Malting Barley-2018

SAULT STE. MARIE INNOVATION CENTRE

RAIN
RURAL AGRI-INNOVATION NETWORK

There has been an increase in local craft breweries, as such there is now a bigger demand for malted barley. Most of the malted barley produced in Canada comes from the West but there is an expanding market for malting barley. With Northern Ontario having a similar climate to Western Canada, malting barley could have a promising future here. The malting barley project is being led by NOFIA and is in partnership with Lake Head University Agriculture Research Station, New Liskeard Agriculture Research Station and Emo Agriculture Research Station; funded by Grain Farmers of Ontario. 2018 is the first year of this project. There are currently two locations in Algoma participating in this trial, both in Huron Shores. Dual purpose barley can be used for animal feed or if the quality is acceptable for malting it can be send to the malt house. The purpose of this trial was to engage local producers in all the opportunity's available for malting barley, whether it be for animal feed or for the malt house. There was initially supposed to be three varieties of barley planted, but due to seed availability/quality only one variety was planted. Both locations seeded half an acre of *Bentley,* dual purpose barley. Other intended varieties include; *CDC Meredith* and *AC NewDale*. Both locations were planted on time, at a rate of 110 lbs/ac and established very well. Throughout the growing season there was a lack of rain, but the barley seemed to hang on quite well. Location one is on an organic farm, meaning that there was no commercial fertilizer applied. The second location is on a conventional farm, where 1.5 ton/ac of lime was applied and 75 lbs/ac of 8-32-16 was applied. Location one produced a good yield of 360 lbs on the half acre. Location two was not as lucky. Due to a major geese population on the site, harvest only produced 100 lbs on the half acre.

This trial will be conducted in 2019, where 3 varieties will be planted with an acre dedicated to each variety at each location. Including; AC Metfcalfe, AAC Synergy and AC NewDale

Picture: James DeDecker; Educator from Michigan State University. James came up to our summer tour to talk to Algoma producers about malting barley. Topics included; malt quality, growing conditions and potential markets.

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Riparian Restoration Demonstration

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Riparian zones are the areas bordering rivers and other bodies of surface water. They include the floodplain as well as the riparian buffers adjacent to the floodplain. Riparian zones provide many environmental and recreational benefits to streams, groundwater and downstream land areas. This demonstration project took place on the Bar River in Laird. The riparian zone on the site is home to 60 head of cattle, where they had free access to the river throughout the summer and winter. Due to the traffic of the cattle going in and out of the river and the constant flow of the river, the banks have been severely eroded and depleted. The goal of this project was to fence off those cattle from the river and to add beneficial vegetation to help stabilize the banks on the river. 400 trees/shrubs were planted with the help of local high school students and other volunteers from the community. Poplars, cedar, dogwood and spirea were added to the banks of the bar river in an effort to help rehabilitate the riparian zone. The area was fenced off by the land owner, meaning that the herd will no longer be able to enter the river. In turn, over the next couple of years that riparian zone should thrive, benefitting all of the surrounding local habitats.

This project is funded by the Great Lake Guardian Fund and with the help from our partners (Kensington Conservatory and Central Algoma Fresh Water Coalition) this project was a huge success and has sparked further interest in riparian zones in Algoma. A second and third location are being explored for 2019/2020, with the hopes of the same goals for those locations

This project is funded by the Great Lake Guardian Fund and with the help from our partners (Kensington Conservatory and Central Algoma Fresh Water Coalition) this project was a huge success and has sparked further interest in riparian zones in Algoma. A second and third location are being explored for 2019/2020, with the hopes of the same goals for those locations.

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Cross-seeding 2018

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The cross-seeding forages project has been in the works since 2016, where it was implemented at three locations in Algoma, two locations in Thunder Bay and two locations in Rainy River. Cross-seeding is a technique for establishing a crop where half the seed is planted in a conventional drive pattern using a seed drill and the other half of the seed is drilled at a 45-degree angle to the original pass to achieve better ground coverage. The amount of seed and fertilizer does not increase; the inputs are cut in half for each pass. Thus, after completion, the same amount of fertilizer/seed is being used.
Since this project is dealing with newly seeded forages, an accurate yield sample cannot be taken in the first year of seeding. 2018 was the first year that an accurate calculation could be completed on the yield, from each of these sites. All three Algoma sites were harvested, and a yield data was taken in the summer of 2018. The table (below) shows that of the three sites, two locations showed a much higher DM yield on the cross-seeded sections in the second year of establishment.

Location-Algoma	Cross-seeded kg/DM/ha	Conventional kg/DM/ha
Stewart	3913.92	2609.28
MacLeod	5750.08	7296.32
Prestedge	4832	2609.28

This project has shown great success over the past two years, in Algoma, Thunder Bay and Rainy River. There will be one more year on this project, completion in summer of 2019. Where one more yield sample/calculation will be taken and analyzed. With three years of data, we will be able to give a more accurate analysis of the economic benefits to this project. As one of the main points of this project was to see if the extra pass associated with the cross-seeded technique produced a higher yield, paying for the extra time/fuel. With this information producers can decide if that extra pass will improve their yield on their hay fields and how this technique could benefit their farm.

This project was funded in part through the Canadian Agricultural Partnership (the Partnership), a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of the Partnership in Ontario.

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Weed Control in Galega- 2018

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Weed control in Galega is a project involving RAIN and LUARS (Lakehead Agricultural Research Station) in Thunder Bay. This project is looking at a variety of ways to control weed pressure in Galega. Galega is a new forage to Canada; it is comparable to Alfalfa but is more winter resistant and has better water tolerance. Galega does not compete well though, so as such weed pressure can choke out the galega very quickly. The trial that has been implemented in Thunder Bay is looking at ten difference herbicides/combinations of herbicides that could potentially kill the weeds but not affect the galega stand. Those treatments are;

1. Alfalfa- Control
2. Early Spring Planting
3. Post-Weed emergence planting
4. Mid-July planting
5. Post Barley Harvest
6. Rival (tifluaralin) @3L/ha
7. Sencor @ 475 g/ha
8. Sprayed sencor @ 275 L/ha
9. Sprayed Basagram Forte @ 1.75 L/ha
10. Prusit @210 ml/ha and Ag-Surf @0.25% v/v

The trial was implemented in the summer of 2018 and results will be not available until later.

The trial was that implemented in Algoma is using other possible solutions. Such as;

1. Early spring planting, before the weeds emerge.
2. Plant after the weeds have been killed off
3. Late July planting after the weeds have died off.

These methods were used in order to see if different planting days/techniques could help improve the standability of the galega. An alfalfa plot was planted at the same time to act as a control treatment as well. This trial will be run through till 2020, where results will be able to give us a better idea on how to control weed population in galega.

This project was funded in part through the Canadian Agricultural Partnership (the Partnership), a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of the Partnership in Ontario.

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Alt. Legumes-2018

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The Alternative legumes trial has been implemented as of June 2018 in Algoma and in Thunder Bay. This project is a collaboration between Lake Head Agricultural Research Station, New Liskeard Agricultural Research Station and RAIN. The trial consists of five legumes; Red Clover, Alfalfa, Birdsfoot Treefoil, Sainfoin and Galega. The intention of this project was to see if there was a specific legume that could thrive in Northern Ontario's climate. Alfalfa, Red Clover and even birdsfoot treefoil all have been grown in Northern Ontario before but Galega and Sainfoin less so. This was implemented at the Algoma Community Pastures in Thessalon and at Lake Head Agriculture Research Station in Thunder Bay in the summer of 2018. This project will be running for three years giving us a wide range of data over several years with different weather. Soil and forage samples were taken in the first year and will be taken each year for the remainder of the project. As this is the first year of the project there was no yield data taken. In year two and three yield data, winter survivability, and overall stand will be monitored and analyzed. As this is a project that is being taken place over most of Northern Ontario, we will have a greater knowledge to provide producers on all of the options they have when it comes to legumes.

This project was funded in part through the Canadian Agricultural Partnership (the Partnership), a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of the Partnership in Ontario.

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Northern Ontario Forages

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In 2018 Rural Agri-Innovation Network (RAIN), Lakehead Agriculture Research Station (LUARS), New Liskeard Agriculture Research Station (NLARS) and Northern Ontario Farm Innovation Alliance (NOFIA) teamed up to create the "Strengthening weed control, health and productivity in northern Ontario forages" project. Designated to the improvement and research of forages in Northern Ontario. In total there are three parts to this trial; Weed control in Galega, Alternative Legumes and Cross-seeding forages. Weed control in Galega is a very important trial because Galega does not compete well with weeds. In this trial we are looking at herbicides and later planting techniques to try and combat the weed population in stands of galega. The alternative legume trial consists of five legumes; Red Clover, Alfalfa, Birdsfoot Treefoil, Sainfoin and Galega. The intention of this project was to see if there was a specific legume that could thrive in Northern Ontario's climate. Alfalfa, Red Clover and even birdsfoot treefoil all have been grown in Northern Ontario before but Galega and Sainfoin less so. In year two and three yield data, winter survivability, and overall stand will be monitored and analyzed. The last part of this trial is the cross-seeding forages trail which was implemented in 2017. Cross-seeding is a technique for establishing a crop where half the seed is planted in a conventional drive pattern using a seed drill and the other half of the seed is drilled at a 45-degree angle to the original pass to achieve better ground coverage. The amount of seed and fertilizer does not increase; the inputs are cut in half for each pass. Northern Ontario producers rely heavily on forages to feed their livestock, this projects outcome could give those producers options when it comes to producing forages.

This project was funded in part through the Canadian Agricultural Partnership (the Partnership), a federal-provincial-territorial initiative. The Agricultural Adaptation Council assists in the delivery of the Partnership in Ontario.

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