



# New Brunswick Soil & Crop Newsletter



September 2019

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## Inside this issue:

41st NBSCIA AGM	1
Reminder	2
Research update	2
Research Update Cont.	3
Farm of the Year Nominees	4
Kings County Happenings	4
Central News	5
Competition Results	6
Moncton-Chignecto News	7
Carleton/North Shore News	8
North West News	9-10
Services/Contact us	11

## SAVE THE DATE: NBSCIA AGM & WORKSHOP

The 41st NBSCIA Annual General Meeting & Technical workshop will be held in Woodstock on February 20-21, 2020 at the Best Western. We have been busy planning the event and are very impressed with our speaker line-up to date. Our keynote speaker comes all the way from Colorado!

Brendon Rockey is a third generation farmer in Center, Colorado. On Rockey Farms, he raises specialty potatoes and quinoa among cover crop fields, all cultivated in a living environment. Companion crops, animals, cover crops and flowers replace synthetic fertilizers, herbicides, fungicides and insecticides. The 500-acre, irrigated farming system sustains yields, has greater water efficiency and it supports a flourishing ecosystem encouraging beneficial insects, soil microbes and carbon cycling.

At 7,600 feet above sea level, Rockey Farms also produces cide-free, year-round certified seed potatoes in a greenhouse while operating an off-farm packaging warehouse.

Learn about Brendon's biotic management system, which is founded on carbon cycling and diversity. He explains how synthetic inputs and the absence of life breakdown soil resiliency and, in turn, how a biological farming system supports not only soil health, but the overall farm's health. Brendon will share the science behind his approach and how he continues to build on soil health fundamentals with regard to his available resources.

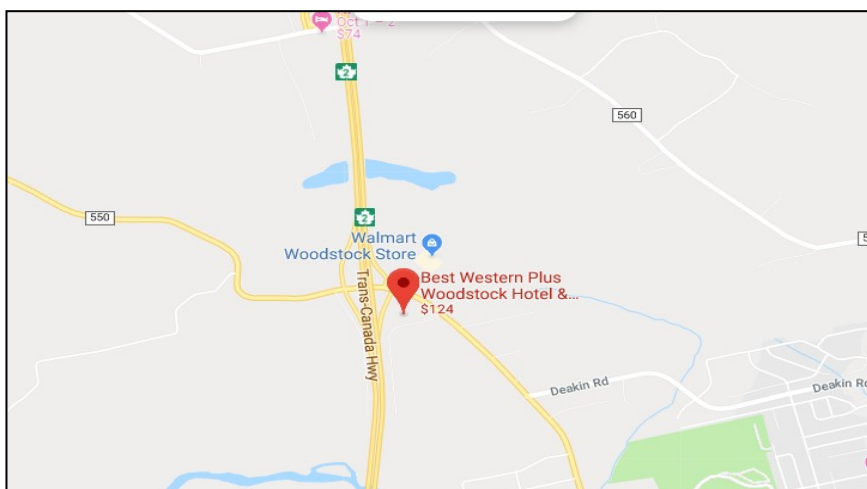
Visit [www.brendonrokey.com](http://www.brendonrokey.com) to learn more about Rockey Farms and Biotic Potatoes.

Other confirmed speakers include Dr. Joshua Faulkner, University of Vermont, specializing in Climate Adaptation, Dr. Judith Nyiraneza, AAFC Nutrient Management Specialist, and Dr. Andrew McKenzie Gopsill, AAFC Weed Scientist. More speakers to be announced in the coming weeks!

We are still looking for sponsors for our event, if you or someone you know is interested, please let us know!



Brendon Rockey



## Reminder Section

### Soil sampling

It is recommended to take samples every 3 years, or when changing crop type. Soil tests are best for potassium, and phosphorus.

### Tissue sampling

Tissue sampling, coupled with soil sampling is a good way to get an idea of your crops nutrient uptake. It is especially beneficial for the level of some other nutrients which can make all the difference with certain crops (e.g. sulfur for alfalfa and cereals, zinc and boron for corn).

### Manure Sampling

Just like soil sampling, it is recommended to test your manure every 3 years. Testing your manure gives you a better idea of what nutrients you are putting on your fields, potentially leading to a decrease in applied fertilizer and a decrease in fertilizer cost.

### Machinery calibration

It is important to calibrate sprayers and seeders to avoid unnecessary product loss. Don't forget to also clean out sprayer tanks and seed boxes for the same reasons.

## NBSCIA 2019 Research

The NB Field Crop Germplasm project has had a great year! The cereal trials have all been harvested and yields look good! As the season goes on, Corn Silage, Soybean and Grain Corn trials will be harvested.

The NB Forage variety & Management project which has been planted in Richmond Corner has had a great year! We are excited to see data from our emergency forage trial as well as an Alfalfa fertility trial. We have planted 8 forage mixtures in strips for 2020. Please stay tuned for continued work on Forages!

### Project C1819-0977-Y2 NBWeather Mapping for Intensive Crop Management

The NB Agricultural Weather Network consists of fifty two stations managed between NBDAAF and NBSCIA. Month end accumulations for rainfall, CHU and GDD are now posted on the NBSCIA website. <https://www.nbscia.ca/en/nb-weather-maps-2019.html>

The maps are presented in a large scale format to cover the entire Province and provide accumulation data from May 1. If you would like a smaller scale to identify a particular field location or a summary from a particular planting date contact your local NBSCIA Coordinator.



### Project C1920-0201- Demonstrate Biofumigants as a Control of Root Lesion Nematode

The objective of this project is to demonstrate the use of mustard species as a biofumigant and cover crops to control or suppress Root lesion nematodes and Verticillium wilt in subsequent potato crops. A demonstration has been established in one field location with three replicated mustard stripes with three cover crops, Sorghum sudan, Pearl millet and oats. Soil samples will be collected in the plots this fall and in a potato field to evaluate the levels of infection.





## NBSCIA Research Continued..

### Project C1920-0035 NB Crop Production Optimization Project Registration

Objectives for the project are: 1) to accelerate the adoption and utilization of “Precision Farming” tools for forage, cereal, corn, soybean and potato crop management in New Brunswick; 2) to quantify the potential yield improvement for forages, grains, oilseeds and potatoes in New Brunswick and 3) to identify primary soil chemical and physical characteristics limiting crop yield that may contribute to in-field yield variability.



NBSCIA members with geo-referenced yield data from forage harvesters, combines and potato harvesters are encouraged to sign up. Participants will receive 2D and 3D yield maps for the fields with quality data and an opportunity to learn the range of in-field variability and identify potential causes.

For more information on this project and to register for participation contact your local NBSCIA Coordinator

### Project C1920-0036 Soil Health Benchmarking Reference

The primary objective of this project activity is to undertake an initial survey of the range of values in measurable soil health parameters across a range of soil types and/or commodities and related management practices common to New Brunswick farm systems.

Cooperators will receive; 1) a soil health analysis summary from the University of Dalhousie which includes: soil texture, active carbon, wet aggregate stability, soil respiration, extractable protein and available water holding capacity and 2) the standard PEI Analytical Laboratories soil analysis: pH, OM, P2O5, K2O, Ca, Mg, Cu, Zn, Fe, Mn, S, B, Na, Al, Lime Index, CEC, % Base Saturation

These data will serve as a benchmark for reference in subsequent testing and provide producers with an initial definition of soil health values for specific agricultural systems or management practices in New Brunswick’s major commodities.

For more information on this project and to register for participation contact your local NBSCIA Coordinator



Other projects that we have worked on this summer include an Oat variety study with Phytogene Resources. These plots came off over labour day week and we saw some great yield differences across varieties.

In Partnership with the Atlantic Grain Council we have been working on a Wheat & Barley Management Trial, these trials have been harvested and samples sent to Truro for Analysis.



## Farm of the Year Nominees

The New Brunswick Soil & Crop Farm of the Year is a prestigious award that is awarded annually. Each region selects a Farm they feel has demonstrated environmentally sustainable practices throughout their operation. This year we are fortunate to have 6 very deserving nominees. The Judging has been complete! Join us on February 20 in Woodstock at the Farm of the Year Banquet for the crowning of this award.



### **Kings County**

Lonsview Farm Ltd.  
Daryl & Eric Walker  
New Line, NB

### **Chignecto**

Verger Belliveau Orchards  
Robert & Samuel Bourgeois  
Memramcook, NB

### **North East**

Camerises LePlante Ltee  
Paul LePlante  
Pigeon Hill, NB

### **Central**

Brian & Calvin Connor  
Hawkins Corner, NB

### **Moncton**

R & B Dykstra & Sons Ltd.  
Reint & Bethany Dykstra  
Second North River, NB

### **North West**

Ferme Brothers Company  
André Côté  
Drummond, NB

## Kings County happenings

Kings County has been keeping busy with the usual soil sampling, mapping, and EFP work among other service work. This summer all coordinators received training for GAP food safety and were given tools to help producers with pre-audit practices.

This year the Sussex Field day was a Forage day. Frank and Alex Jopp hosted the event on August 10th in Knightville. The event had over 85 people attend and was a great success. Lunch was free to all guests and sponsored by the Sussex Co-Op. Mrs.

Dunsters also made a welcomed donation of coffee and donuts. The dealers that attended were Hall Bros Enterprise Ltd, Green Diamond equipment LTD, Arbing equipment Ltd, Tom's Lime spreading, Millstream Agriculture (Mchale equipment). There were various types of equipment on display and demoed such as: mowers, wrakes, tedders, bailers, no till grass/grain seeder, lime and ash spreaders, bail choppers, and bail wrappers. There was a great discussion lead by Walter Brown on forage crop mixtures. He also answered questions about winterkill and emergency forage options. We were very happy with the weather and all the members and dealerships that could attend. Thanks again to everyone that came out on August 10<sup>th</sup>. I welcome you all to next year's field day which will be a tillage day in the late summer/early fall.



### **In other Kings County news...**

Scott Macdonald at Clearland Holsteins was the Kings participant for the forage competition at the NB Exhibition. He placed 1<sup>st</sup> in second cut grass silage, 2<sup>nd</sup> place in first cut grass silage, and was the competition's only submission for a third cut grass silage.

The farm of the year candidates are Eric and Daryl Walker at Lonsview Farm. Judging has already taken place and results will be announced on Feb 20<sup>th</sup> at the AGM banquet. The farm of the year dinner for Kings is still being scheduled for late Oct-early November. The All Season's restaurant in Sussex will be the location this year.

The Sussex weather stations have been up and running since May. NBSCIA has installed many new stations around the province to provide everyone with consistent CHU, GDD, and rainfall data. The weather data is being uploaded on a monthly basis to our website. There are stations in Millstream, New Canaan, Chambers Settlement, Quispamsis, Barnesville, and Kiersteadville. The maps are very interesting and we look forward to having quality data for the region for years to come.

-Joseph



## Central News

Where has the summer gone, I have been busy maintaining frequent member communications, installing, maintaining and distributing weather data from 15 Davis weather stations in the central region. I have also been over seeing the research in Lakeville and Richmond Corner.. Working one-on-one with producers is still the number one priority of the Environmental clubs, this summer I attended a training session that will allow me to help our producers get ready for a CanadaGAP food safety audit. This will be a new service that NBSCIA will be promoting to it's members. As always, there has been lots of soil sampling and recommendations completed, tissue sampling is on the rise and Environmental Farm Plan renewals are being sent off.

For our summer field day, we partnered with the NB Angus Association and had a pasture tour. The tour started at Springhill Farm, Bev McMurtrie in Fredericton before moving into Carleton county to see Garvie Mountain Angus, Trevor Welsh and finished off the day at Ben Wolhgemuth's. A big thanks to the farms that hosted us and to the NB Angus Association for providing lunch.



### New Brunswick Soil and Crop Forage and Grain Competition

The New Brunswick Soil and Crop Forage and Grain Competition went off without a hitch! In total we had 27 entries in different classes. While entry numbers were down, I believe that the quality of forages was up! I would like to thank all the participants for their entries as well as our judge Jason Wells, DAAF Livestock Feed Specialist. The forage samples were judged on 40% appearance, 30% Crude Protein (CP) and 30% Acid Detergent Fiber (ADF). The grain was based on 40% appearance, 30% CP and 30% test weight. I hope you all had a chance to stop by the Soil and Crop booth at the Fredericton Exhibition to look at our forage and grain entries. Suggestions are always welcome on how we can improve our competition and our booth at the exhibition. The competition dates for next year are September 7th—13th. Samples will be need to be submitted to an agrologist by mid- August. Please watch for advertisements in the New Year. Congratulations to all!! Results on next page...

-Leigha



## New Brunswick Forage & Grain

**Barley:** 1st Place: Jeremy Duplessis, Keswick, NB

**Wheat:** 1st Place: Jeremy Duplessis, Keswick, NB

**Soybean:** 1st Place: Jeremy Duplessis, Keswick, NB

**Grain Corn:** 1st Place: James Love, Mactaquac, NB  
2nd Place: Jeremy Duplessis, Keswick, NB

**Corn Silage:** 1st Place: George Wesselius, Wheaton Settlement, NB  
2nd Place: Roy Van Brugge, Scotch Lake, NB  
3rd Place: Andre Brilman, Maple Ridge, NB  
4th Place: Scott MacDonald, Searsville, NB

**1st Cut grass silage:** 1st Place: Guy LeBlanc, Memramcook, NB  
2nd Place: Scott MacDoanld, Searsville, NB  
3rd Place: Matt Edmondson, Lake George, NB  
4th Place: Nick & John Graham, Good Corner, NB  
5th Place: Brent Dunphy, Keswick, NB  
6th Place: George Wesselius, Wheaton Settlement, NB

**1st Cut Grass Hay:** 1st Place: Nick & John Graham, Good Corner, NB  
2nd Place: Roy Van Brugge, Scotch Lake, NB

**1st Cut legume Silage:** 1st Place: Nick & John Graham, Good Corner, NB

**2nd Cut Grass Silage:** 1st Place: Scott MacDonald, Searsville, NB  
2nd Place: Nick & John Graham, Good Corner, NB  
3rd Place: Roy Van Brugge, Scotch Lake, NB

**2nd Cut Legume Silage:** 1st Place: Nick & John Graham, Good Corner, NB  
2nd Place: David Waddy, Colpitts Settlement, NB  
3rd Place: Scott MacDonald, Searsville, NB

**2nd Cut Grass Hay:** 1st Place: Matt Edmondson, Lake George, NB  
2nd Place: Andre Brilman, Maple Ridge, NB

**3rd Cut Grass Silage:** 1st Place: Scott MacDonald, Searsville, NB



**CONGRATULATIONS**



## Moncton-Chignecto News

Summer has flown by this year in a delayed growing season. The cold wet spring saw crops across the region delayed by 2 weeks, which has many of us hoping for a long and mild fall. I spent the majority of my spring in the field taking soil samples and making nutrient recommendations. Over the summer I was fortunate to attend several learning events including the 2019 Forage field day at the AAFC Napan research and development farm, the Atlantic Agrology Workshop hosted by the PEI Institute of Agrologists, a Canada GAP training program and the Central Carlton county pasture tour.

There were two field days planned in the south east for the month of September. Widespread winterkill in the 2019 season has led to an increased interest in emergency forage crops, the theme of the 2019 Chignecto field day that was held on September 10, 2019. I would like to thank Willie Leblanc and sons Ltd. for hosting and showing off their successful sorghum crop along with our new provincial Livestock Feed Specialist Jason Wells for providing us with his expertise as a guest speaker. The event was well attended with close to 30 participants. A second field day is planned in the Southeast for this coming Friday September 20, 2019. It will be hosted by Wesselius Holsteins and is corn themed. Wesselius' highspeed corn planter will be on display and guest speakers Jason Wells and Gavin Graham will cover the keys to pest management in corn.

This month also saw widespread losses in the Atlantic agriculture industry as a result of the impacts of Hurricane Dorian. With damage in New Brunswick being heavily concentrated in the south east. We continue to monitor leaning corn for signs of recovery, while fruit producers have begun to evaluate their losses and clean up efforts are well underway. If there's anything NBSCIA or I can do to help with the recovery efforts please don't hesitate to call! As we move into fall I urge you to think about if all your soil samples are up to date, and if not don't hesitate to reach out to me and PLEASE take advantage of your NBSCIA discount on soil analysis! Fall and winter are a great time to start thinking about updating and completing nutrient management plans, environmental farm plans and emergency response plans.

As always if there is anything I can do for you please reach out by phone, email or text message.

-Zoshia

### Chignecto Emergency Forage Field Day Recap

On September 10, 2019, farmers from across New Brunswick gathered in Memremcook at Willie Leblanc and Sons Ltd. to check in on the progress of their 2019 forage sorghum crop and to take in some much-needed information from Jason Wells the New Brunswick department of Agriculture Livestock Feed Specialist. The day ended with a barbeque and social. Some key take home messages from the day include: Remember perennial forage crops are still the best option for forage production, so be sure to treat them right with proper liming and fertility management. We plant emergency forages in response to: skipping on rotation/lime/ fertility/management, increased herd size, crop failure or winter kill, delayed spring seeding and to compensate for poor weather. No annual forage crop will out yield a corn crop, however, if corn isn't the right choice for you there are other options such as cereals, ryegrass and warm season grasses like sorghum, Sudan grass and millets. Finally, remember not to be afraid to try new things and ask for help and advice when you need it.



## Carleton News

The 2019 season certainly has been different, starting with no CHU accumulation in May and excessively wet conditions delaying the start of planting. Overall July and August precipitation has been approximately 50% of the previous five-year average and any rainfall was scattered and erratic. Disease and insect pest levels have in general remained below economic thresholds. The late start and variable weather patterns influenced forage yields as would be expected and provided the usual challenge for making silage and hay. Cereal grain yields are average to above with excellent quality and early potato yields average. At the time of writing it remains to be seen what happens with grain corn and late potato quality.

Development of the NBSCIA Geodatabase continues supporting the preparation of farm maps as requested. Assistance has also been provided to Members for preparation of Environmental Farm Plans and Canada GAP audits. Implementation of NBSCIA projects is ongoing.

## North Shore News

The North Shore New Brunswick Soil & Crop Improvement Association (NBSCIA) is fully engaged with its members. This agro-environmental advisory club undoubtedly represents a major asset for the development of the local agricultural production. Conscious of its usefulness, especially for wild blueberry and forage producers, it plays an important role in the coordination of their agricultural activities. One of our goals for this summer was, according to the mission of the club, to provide basic agronomy services to members, notably in management of organic and chemical fertilizers, control of weeds, insect pests and diseases, achievement of environmental farm plans (EFP), preparing maps, assistance in R&D projects. For achieving our target, several exchanges by e-mails, phone calls, meetings and frequent visits to the fields were performed. Our efforts have enabled more than thirty (>30) members to have access to relevant information on new developments in the local agricultural industry, to diagnose major problems/priorities on each member field and to formulate the appropriate recommendations. In this context, low bush blueberry fields tours allowed us to identify weeds (sarsaparilla, bunchberry, witchgrass, Canada mayflower, lambkill, rhododendron, hardwood, hawkweeds, dogbane, etc.), insects (flea beetle, fruit fly, spanworm, thrips, etc.), diseases (Monilinia Blight, Botrytis Blight, Septoria leaf spot, leaf rust, etc.), branching and overfertilization as the main source of concern for most of the producers. In addition, soil and tissue sampling were performed and analysis report delivered, steps for new EFPs are undertaken and several R&D projects were monitored in the interests of members involved. One interesting project for this summer was to evaluate the efficiency of a new high-tech chemicals mixer (Handler IV H43P13V) considered as the king of batch induction systems with its larger liquid volume and incredible agitation capability. This instrument has been acquired this season by *Les bleuetières Ltd* to enhance its field operations by reducing sprayer fill time, as part of Enabling Agricultural Research and Innovation funding supported by the Canadian Agricultural Partnership (CAP) program (figure 1). Realizations for this summer demonstrate the North Shore NBSCIA is definitely operational and highlight at the same time its role in better serving agricultural producers in this area towards a profitable and sustainable agriculture. The next step for this fall will be to maintain touring the fields for scouting and controlling post-harvest autumn pests as well as attempting organizing a field day through which growers could share their respective experiences during this agricultural season.



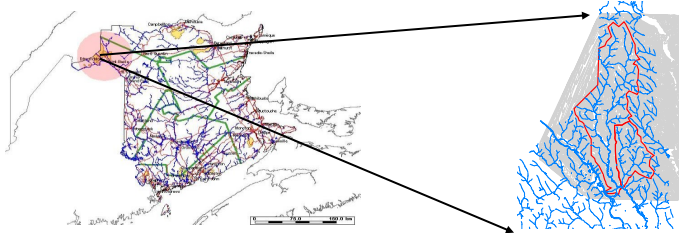
**Figure 1: Bruno Comeau, operator of the mixer Handler IV H43P13V for the farm business *Les bleuetières Ltd*.**



## North West News

### Engagement of farmers to protect the Watershed Iroquois-Blanchette

Since 2007, the 'Club-conseils agroenvironnemental du Nord-Ouest' (CCNO) – North-Western Agri-environmental Club), in conjunction with other partners, has begun to undertake agri-environmental initiatives in the Iroquois/Blanchette Watershed, approximately 10 kms north of the City of Edmundston. This designated watershed covers an area of about 176 km<sup>2</sup> which extends beyond the Quebec-New Brunswick boundaries. The Iroquois and Blanchette are streams that meander through the watershed that supplies drinking water to the Edmundston municipal wells.



The topographic characteristics of this watershed reveal an undulatory relief, with some slopes reaching 10%. In addition, with 13 livestock farms within the designated watershed area make this region one of the most densely farmed watersheds in proximity to a city waterworks intake. Therefore, the risk of water contamination by bacteria from manure spreading on the fields is considerable. The City of Edmundston's intake supplies approximately 17,000 citizens from the Iroquois/Blanchette Watershed. This led to the 1991 designation of this watershed under the 'NB Watershed Protection Designation Order' by the Department of the Environment. This designation was met with justified reluctance from the producers in the regions who feared that this law would restrict land use within 75 meters from both sides of the water course without compensation, resulting in reduced production potential and therefore farm income.

To meet these challenges with the support of the Environment trust funds, the NB Dept. of Agriculture and Fisheries, the City of Edmundston and the CCNO proposed partnership-based complementary projects. The goals of these projects are as follows::

- foster collaboration between all stakeholders within the watershed in order to sustainably protect water quality.
- Educational awareness related to environmental policies and Acts.
- Promote Environmental Farm Plan and the Nutrient Management Plan among agricultural producers;
- Implement Best Management Practices (BMP) on farms to protect the soils and water quality.
- Encourage collaboration and cooperation of interested producers.

Carrying out this project was a tall order since divergent interests had to be constantly brought to the same table. After some years of intervention, and even when faced with climatic, budgetary, and strategic constraints, this ongoing project is a real success. Seven farms have collaborated actively in on-farm management, demonstration, and implementation projects. The following results have been achieved:

- Approximately 180 linear feet of the Iroquois River banks have been stabilized through agro-forestry.
- Riparian zones have been established and managed with the planting of more than 1300 trees and shrubs.
- Approximately 12 culverts have been installed after obtaining the required Watercourse Alteration Permits.
- Run-off control management work has been completed on five farms.
- Completion of a linear management plan for the installation of 1000 meters of wire fence to keep cattle away from watercourses.

Continued page 9....

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## North West News Continued

- Installing and stabilizing rock and grassed waterways.
- Installation of exercise pads, gutters on livestock barns and drains has rerouted water away from manure piles and lowered contamination risk.
- Development of new environmental farm plans has allowed the farmers to define environmental action plans.
- Managing 1000 linear meters of diversion ditches to carry clean water. Installing a reinforced concrete platform and manure pit to contain manure.
- Installing five watering troughs to keep cattle away from watercourses.
- Field data collection and on-the-ground surveys with GPS were completed on part of that agricultural land with collaborating producers
- After negotiation during the summer 2019, the City of Edmundston committed itself to support the runoff control on three farms.

We are unanimous in saying that if we want to leave a viable heritage to future generations, efforts are necessary in terms of rational management of our water, soil, air, and biodiversity resources. Water quality is an indicator of the health of the environment in which we live. For the same reasons, the health status of the Iroquois/Blanchette Watershed affects the water quality for the City of Edmundston. It should be noted that the environment is everyone's business.

Farmers cannot assume by themselves alone the environmental costs in order to protect the municipality's drinking water. If Edmundston had to filter the water, the bill to pay by taxpayers would be enormous. Therefore, it is a great privilege to have a far-seeing technical management committee which we shall need to provide on-going human and financial resources in order to maintain water quality. Farmers can then continue their efforts by implementing Best Agricultural management practices and proper management of riparian zones. With this in mind, it would be interesting to also see an innovative Ecological goods and services program set up in New-Brunswick in order to compensate the efforts of the agricultural sector in protecting water quality, especially within designated watersheds.

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## Important Dates

### **Moncton Soil & Crop Corn Field day**

September 20th, 2019 @ 2 pm

Wesselius Holstein Farm

850 Wheaton Settlement Road

### **NBSCIA AGM & Technical Workshop**

February 20 & 21, 2020

Best Western Plus

Woodstock, NB

### **Canadian Forage & Grasslands Conference**

November 12-15, 2019

Four Points Sheraton

Moncton, NB

### **Agricultural Excellent Conference**

December 2-4, 2019

Fredericton Convention Center

Fredericton, NB



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