over the Fenceline

Battle River Research Group

Summer 2020

Mark your Calender! Don't miss out on our July 29, 2020 Virtual Field Day!

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Crop Research Coordinator:
Nasima Junejo PhD., PAg
Field Coordinator:
Vineet Singh
Research Technician:
Caitlyn Antos
Summer Technician:
Koryn Duncun

Thank You for Your Continued Support

Welcome new president, board members and staff

2020 is the year of transformations. First, the COVID, -19 impacted on our social activities, so we all went online—the Battle river utilized technology and social media to connect with our board and producers. We conducted the online meetings with our board of directors, and three webinars for our producers. In 2019 we did 27 different research projects at three sites; however, this year, we got double on our plate. At the beginning of the year, we got a new president and vice president Colin Wager and Steven Vincett respectively. Our summer technician Vineet Singh promoted as a field coordinator, and Koryn Duncan joined us as a summer technician.

We want to congratulate Colin, Steve, and Vineet on their new positions and Welcome Koryn to Battle River Research Group.

Sincerely,
Khalil Ahmed
Manager
Battle River Research Group

Meet the new Staff

Koryn grew up on a family farm outside of Coronation, AB, with grain and commercial Charolais cattle and was a member of Coronation 4-H Beef Club for nine years. Koryn is currently a student at Augustana Campus University of Alberta,

BRRG 2020 Research projects

Crop and forage Research:
In 2020, Battle river research group is conducting 44 new research projects on four different sites . Soya bean and lentil variety trials are added as new of 2020 with pulses and cereals regional variety trials.

We are also part of four new research projects, including the effects of bio- stimulants, alternative silages, perennial forages, and impact of canola seed size and depth on yield. These projects are funded by the Canadian Agriculture Partnership program, which is a grant collaboration between Alberta and the federal government.

Battle river also testing fertility and fertilizer products, including research projects on the impact of different types of inoculants. phosphorus rates, urease inhibitors, PGRs and foliar application of nutrient. We will continue with the last year project of managing malt genetics for feed end-use: Increasing barley profitability by challenging traditional end-use boundaries, ultra-early seeding dates of spring wheat, and winter wheat trials which were established in 2019 and will continue until 2021.

Extension Events:
Due to COVID -19, we are not able to organize an in-person extension event, so we decided to get support from technology. In April 2020, we hosted three zoom webinars for our ranchers and producers. The upcoming events of BRRG are webinars about U-pick forage and a field day 29th July, 2020.The crop walks will be conducted in the last week of August.

Enviornment:
The Battle river will continue with soil health and soil carbon projects with the collaboration of our producers as part of the environment program. We are also looking for ranchers to participate in a funded study of ranch management with new technologies. In this program, the participant will be paid and get free training of Agprofit tool

Pest monitoring: We set up traps for Diamondback moth and Bertha Armyworm at different places in east central Alberta for pest monitoring.

ULTRA-EARLY SEEDING OF SPRING WHEAT 2019 RESULTS SUMMARY

The shorter growing season of spring wheat usually results in limited grain yield in Alberta. Early seeding can be a strategy to help producers lessen the impact of the short growing season on spring wheat. However, the decision of seeding is entirely weather-dependent, such as how early farmers can seed while avoiding the risk of spring frost and operational limitations. Previous research reported hat the ultra-early planting of spring wheat at soil temperatures of 2 to 6 ^{0}C has the potential to increase yield, improve grain quality, and result in earlier maturity. It may have the extra potential advantage(s), such as the reduction in herbicides use and diseases with a wider window of harvesting (Collier et al., 2020).

Last spring, a research project was initiated to find out the benefits of ultra-early planting of spring wheat in east-central Alberta. The experimental site was established in Forestburg, AB, by the Battle river research group. Two early-maturing spring wheat varieties (AAC Brandon and AAC Connery) were assessed for the impacts of three seeding rates (1.2, 1.75, 2.5 bu/ac) and two seeding dates (April 13, 2019, and May 14, 2019).

The soil temperatures were recorded 4^{0}C and 7^{0}C in April and May, respectively, at the time of seeding. There were undetermined differences were observed on the yield quantities within seeding dates and seeding rates; however, the AAC Connery yielded more than AAC Brandon. A similar outcome was recorded for maturity and protein content, as shown in the figures (Figures1, 2, and 3). The wheat protein content and TKW were higher in early seeding dates (April 13, 2019) with the combination of the highest seeding rate of (2.5 bu/ac).

The grain yield and maturity were not sigificantly different within seeding dates and rates. The one-year results are not enough to draw conclusions from; therefore, the experiment will be continued for two more years before any solid recommendations can be made for the region. Thanks to the Alberta Wheat Commission for funding this project.

References :Collier GRS, Spaner DM, Graf RJ, and Beres BL (2020) The Integration of Spring and Winter Wheat Genetics with agronomy for Ultra-Early Planting into Cold Soils. Front. Plant Sci. 11: 89.doi: 10.3389/fpls.2020.00089

Does the type of Inoculant impact on the field peas growth and Yield

The application of inoculants with pea seed is a standard practice in Alberta. Battle river research group is excited to conduct the research on this new project about the different type of inoculant application on field pea.

The objective of this research trial is to find out the effects of different types of inoculants and their combinations on the growth and yield. But what the different types of inoculant are and why it is important for us to examine them.

The inoculant is basically rhizobium bacteria that helps fasten the process of nodulation in the pulses after seeding. After the nodulation, plant roots begin to fix nitrogen production. Inoculants are living organisms and must be treated with care. Factors like heat, sunlight, and certain chemicals such as seed treatments and fertilizers can kill the bacteria, and storage conditions can also impact the life of inoculants. Most of the time, inoculants are a single strain and only useful for one crop. There are different forms of inoculants available in the commercial market, such as granular, liquid and peat, to name a few. Some researchers also suggest the combination of varying inoculant to add insurance on pulse crops and in some research studies combination of granular and liquid.

But still, there is the question of what is practical, sustainable, economically affordable, and profitable for our pulse growers?

To maximize the benefits, selecting the right inoculant for the right crop, and proper handling and application, are essential. Which is why we are conducting this research.

Our team believes that the results of these trials will be helpful for our pulse grower to select the right inoculant for upcoming years and increase quality of produce.

New and interactive forage selection tool launched for Western Canada

The Saskatchewan Forage Council is excited to announce the launch of Forage U-Pick, a new interactive forage species selection tool for Western Canada. Designed to provide users with information for forage selection, seeding rates, and weed management, Forage U-Pick is a mobile-friendly tool offering timely and efficient advice.
Forages for hay and pasture are essential for beef production. Ensuring that forage species are well-suited to growing conditions improves establishment rates, yield, vigour and quality. The Forage U-Pick tool provides information that can help to reduce costs, improve utilization and number of grazing days, and increase profitability.

"Forage U-Pick has been a massive undertaking," says SFC President Tamara Carter. "The Saskatchewan Forage Council is delighted with the collaborative efforts of all the contributors, and project manager Julie MacKenzie, for bringing our vision for a western Canadian forage tool to fruition."
Forage U-Pick is an intuitive and easy-to-use platform:
Forages Suited to My Field allows users to choose their province, soil zone or a regional zone and provides a list of forage species that are suited to the selected zone.

The Seeding Rate Calculator is used once users have selected the forages they want to seed, ensuring that the right amount of seed is put into the ground to have the best possible chance for a good stand.

The Forage Weed Management area of the tool touches on how the economic success in forages can increase with proper weed control.
"This project is a collaboration of more than a dozen organizations, across four provinces," says Carter. "Through their contributions of time, expertise and funding, all of these groups came together to build one great tool for producers."

Forage U-Pick, launching June 8th, can be found on the SFC website www.saskforage.ca and at www.upick.beefresearch.ca.
Funding for Forage U-Pick was provided by the Beef Cattle Research Council, Alberta Beef, Forage and Grazing Centre, Saskatchewan Forage Council, and the Government of British Columbia and Government of Canada through the Canadian Agricultural Partnership.

Technical collaborators on this project included: Agriculture and Agri-Food Canada, Alberta Agriculture and Forestry, Alberta Beef Producers, Alberta Beef, Forage & Grazing Centre, BC Ministry of Agriculture, Chinook Applied Research Association, Ducks Unlimited Canada, Manitoba Agriculture and Resource Development, Northern Peace Applied Research Association, Peace River Forage Association, Peace River Forage Seed Association, Saskatchewan Forage Council and Saskatchewan Ministry of Agriculture.

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