

NEWSLETTER

Diversification Centres

June 2024



Seeding potato research trials in Carberry, MB on May 16, 2024.

Seeding Progress Continues at MCDC Despite Significant Rainfall

Despite heavy rains and snowfall, the Manitoba Crop Diversification Centre (MCDC) in Carberry reported continued planting progress for May 31. As of May 28, seeding progress at MCDC had reached 82 percent, an increase of 19 points from the previous week. The Centre has planted potatoes, spring wheat, barley, oats, field peas, lupins, annual forages, flax, corn, sunflower, and soybean for applied research experiments focused on variety

evaluation, yield potential and nutrient management. A weather system on May 24 and 25 brought significant precipitation to southwest Manitoba, exceeding 100 percent of normal precipitation since May 1. Despite these challenging conditions, the Centre plans to proceed with seeding experiments for canola, teff, and dry beans at the beginning of June. Please visit the Diversification Centres' website for more details on ongoing applied research.

UPCOMING EVENTS*

July 7-10

[Plant Canada Conference 2024](#)

Winnipeg, MB

July 25

[WADO Annual Field Day 2024](#)

Melita, MB

July 31

[PESAI Annual Field Day 2024](#)

Arborg, MB

August 7

[MCDC Annual Field Day 2024](#)

Carberry, MB

August 8

[PCDF Annual Field Day 2024](#)

Roblin, MB

**Click event's link for more details.*

WADO and University of Manitoba Explore Nitrogen Fixation in Dry Beans to Reduce Greenhouse Gas Emissions



WADO team direct-seeds 'Vibrant' pinto beans into wheat stubble

The Westman Agricultural Diversification Organization (WADO), in collaboration with Manitoba Pulse & Soybean Growers in-house Pulse Research Agronomist at the University of Manitoba, Kristen MacMillan, is on a quest to uncover the potential for dry beans to fix nitrogen, potentially reducing the reliance on costly applied nitrogen for optimal growth, development, and yield.

In the accompanying photo, the WADO team direct-seeded 'Vibrant' pinto beans into wheat stubble with various rate treatments of applied nitrogen, both with and without Rhizobia inoculation, south of Melita. In its second year, the project – replicated in Winnipeg – has shown promising results with inoculation in the West. WADO aims to replicate these consistent positive responses to reduce the need for applied nitrogen, thereby decreasing greenhouse gas emissions. The project is funded by the Manitoba Pulse Growers.



Visit our website: mbdiversificationcentres.ca



Dr. Mohamed Elshetehy: Leading Research in Sustainable Potato Production at MHPEC

Mohamed Elshetehy recently joined the Manitoba Horticulture Productivity Enhancement Centre (MHPEC) as Applied Research Agronomist. He holds a B.Sc. and M.Sc. in microbiology from Tanta University, Egypt, and a Ph.D. in Plant Pathology from the University of Kentucky, USA. He served as Assistant Professor at Tanta University from 2016 to 2018 and a Postdoctoral Researcher in Prof. Mauch's lab at the University of Fribourg, Switzerland, from 2018 to 2020. He then served as a Research Associate in Prof. Daayf's lab at the University of Manitoba until April 2024. His expertise includes molecular and biochemical analyses of host-pathogen interactions, plant defense signaling, and systemic acquired resistance. At MHPEC, he focuses on enhancing the efficiency, sustainability, and profitability of potato production and processing in Manitoba.

Seeding Progress and Innovations at PESAI: May 2024 Update

As of May 26, the Prairies East Sustainable Agriculture Initiative (PESAI) has seeded 65% of the plots. Both Arborg and Beausejour sites got occasional rain showers during May, which delayed seeding operations, especially in Beausejour. PESAI does both small and medium-scale plots using two different drills. Most of the plots were planted using a small plot seeder. However, few projects were planted using a 12-foot-wide air seeder. Tile drainage projects and Manitoba Forage & Grassland Association (MFGA) regenerative ag projects were seeded using an air seeder. During 2024, the Beausejour site has MCVET grain corn and sunflowers trials and MCVET cereals and soybeans. Seeding at the Arborg site started on May 9, whereas Beausejour seeding has not started yet. PESAI has modified the existing plot seeder by installing another cone to seed through mid-row banders.

This is useful especially for intercrop trials where two crops can be seeded simultaneously. Corn-legume and Italian ryegrass-oats-berseem clover projects were seeded using both cones. This seeder is also useful for fertility projects requiring variable nitrogen rates for different treatments.



Seeding Operation in Progress at PESAI



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Planting Wheat and Canola with Cover Crops



Jessica Frey Installs a Nutrient Probe in Plots of Canola Seeded into Cover Crops

Most importantly, the project aims to measure the biomass of both crops, providing insights into the growth and overall health of the plants. It will also note the impact of the Clearfield canola herbicide on the living legume mulch, observe weed suppression and flea beetle traps, and assess canola yield and performance. This comprehensive approach will ensure a thorough understanding of the crops' interactions, the herbicide's effectiveness, and overall field conditions.

In the spring of 2023, the four Diversification Centres established intercropping trials with spring wheat and various cover crops, including red clover, white clover, sweet clover, alfalfa, and perennial ryegrass. The wheat and cover crops were seeded in the same row at the same depth. The goal in the first year of this two-year trial was to quantify the impacts of each treatment on wheat performance and cover crop establishment. In brief, cover crops grown together with wheat did not impact wheat performance. The cover crops showed different levels of success in establishment at all sites.

In 2024, the trials will be conducted at Parkland Crop Diversification Foundation (PCDF; Roblin), MCDC (Carberry), and PESAI (Arborg). The trial was discontinued in Melita due to poor establishment. The goal in the second year is to evaluate the performance of a Clearfield canola variety seeded into the living cover crop. The herbicide will be applied to the canola at the appropriate time (2-7 leaf stage). The herbicide is not anticipated to kill the cover crops but will set them back, allowing the canola to develop and outcompete them. It is also expected that applying herbicide to the cover crops will cause them to release some nitrogen into the soil, which will become available to the canola.

Different levels of fertility are also being examined. The total nitrogen in the system will be measured at three-week intervals between seeding and pod set using Plant Root Simulator Probes (from WesternAg), soil nitrate samples, and the nitrogen contained in the canola, covering crops and weeds.



Watch our videos on YouTube: www.youtube.com/@mbdiversificationcentres



Diversification Centres

Extending Ag-Innovations for Sustainable Agronomic Solutions



PESAI



WADO

2024 Annual Field Days

Learning events featuring producers, researchers and agricultural professionals; all focused on ensuring Manitoba producers are equipped with the knowledge and tools to grow the best food and feed crops possible.

WADO

July 25

10:00 am-3:00 pm

PESAI

July 31

9:30 am-1:00 pm

MCDC

August 7

10:00 am-3:00 pm

PCDF

August 8

10:30 am-2:00 pm



Networking and Learning Opportunities

Variety Evaluation Insect, Disease and Weed Management
 Crop Diversification **Regenerative Agriculture**
Forage Productivity Crop-Livestock Integration
 Precision Agriculture **Water Management**
Technology Evaluation GHG Measurement and Management



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Diversification Centres



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FOR MORE INFORMATION AND REGISTRATION, PLEASE CONTACT APPLIED RESEARCH SPECIALISTS AT DIVERSIFICATION CENTRES.

Diversification Centres Contact and Site Information



Manitoba Crop Diversification Centre

MCDCC is located at the north-east corner of Highway No. 1 and Highway No. 5 in Carberry, MB.

Contact:

Haider Abbas
Applied Research Specialist
204-247-0768
Haider.Abbas@gov.mb.ca



Parkland Crop Diversification Foundation

PCDF is located 3 miles south of Roblin, MB at the corner of Highway No. 83 and Road No. 148N.

Contact:

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James.Frey@gov.mb.ca

PCDF



Prairies East Sustainable Agriculture Initiative

PESAI Research site is located two miles west of Arborg, MB on the Highway No. 68.

Contact:

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PESAI



Westman Agricultural Diversification Organization

0.5 km East of the Big Banana at the ball diamonds in Melita.

Contact:

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WADO