



Grow With Us

Lakeland Agricultural Research Association

January/February 2020

Liming to Soil pH >7.2: Impact on Clubroot and Long-term Crop Rotation

Amanda Mathiot, LARA

Lakeland Agricultural Research Association (LARA) is excited to be partnered with Graymont Western Canada Inc and Gateway Research Organization (GRO) located in Westlock on a 3-year trial set to start in 2020 titled “Impact of Soil pH >7.2 on Crop Yield (canola, yellow peas and wheat).

Clubroot is a soil-borne disease that has become one of the most destructive diseases in the canola industry as it can cause huge economic problems for producers. Clubroot favors soil conditions which are warm, have high moisture and pH < 6.5 to spread. Recent studies have shown that increasing pH to >7.2 can inhibit spore production and decrease the disease development (Canada Canola Council). Very little information is available how this increase in pH may impact subsequent crop rotation yields including peas, wheat and canola.

The liming and crop rotation trial is being es-

tablished at two research sites to assess how increasing the pH of soils using different liming products at variable rate can impact clubroot spore levels and the long-term effects on crop yields. The LARA research site will be evaluating the impact of soil pH >7.2 on the yields of crops such as canola, wheat and peas. The GRO research site will be looking at how the increase in pH to 7.2 affects clubroot and disease spores while measuring yield.

We are extremely excited to be conducting this trial at our Fort Kent Research Site. If you are interested in viewing our plots, we are hosting our Fort Kent Summer Field Day on July 29th 2020. Or Contact us at (780)-826-7260 to set up a tour.



In This Issue:

High Moisture Silage Bales	3
Insect Pest Update	4
Farm Safety Workshop	6
Perennial Forages	8
Soil Health Academy	10
Job Opportunity	11
Upcoming Events	12

2020 Calendar of Events

Cover Crops and Soil Management with Kevin Elmy	February 18, 2020 February 19, 2020	Ashmont Agriplex McArthur Room, LLB
Holistic Management School	February 21-23, 2020 March 6-8, 2020	Flat Lake Hall
Annual General Meeting and Research Update	February 27, 2020	Mallaig Unity Hall
Farm and Ranch Safety Workshop	February 28, 2020	Flat Lake Hall
Shining a Light on Mental Health in Agriculture	March 12, 2020	TBA
VBP+ and BIXS Workshop	March 16, 2020	TBA
Original Grazing School for Women	June 9-10, 2020	Beaver County
Soil Health Academy	July 15-17, 2020	County of St. Paul
Fort Kent BBQ and Field Tour	July 29, 2020	Fort Kent Research Farm
St. Paul Summer Field Tour	August 5, 2020	St. Paul Research Site
Lac La Biche Summer Field Tour	August 12, 2020	Lac La Biche Research Site



Find us on Facebook



Follow us on Twitter

LakelandARA LARALivestock LARAcropping

Nutritional Quality of High Moisture Silage Bales for Livestock Feed

Alyssa Krawchuk, LARA

High moisture silage bales are forages that are baled at a higher moisture (between 40% and 60%) than a forage to be stored as a dry hay. These bales are sealed in a plastic wrap which remains intact until they are opened for use. This wrap creates an airtight seal and, coupled with high moisture, promotes the fermentation process that preserves the forage quality. This process is also known as baleage and can be produced from any forage, grass or crop that is conventionally used for silage.

With the wide variability seen in environmental conditions the past few years in the Lakeland, the opportunity to put up high quality dry hay is limited. Many producers have or are considering the use of baleage as a viable option.

- Bales at lower moisture (under 40%) will not ferment and have a higher risk of developing mould.
- Costs may be higher than chopped silage due to cost of plastic.
- Bales can spoil if airtight plastic covering is punctured.

To help assess the suitability of various forage options, LARA partnered with AgZone Inc. to make high moisture silage bales with corn, field peas, faba beans, soybeans, canola, barley, grass, alfalfa-grass mixture and an oat-barley mixture.

The crops were seeded in early June to recommended best management practices using the LARA 12-row

Table 1. High Moisture Silage Bale Nutritional Quality, 2019.

Crop	DM (%)	Moisture (%)	CP (%)	ADF (%)	NDF (%)	TDN (%)	Ca (%)	P (%)	K (%)	Mg (%)
Faba Beans	26.63	73.37	15.75	35.25	47.60	61.44	0.37	0.21	1.23	0.26
Corn	25.18	74.82	13.62	34.36	54.77	62.13	0.25	0.23	1.31	0.28
Canola	32.94	67.06	11.01	42.37	48.43	55.89	1.00	0.32	1.82	0.37
Barley	40.36	59.64	12.34	27.66	43.92	67.25	0.25	0.23	1.22	0.21
Soybeans	30.88	69.12	15.27	34.62	40.74	61.93	1.28	0.31	1.52	0.93
Peas	34.31	65.69	22.24	27.73	34.14	67.30	0.80	0.3	1.37	0.30
Oat/Barley Mix	47.50	52.50	9.84	32.45	48.92	63.62	0.27	0.22	1.33	0.18
Lowland grass mix	55.26	44.74	10.73	35.71	53.23	61.08	0.54	0.24	1.12	0.38
Alfalfa Mix	62.06	37.94	11.35	37.32	51.78	59.83	1.24	0.18	1.41	0.30

Some advantages of baled silage include:

- Requires one-half to one-third the drying time of hay.
- Leaf loss in the field is only 5 to 10 percent compared to over 25 percent with dry hay.
- Decreases feed loss due to increased palatability over dry hay.
- Provides flexibility in harvest time when compared to dry hay.
- Less leaf loss when fed than dry hay.

Despite the many advantages of using baled silage over dry hay, there are some disadvantages that include:

- Bale weight increases drastically as moisture increases.
- Increased bale weight could pose issues with handling.
- Bales at higher moisture (over 60%) will have minimal fermentation and are prone to freezing.

ConservaPak air seeder. The fields were in-crop sprayed based on weed pressure with registered herbicides and a fungicide treatment was applied to all fields when required.

The crops were cut on September 24th, 2018 and left to dry overnight prior to baling on September 25th, 2018. The bales were then wrapped and sorted. The bales were left to allow for fermentation to begin prior to forage samples were taking using the LARA forage sampler and sent for analysis.



Possible Problems with Insects this Year

Glen Hallick, Western Producer

How problematic insects could be in 2020 across the Prairies largely depends on the spring weather, according to three provincial insect specialists. Be the insects grasshoppers, flea beetles, cutworms, or a few other types, their potential to cause significant damage to Prairie crops will partly depend on how dry and warm this coming spring will be.

Grasshoppers could be quite an issue in some parts of Saskatchewan this year, said James Tansey, specialist, insects/invertebrate pest management for the province. For the vast majority of Saskatchewan, grasshopper numbers should be very light, with some greater numbers in the Estevan area. The Kindersley area is expected to see light to severe populations.

Tansey explained grasshopper nymphs are susceptible to rain drops as well as cooler temperatures that permit bacteria, fungi and viruses.

Manitoba entomologist John Gavloski noted if the spring is dry and warm that increases grasshopper populations, such also boosts the populations of their natural predators. He said bee flies, field crickets and blister beetles like to feed on grasshopper eggs.

“Weather and natural enemies will be the two things capable of reducing levels,” Gavloski commented.

Manitoba is looking at higher grasshopper populations in the Arborg area in the Interlake plus the Brandon to Russell area in the western part of the province.

Alberta entomologist Scott Meers pointed to southern Alberta most likely to have problems later this year with grasshoppers, especially in the south-central and southwest areas. He added the Peace River region well to the north may also see increased numbers.

As for flea beetles, Meers said the insects have been a problem in Alberta for the last two years and “no reason why they wouldn’t be a problem in 2020.”

If winter should continue to be cold with poor snow cover, he said that could help to bring down their numbers.

Gavloski noted flea beetles caused significant issues in 2019 for Manitoba farmers, and too the beetles’ effect on this year’s crops will be dependent on how well they overwinter.

“I encourage farmers and agronomists to be out early with their crop scouting,” he said.

Tansey commented that Saskatchewan doesn’t monitor flea beetles and there two naturalized species: the crucifer flea beetle and the striped flea beetle.

Tansey also noted that two types of weevils have been problems in the past in the province: the pea-leaf weevil and the cabbage seedpod weevil. Although both weevil types have diminished in numbers, but he stressed they are spreading to the north and east into Manitoba.

When it comes to cutworms, Meers said Alberta doesn’t monitor them and there are always cutworms somewhere in Alberta. Also, Gavloski again emphasized the need for early scouting.

Adapted from an article originally published in the Western Producer: <https://www.producer.com/2020/01/possible-problems-with-insects-this-year/>



Alberta Verified Beef Production + and BIXS Workshop

March 16, 2020



Registration at 1:00 pm with presentations starting at 1:30 pm

VBP+ simply validates what beef cattle producers in Canada are already doing. The program defines expected outcomes for practices and associated records as proof of the action.

BIXS provides the opportunity for producers to showcase their operations and cattle to other BIXS beef chain participants at the feedlot, packer and distribution sectors.

To register: call the LARA office at 780-826-7260 or
e-mail livestock.lara@mcsnet.ca



*The 17th Annual Original Grazing
School for Women*

June 9 and 10, 2020

**Hosted in
Beaver County**

Please check our website

<https://www.grazingschoolforwomen.com/>

*or email aboese@beaver.ab.ca for more
details!*



February 28, 2020



FARM & RANCH SAFETY WORKSHOP

9:00 am | 59403 - Range Road 484 Flat Lake Hall | **Registration Fee: Free**
Flat Lake Hall

Want to grow safety on your farm? Join AgSafe Alberta to get started.

TOPICS TO BE COVERED:

- **New Legislation**
how does it affect you
- **Hazards**
how to identify them on your farm
- **Emergencies**
how to plan for them
- **Training**
what training do you need
- **And More**
incident investigation, inspections and everything you need to get your safety plan started

Participants will need to complete on-line modules prior to attending the workshop. Copies of the FarmSafe Manual & Workbook will be distributed at the event.

Register for the workshop by calling Kellie at LARA at 780-826-7260 or email sustainag.lara@mcsnet.ca

For more info or if you need help please email us at info@agsafeab.ca or call 403-219-7901.

**YOUR SAFETY,
YOUR WAY**

AGSAFEAB.CA





February 27

4:30 pm—8:00 pm

Mallaig Unity Hall

Annual General Meeting and Research Update

Join us for supper, trade show & presentation of our agricultural research trial results and have your say in the future of Lakeland Agricultural Research Associations research and extension activities.

Craft beer tasting with Lakeland Brewing Company

To Register:

780-826-7260

livestock.lara@mcsnet.ca

**Featuring an update on Producer
Funding Opportunities through
the Canadian Agriculture
Partnership!**

There will be producer rep elections for the LARA board for Smoky Lake County, MD of Bonnyville and County of St. Paul.



Longevity of Perennial Forage Varieties and Mixtures in Northeastern Alberta

Alyssa Krawchuk, LARA

Historically, perennial forage research has taken a back seat, being overshadowed by work done on annual crops. To help bridge this gap in information, Lakeland Agricultural Research Association (LARA), in partnership with other Applied Research Associations across the province, established three blocks of plots to assess the suitability of legume, grass and legume/grass mixtures to use on a regional level.

Established at our Fort Kent Research site, this trial was run from 2016-2018, only showing two years of production data as trials were not harvested in the year of establishment. Most current research studies have focused on the first 3 to 5 years of a stand's lifetime while most perennial forages in Alberta are expected to remain productive for a much longer time frame.

Recently, LARA was awarded a four year grant through the Canadian Agricultural Partnership (CAP) to continue to assess the stands established in 2016 and 2017 to determine long-term productivity.

The objectives of this project are to:

1. Provide unbiased, current and comprehensive regional data regarding yield, nutritional quality, persistence and economics of specific varieties and mixes of perennial forage crops in year 3, 4, 5 and 6 post-seeding.
2. Distribute information related to long-term forage production in Alberta to the agricultural industry.

LARA collected yield and nutritional quality data in 2019, which will be summarized and printed in our Annual Research Report. The report will be available at our Annual General Meeting in February.

Results of this project will assist producers in selecting perennial forage stands which maintain long-term productivity (both quality and volume), thus reducing the investment required for re-seeding.

The trials will be included in our Fort Kent BBQ and Field Tour scheduled for July 29th, 2020. If you have any questions about the trial or previous results from 2016-2018, call the LARA office at 780.826.7260.



AC Mountainview Sainfoin/AC Knowles Hybrid Brome Mix



Yellowhead Alfalfa



Focusing on Forages



The following results are from a 3 year study funded by the Alberta Beef Producers and the Alberta Livestock & Meat Agency. Project participants included BRRG, CARA, FFGA, GRO, LARA, MARA, PCBFA, NPARA & WCFA. The study included evaluation of 12 grasses, 15 legumes and 9 grass/legume mixes. Leading entries in each category in different regions of Alberta are summarized below.

East Central Alberta (Mixed Grasslands Area)

	Dry Matter Yield (% Check)
Grasses Greenleaf Pubescent Wheatgrass	150
AC Success Hybrid Brome Grass	132
Legumes AC Yellowhead Alfalfa	100
Rugged Alfalfa	107
Mixes	
AC Success, AC Knowles Hybrid Brome or Fleet Meadow Brome + AC Yellowhead Alfalfa	99-102
AC Success Hybrid Brome + Spredor 5 Alfalfa	98

Central Alberta (Boreal Transition Area)

	Dry Matter Yield (% Check)
Grasses AC Success Hybrid Brome Grass	128
Greenleaf Pubescent Wheatgrass	113
AC Saltlander Green Wheatgrass	112
Legumes AC Yellowhead Alfalfa	100
AC Rangelander Alfalfa	97
Mixes	
AC Knowles Hybrid Brome + AC Mountainview Sainfoin	112
AC Success Hybrid Brome + AC Yellowhead Alfalfa	107

Northern Alberta (Peace Lowland Area)

	Dry Matter Yield (% Check)
Grasses AC Saltlander Green Wheatgrass	137
Greenleaf Pubescent Wheatgrass	122
AC Admiral Hybrid Brome Grass	121
Grindstad Timothy	119
Killarney Orchard Grass	118
Legumes AC Yellowhead Alfalfa	100
20-20 Alfalfa	101
Oxley II Cicer Milk Vetch	101
Veldt Cicer Milk Vetch	96
Mixes	
Fleet Meadow Brome + AC Yellowhead Alfalfa	100
Fleet Meadow Brome + Spredor 5 Alfalfa	97



Soil Health Academy

*July 15-17, 2020
County of St. Paul*

In July of 2020, LARA is proud to be hosting a Soil Health Academy. The goal is to move beyond sustainable agriculture to regenerative agriculture. Regenerative agriculture is a system of farming principles and practices to improve all aspects of the operation from increasing biodiversity, soil health and improving water quality; increasing carbon capture, farmer profitability and resilience. The Soil Health Academy is an intense 3 day hands-on course that examines all aspects of regenerative farming and ranching, focusing on soil health, plant health and animal health.



What You Will Learn:

- 1. Principles of Soil Health & Adaptive Stewardship**
- 2. Restoring Vibrant Ecosystems Through Adaptive Grazing**
- 3. Making Grazing Highly Profitable & Desirable**
- 4. Successful Marketing: Strategies for Enhanced Net Margins**
- 5. Nutrient Management**
- 6. Designing Cover Crop Mixes**
- 7. Farm Economics and Whole Farm Planning**

So stay tuned for more information regarding this fantastic opportunity in the Lakeland. We are moving towards a world where consumers are demanding to know their food's story and that requires regenerative practices. General Mills, one of the largest food companies in North America has pledged to have their producers utilizing regenerative agriculture practices on one million acres by 2030. Take advantage of this opportunity to take your farm to the next level and learn about the benefit that regenerative agriculture can have for you.

Call Kellie Nichiporik at the LARA office for more details about this exciting event!

(780) 826-7260

Job Opportunity!

Summer Agricultural Research Technician Lakeland Agricultural Research Association

Full Time from May 4 to August 31, 2020

Job Location: Fort Kent, AB

Number of Positions: 2-4

The Lakeland Agricultural Research Association (LARA) is a producer run organization conducting leading edge applied agricultural research and extension in Northeastern Alberta. Our vision is to make Alberta's agricultural producers profitable and sustainable through applied research, demonstration and extension in the areas of forages, livestock, annual crops, specialty crops, environmental conservation and regenerative agriculture.

We are looking for 2-4 ambitious and hard-working Summer Agricultural Research Technicians to be a part of our team. As Summer Agricultural Research Technicians, you will work closely with our program co-coordinators and will gain hands-on experience in all aspects of the applied research process. This includes field design and planning, implementation of projects, collecting and analysing data and preparing extension activities.

We encourage students of agriculture and other natural science degree and diploma programs to apply and students in fields other than natural sciences with a strong interest in agriculture will be considered. Ideal candidates will have an interest in agriculture, a strong work ethic, excellent communication and computer skills. We are looking for someone with a genuine interest in the agriculture industry!

If you enjoy time outdoors, you will appreciate the fieldwork associated with agricultural research. Duties will include seeding preparation, seeding, mowing, spraying, harvesting, plot maintenance, soil sampling and data collection. There will also be the occasional handling of livestock. Candidates should have the ability to work both in a team environment and under minimal supervision.

Agricultural and machinery experience will be considered an asset, but is not imperative as training will be provided. Please indicate on your application if you have experience with trucks, trailers, loading equipment, tractors etc. Applicants must hold a valid driver's license and have a safe driving record. Local applicants are encouraged to apply. Wage is negotiable depending on experience. Start and end dates are flexible.

Closing date for this position is February 29th, 2020. The position may be filled prior to the deadline if suitable candidates are found. Only candidates selected for an interview will be contacted.

For more information or to send a resume, contact:

Alyssa Krawchuk, Manager
Lakeland Agricultural Research Association
Box 7068 Bonnyville Alberta T9N 2H4
(780) 826-1130 livestock.lara@mcsnet.ca

**LAKELAND
AGRICULTURAL
RESEARCH
ASSOCIATION**

Box 7068
Bonnyville, Alberta
T9N 2H4

Phone: 780-826-7260
Fax: 780-826-7099

E-mail:
livestock.lara@mcsnet.ca
sustainag.lara@mcsnet.ca
cropping.lara@mcsnet.ca
technician.lara@mcsnet.ca

Find us on Facebook

Follow us on Twitter:
@Lakeland ARA
@LARA livestock
@LARA cropping

www.laraonline.ca



This publication is made possible in part by:



Lakeland Agricultural Research Association

Mission Statement:

The Lakeland Agricultural Research Association (LARA) conducts innovative unbiased applied research and extension supporting sustainable agriculture.

LARA Staff

Alyssa Krawchuk
livestock.lara@mcsnet.ca
Forage and Livestock Program

Kellie Nichiporik
sustainag.lara@mcsnet.ca
Environmental Program

Amanda Mathiot
cropping.lara@mcsnet.ca
Cropping Program

Stephanie Bilodeau
technician.lara@mcsnet.ca
Agronomy Technician

LARA Board

M.D. of Bonnyville
Murray Scott
Ulf Herde
Marc Jubinville (ASB rep)
Mike Krywiak (ASB alt)

Lac La Biche County
Wanda Austin (Chair)
Laurier Bourasa
George L'Heureux (ASB alt)
Colette Borgun (ASB rep)

County of St. Paul
Carl Agnemark
Louis Dechaine
Cliff Martin (ASB rep)
Kevin Wirsta (ASB alt)

Smoky Lake County
Barb Shapka
Charlie Leskiw
Dan Gawalko (ASB rep)
Johnny Cherniwchan (ASB alt)

Luc Tellier (LFA Rep)

Upcoming Events

See events calendar on page 2!

Don't forget to keep an eye on www.laraonline.ca for more event details as they become available.



Thank you to our municipal and county partners:

