.

PEIDAL Staff Updates

- Manager of Agriculture Industry Development - Fred VanderKloet has accepted the Manager of Agriculture Industry Development position, left vacant when Lynda Ramsay accepted the position of Director of Agriculture Resources.
- Soil Health Research Coordinator - Hardy Strom has accepted the Soil Health Research Coordinator position. Hardy replaces Bradford Rooney, who has accepted a position with Tourism PEI. We thank Bradford for his past contributions to the Department and wish him well in his new role.
- Agri-Environmental Systems Officer - Jan Cameron has accepted the Agri-Environmental Systems Officer position left vacant by Will Ramsay who has accepted a position with Transportation, Infrastructure and Energy. We thank Will for his past contributions and wish him well in his new role.

Biosecurity

Producers know that several pathogens can be spread from the field to storage at harvest through the movement of soil on farm vehicles. Many potato soil borne pathogens cannot be controlled by post harvest products, so it's crucial to have disinfection practices in place. It's a good idea to discuss disinfection with your staff to ensure your protocols are carried out on farm. Then, as we progress into the winter shipping season, the same principles apply and should be adhered to with outside vehicles (trailers, half tonnes, etc) that travel from farm to farm. Documentation of disinfection is important, and log books can be obtained at the PEI Potato Board office.

Industry Updates

Cavendish Farms Opens New $12.5 Million Research Centre in New Annan, PEI

September 17, 2020 , J.D. Irving, Limited, New Annan Prince Edward Island, - Cavendish Farms' new Research Centre in New Annan, Prince Edward Island officially opened today with a ribbon cutting with Hon. Dennis King, Premier of Prince Edward Island, and company officials. The $12.5 million facility, which is fully funded by Cavendish Farms, is an investment in the sustainability of PEI's all-important potato industry.

"This is another step to help support potato growers and the potato industry on the Island," said Robert K. Irving, President of Cavendish Farms. "Our goal is to help address the specific challenges faced by growers here on Prince Edward Island." The new research facility will have 6 state-of-the-art greenhouses and will allow Cavendish Farms to conduct important research year-round. Different lines of potatoes with promising traits such as superior yields, size characteristics, and a reduced environmental footprint specific to soil, climatic and seasonal conditions on PEI will be evaluated.

"Island farmers and producers have always been at the forefront of innovation and research, developing new practices to ensure they can continue to grow high-quality products that Prince Edward Island is known for. I commend Cavendish Farms for not only working with Island farmers towards a common goal, but for also taking on a project that brings jobs to the agriculture industry and contributes to the Island economy," said Premier of Prince Edward Island, Dennis King.

As witnessed over the last several summers, the growing season is changing with hotter temperatures and less precipitation at critical times. This is a real challenge for PEI growers and places the potato crops at risk. The Cavendish Farms Research Centre will study different potato varieties. The Plant Breeding Program will cross various combinations to breed and select a variety that is suitable to the challenging conditions currently faced on PEI.

"Cavendish Farms' investment in this important research will benefit all potato growers and the entire industry. It will help ensure the sustainability of our potato crops," said Greg Donald, General Manager of the Prince Edward Island Potato Board.

The Cavendish Farms Research Centre created 4 full-time and up to 12 seasonal jobs.

The ribbon was cut on September 17 to open the new Cavendish Farms Research Centre in New Annan, PEI. Those taking part in the ceremony included left to right: Vernon Campbell, grower and long time supplier of processing potatoes to Cavendish Farms; Newton Yorinori, Director of Research and Seed Operations, Cavendish Farms; Hon. Dennis King, Premier of Prince Edward Island; Robert Irving, President, Cavendish Farms; Jubs Bristow, Vice President Agriculture, Cavendish Farms; and John Ramsay, another long time supplier of processing potatoes to Cavendish Farms. Photo: Cavendish Farms.

Fox Island
Elite Seed Potato Farm

Owned and operated by the Potato Producers of
Prince Edward Island

Full tissue culture laboratory and screenhouse production facilities

Seed inspected by the Canadian Food Inspection Agency

Box storage in ventilated warehouse

Contracted production of proprietary varieties with signed agreements

Wide range of public, commercial, and specialty varieties available

Pre-Elite, Elite I & Elite II Seed Potatoes

Please call Mary Kay at (902) 892-6551 or Mark at (902) 853-5490 for details on seed availability for 2021.