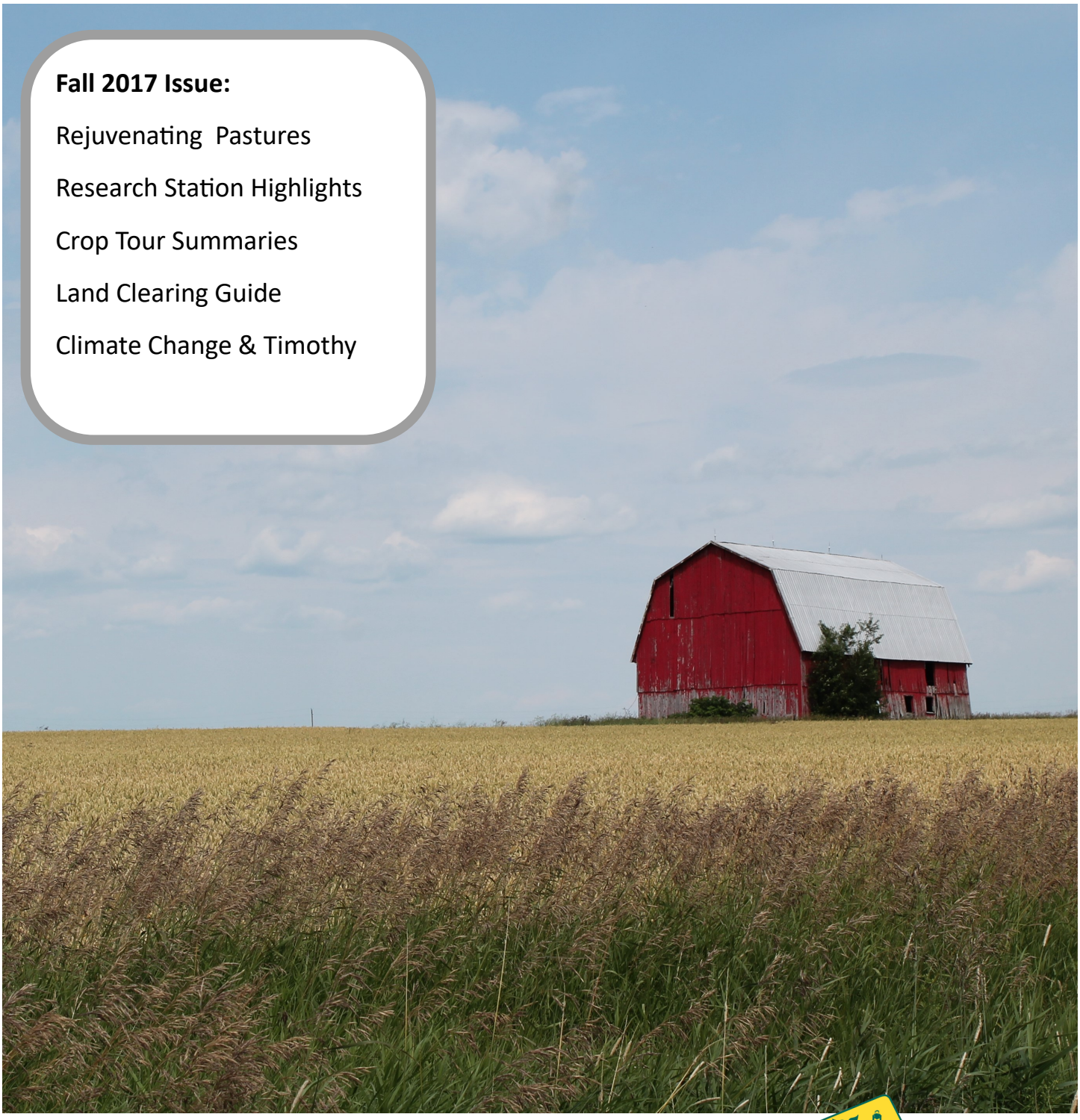
Breaking Ground

in Northeastern Ontario



Fall 2017 Issue:

Rejuvenating Pastures

Research Station Highlights

Crop Tour Summaries

Land Clearing Guide

Climate Change & Timothy

North Eastern Ontario Soil & Crop Improvement Association

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Breaking Ground (in Northeastern Ontario)

Pasture Rejuvenation

By Tanja Gahwiler

Throughout this past summer Beef Farmers of Ontario (BFO) partnered with the Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA) and held Twilight Pasture Walk Workshops throughout Northern Ontario. These were held to focus on beef and sheep grazing management and were a good opportunity for farmers to learn and explore different grazing systems and ideas.

The last twilight pasture walk was held August 15th at Pasture Hill Farms, owned and operated by Jim Johnston and Wanda Cook in New Liskeard. Jim and Wanda run a 650 ewe flock and a 35 head cow-calf operation on 600 acres. They bought their farm in 1993 and began renovating and rehabilitating their land to the very productive pastures they now run. Many of the pastures on the farm are 20 year old pasture stands that have not been plowed or cultivated in years. Jim uses intensive pasture care including soil testing, winter bale grazing, frost seeding, annual grasses and proper rotation cycles to increase nutrient levels and soil health and improves overall production of the pastures.

Christine O'Reilly, the Forage and Grazing Specialist for OMAFA also talked at the grazing meeting. She touched on renovating and managing pastures for ultimate pasture production. O'Reilly focused on three different rehabilitation methods that have proven to be effective for pastures.

Winter bale grazing is a very important method that helps improve organic matter and fertility in the pasture soil. When livestock are housed in the pastures over winter, any of the excess or waste hay that the animals do not consume goes directly back to the pasture, breaking down and adding structure and organic matter to the soil. Also, all of the manure produced by the animals during the winter will add fertility to the soil.

Cross seeding pastures is also another effective method for building up a pasture stand. O'Reilly says it's very simple, just take the drill, spread half your seed rate one direction in the field (north and south) and then spread the rest of your seed the other direction in the field (east and west) This technique works well because the seed covers more area of the ground, and as the grass and legumes grow, the soil surface gets covered much faster, smothering out weeds more efficiently.

Finally, the last renovation method talked about was frost seeding. Frost seeding is done when the ground is still frozen when the pasture is seeded. This is done by many farmers to get an early start in the spring. Most farmers use legumes in their mix, since the seed is much smaller and has a harder shell then grass seed. The continuous freeze thaw action during the early spring gets the legumes going and therefore a better stand can establish.

O'Reilly also touched on overgrazing pastures. She said that overgrazing is one of the biggest problems to having low production and low regrowth of pastures. For minimal grass damage, pull animals out of pastures when the grass is down to 4 to 6 inches tall. For grass to regrow it takes the grass around 5 days after a grazing or cutting to actually start. Due to limited leaf area, the plants use their root reserves to supply regrowth start, so O'Reilly stresses not to put animals back into the field until the plants have grown to the top of your rubber boots, or at least 30cm tall. At this point the plants should have recovered and root reserves were able to regrow.

A quarterly newsletter representing one of 11 Regional newsletters produced 4 times a year in conjunction with the Provincial Newsletter and OMAFRA Crop Talk.

Climate Change & Timothy Yields in the Great Claybelt

Adapted from the final report and webinar hosted by the Ontario Centre for Climate Impacts and Adaptation

The Ontario Centre for Climate Impacts and Adaptation Resources recently completed the development of the Ontario Climate and Agriculture Assessment Framework (OCAAF), a decision-support tool to assess baseline and future agroclimatic risks and opportunities. This framework was piloted using data from the Great Claybelt to assess the impacts of a changing climate on timothy yields.

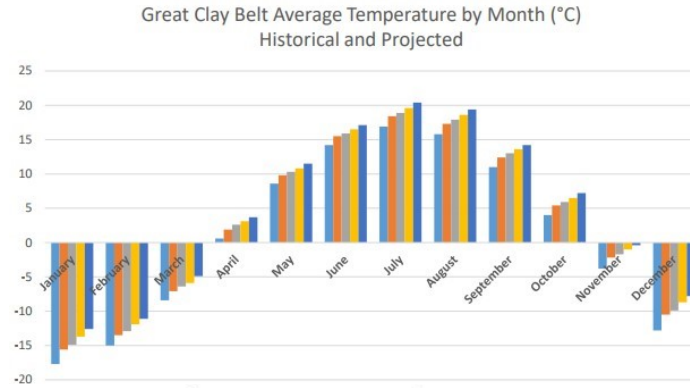
The framework first identified relationship between historical climate and timothy yield, using data from the Kapuskasing Experimental Farm. Using climate model projects, based upon the RCP8.5 emission assumption of business as usual with the greatest climate forcing, future projections were modeled.

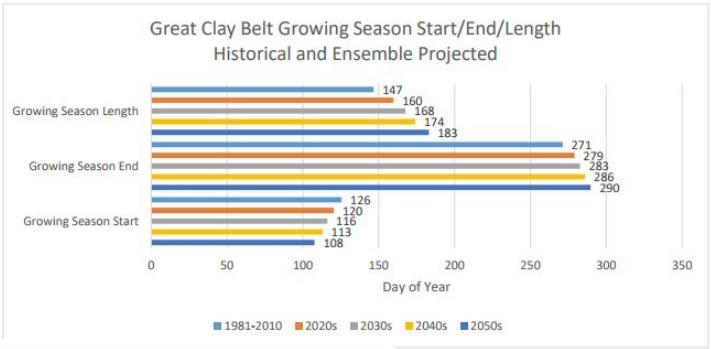
Growing Degree Days at the 5°C minimum threshold (GDD5) is projected to increase from a baseline period (1981-2010) average of 1,370 per year to 1,925 per year on average in the 1950's. Annual precipitation amounts are expected to increase from an average of 766 mm to 794 mm a year, with the greatest change in precipitation expected for December (4.9% increase) and January (5.1% increase). Though a changing climate will result in increased potential evaporation, this is not expected to pose an issue for the Great Claybelt due to clay soils that retain moisture. The growing season will extend from 147 to 183 days on average per year. With these changes, double cutting will be common place and triple cutting will be possible by the 2050's.

Based upon the trends in GDD5, yields of timothy dry matter will increase by 30% to 9,260 kg/ha. However, when considering that climate change will result in increasing winter thaw episodes and decreasing fall hardening episodes, both of which negatively impact timothy yield, it is expected that this increase could be reduced to approximately 25% by the 2050's. This difference could be mitigated if the projected triple cut becomes viable.

The outcomes of this research have been used to develop a number of adaptation recommendations and policy briefs. The full report and briefs can be found at http://climateontario.ca/p_OCAAF.php.

LSRS Climate Classification will change from CLASS-5 (very severe limitations) to CLASS-3 (moderate limitations)





Land Clearing Guide *for Northern Ontario*

A guide to land clearing in Northern Ontario was developed as a part of the 3 year 'Rapid Development of Boreal Forest to Farmland' OSCIA Tier 2 Project. With a general understanding of the what, when, how and costs of various types of land clearing, farmers can make well-informed decisions regarding the future of their land management.

The guide considers four key phases that could exist prior to clearing and provides information on the process, timing, cost, end use, pros, cons and considerations for each. The four key phases can be assessed separately or together, depending on the characteristics of the land to be cleared. For example, information is provided on clearing mature trees, which can be taken further with information on top clearing to fully remove windrows.

This reference document presents information related to the actual act of clearing, but it is important to note that considerations outside of this document exist before and after land is cleared. Contact your local township/municipality, the Ministry of Natural Resources, the Ontario Ministry of Agriculture, Food and Rural Affairs and/or the local conservation authority to ensure all necessary steps are taken or approvals are received prior to clearing land. Further considerations include the need for stumpage fees or burn permits. Proactively working with impacted stakeholders can facilitate a smoother overall clearing project.

What's in the guide:

- Section 1: Planning—what factors do I need to consider?
- Section 2: Clearing—what methods are available?
- Section 3: Rules & Regulations
- Section 4: Resources—where else can I find help and support?

The guide is available at www.farmnorth.com and at www.nofia-agri.com. Hard copies are available upon request from the Northern Ontario Farm Innovation Alliance (705-647-4782, nofia.on@gmail.com)

This project was funded in part through *Growing Forward 2 (GF2),* a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of *GF2* in Ontario.

Breaking Ground (in Northeastern Ontario)

Highlights from the Temiskaming Crop Tour

By Tanja Gahwiler

A Soil & Crop Association Event!

On July 20th the Temiskaming Crop Coalition held their annual Twilight Crop Tour. The tour consisted of many different stops including Lee Laframboise Round Up Ready Alfalfa, Jackson Canola Field, Corn Variety Plots at Brad Bauman's, Brandon Wheat stop at Roger Presseault's, a Story Environment Drone flight, Richard Laferriere's soybean field and a final stop at Evan Roy's looking at Yellow Peas. A BBQ was held before and after the tour, hosted by Koch Farms.

The first stop on the tour was at Lee Laframboise's Roundup Ready Alfalfa Field. This field is one of the first RR Alfalfa fields in Temiskaming and is on its first year in production. It was planted on May 15 at a rate of 16-18 pounds per acre, with 60 pounds of MAP starter and a broadcast of ammonium sulphate. RR Alfalfa is being seen grown more and more by farmers due to its benefits. Since it is Roundup Ready, a farmer can grow a complete clean stand of just Alfalfa, with no grasses or other unwanted weeds. Benjamin Schapelhouman, agronomist from TECC Ag, said that when the field was sprayed, most weeds were killed off with only some RR volunteer corn. With a pure alfalfa feed, farmers can produce very high quality feeds with very little variation within their mixes. Along with low variation, RR Alfalfa is also known to be beneficial because of its very low lignin levels. Low lignin gives a farmer another 7 to 10 days before having to cut the feed and also gives higher yield levels. Schapelhouman says that with the cool damp weather there was quite a high level of fungal issues within the crops, along with a higher pressure of aphids. RR Alfalfa is also not very cheap, costing approximately $200.00 an acre to establish. This being said, with the benefit of higher yields, low lignin levels and increased feed qualities, Schapelhouman says RR Alfalfa is the future for forages.

The tour then traveled to the Belle Vallee area to look at Josh Jackson's canola field. Due to the finding of Clubroot in Ontario last year, many fields in the area were tested for Clubroot in the soil. With these results it was found that Clubroot had been found in the Temiskaming region, including the field that the tour stopped at. Therefore the variety of canola that was planted had to be a Clubroot resistant variety. Jackson planted Pioneer's 45H29 and is very happy with the turn out of the crop so far. The majority of the field stood six foot tall with only 5-10% of the field showing symptoms of Clubroot. Clubroot was still present in the field because of hybridity 90% of the seeds planted had the Clubroot resistance gene, so the 10% that wasn't resistant was impacted by the Clubroot. Clubroot can easily be identified in a field like Jackson's because any plant affected by Clubroot was very stunted and short, past the flowering stage and had already podded. If you were to pull these plants, you would find Guls grown on the roots, limiting growth. There was also very limited Swede Midge

Highlights from the Temiskaming Crop Tour (con't)

By Tanja Gahwiler

damage throughout the field, but the Swede Midge pressure was very variable this year, some fields still showing high populations and others very low.

The corn variety trial was also looked at on Brad Bauman's farm. In the past three years there has been lots of corn breeding research done aiming to breed a 68 day (2000 CHU) variety of corn. Since the Temiskaming region has lower Corn Heat Units, and a shorter growing season, some years it is very difficult to grow a high yielding corn crop. With a lower CHU corn variety there are higher chances for farmers to grow a successful crop. At Bauman's field they had a variety trial of corn being grown from 2050-2200 CHUs. Researchers say that even if corn does not get all the CHUs it is bred to need, there is still good potential for the corn to fully ripen properly. Everyone is excited to see the results of this corn plot trial.

Other crops that were looked at during the tour were wheat, beans and peas. One stop was at a hard red spring wheat at Roger Presseault. He planted a newer popular variety, AAC Brandon, which is one of the top selling spring wheats in Canada. It is a milling wheat that has moderate resistances against Fusarium and Stripe Rust. Presseault planted his field May 16, at 130 Pounds per acre with a starter at 110-115 pounds.

The tour also stopped at Evan Roy's Yellow Pea field. The field was planted on May 12, at 210 pounds per acre, aiming for a good population of 8 plants per square foot. Roy's agronomist Schapelhouman says that peas are not tolerant to many herbicides and one must be very careful to timing when spraying herbicides, in order to limit damage. This year they have been seeing some stress with white mold, aphids and Asocohyta fungus (which should be sprayed against). Schapelhouman says that there is around 5000 acres of peas in the Temiskaming area this year but there is still a need for research on growing peas, to help farmers manage them better. All farmers growing peas this year are asked to record their yields, so that they can be sent in and hopefully get insurance set up for field peas.

Overall the tour was another successful one, with a good group of farmers and industry personnel coming out to it. Organizers would like to thank Koch farms for hosting the dinner, all the farmers for allowing everyone to tour their fields and to Temiskaming Crop Coalition for sponsoring the great event. Hope to see everyone out again next year!

Combing Buckwheat at NLARS

The New Liskeard Agricultural Research Station has a 2017 combing buckwheat trial that is evaluating the effectiveness of pollinating buckwheat using a combing technique developed by a grower in Quebec.

8 rows of buckwheat were planted 150 seeds/m2 at 1.5" to 2" seeding depth. 55N kg/ha was applied and worked into the soil through cultivation.

Seeding date was June 5, emergence June 10 and flowering date (70% of flowers present) was July 23. The first combing was completed on July 23 and the second combing followed 9 days later on August 3.

The effectiveness of the trial will be determined by yield—stay tuned for results in the next issue of Breaking Ground!

Nominate an OSCIA Soil Champion

Nominations close November 1, 2017

More information at

www.ontariosoilcrop.org

RAIN Field Day

The RAIN (Rural Agri-Innovation Network) field day took place on Thursday August 17th, 2017 and showcased a variety of crop trails and projects that were established in the 2017 season.

The first project that was showcased was the Sorghum-Sudangrass plots that were planted on July 11th. The Sorghum trails are located on the Algoma Community Pasture located just outside Thessalon. This project was developed because of the lack of recommendations for nitrogen on sorghum, the only recommendations available is for nitrogen on corn. The sorghum plots are broken down into four blocks with varying rates of fertilizer; full rate of 100kg Nitrogen/ha, half rate of 50kg Nitrogen/ha, control rate of 0kg/ha that were spread throughout on the corresponding plots. Overall there are four blocks, two blocks were bush hogged down and no till drill planting in, while the other two blocks had been mulched above and below ground and then no-till drilled in as well. Before moving to the next location Sebestian Belliard- OMAFRA Soil Management Specialist address some topics including, compaction, benefits to earth worms, and general soil health.

The second project that was showed was one out of the three cross-seeding trails in collaborations with the Thunder Bay research station, the Rainy River Research station as well as the Kapuskasing research station. Cross-seeding (also called cross-drilling) is a technique for establishing a forage crop where half the seed is planted in a conventional drive pattern using a seed drill. The other half of the seed is drilled at a 45 degree angle to the original pass in order to achieve better ground coverage. Better coverage can help reduce soil erosion and assist sown forage crops out-compete weeds, resulting in better quality and higher yielding forage crops. This project was also to determine if it is economically viable to go over the same area twice, when thinking about fuel, time etc. The tour stopped at one location (in Thessalon) to see the comparison of the ground coverage. There are also two other locations in Algoma, on St. Joseph Island as well as in Dunns Valley.

The final trail that was planned to showcase was the MasterGraze corn plot located in Bruce Mines. Unfortunately, due to the rain that took place during the field day the trial was not visited but instead voiced a brief overview about the trail under shelter. The Master Graze corn is a breed of corn where it does not develop a cob, but can be grazed as well as wrapped when mature. The corn was planted on half an acre, with only manure as fertilizer. The corn was planted on June 14th at a population of 41,000 plants/acre on 30" row spacing. The results vary across the area from well established, vigorous corn, to corn that is struggling in the low areas with high weed pressure and excess much water.

After lunch was held Dr. Tarlok Singh Sahota Ph.d CAA based out of the Thunder Bay Agricultural Research Station gave an overview on Galega, a forage crop that is from Finland and is comparable to alfalfa. The Thunder Bay researchers have been conducting studies on Galega, and is has been grown successfully in the Thunder Bay area. Galega is extremely beneficial to dairy cows as it has been noted to have increase milk production.

After Tarlok's overview of Galega, Sebastian Belliard spoke about the importance of soil health. Sebastian mentioned the importance of how a healthy soil can impact crops and how different soil management plans can take some time before the benefits can be see. He also touched on the subject of removing topsoil off of a location, and the aftermath of the removal.

Overall the field day was a success, 25 attendees and lots of questions from the crowd kept the presenters busy. RAIN would like to thank each and everyone who was in attendance Dr. Tarlok Singh Sahota and Sebastian Belliard once again for participating and sharing their knowledge amongst the guests.

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North Eastern Ontario Soil and Crop Improvement Association

Serving the Northern Agricultural Community since 1966

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