

# DIVERSIFICATION CENTRES

RESEARCH | EXTENSION | ADOPTION



JULY 2023



## UPCOMING EVENTS

July 19

**Annual Field Day**  
Westman Agricultural Diversification Organization (WADO) – Melita, MB

July 21

**Potato Herbicide Injury Demo**  
Manitoba Crop Diversification Centre (MCDC) – Carberry, MB

July 25

**Annual Field Day**  
Prairies East Sustainable Agriculture Initiative Inc. (PESAI) – Arborg, MB

August 2

**Annual Field Day**  
Parkland Crop Diversification Foundation (PCDF) – Roblin, MB

August 9

**Annual Field Day**  
Manitoba Crop Diversification Centre (MCDC) – Carberry, MB

## DCs GEARING UP FOR EXTENSION EVENTS

The Diversification Centres (DCs) researchers and provincial Crop Specialists are set to share their current research and findings at the annual field days occurring across the province from July through September. These events will take place at the research farms of four DCs located in Arborg, Carberry, Melita and Roblin. Producers and the public are encouraged to save the dates for these events and use the opportunity to learn, socialize and share their farm experiences

with other participants. Farm tours and field days are instrumental in promoting and facilitating region specific conversations and demonstration of sustainable agricultural practices to farmers, researchers and other industry stakeholders. For the detailed information about each DC's field day including topics, speakers, event timings, registration and location, please visit the Diversification Centre's website and twitter handle. <https://mbdiversificationcentres.ca/>

## MCDC Hosts First Potato Diagnostic School of the Season

The Manitoba Crop Diversification Centre (MCDC) hosts a series of potato diagnostic school sessions every year during the summer to share research updates and educational information with Manitoba's potato growers, researchers and agronomists. Attended by 56 participants, the first session of the Potato Diagnostic School was organized on June 23 in Carberry. The industry experts shared their findings and recommendations about Petiole & Soil Sampling; Fertigation Strategies & Pump Setup, Pest Monitoring Programs; and Irrigation Management at Initiation.



The Potato Diagnostic School is an extension event that provides the opportunity of education and technology learning to local potato growers, academic institutions, researchers, agronomists and field representatives. The event facilitated by Susan Ainsworth (the incoming General Manager of KPPA), also provided producers with the knowledge transfer opportunities, through which they were able to cross-exchange ideas with one another. The next event of Potato Diagnostic School series will be announced soon.



Susan Ainsworth

## MCDC is Demonstrating Potato Herbicide Injury Effect

Herbicide drift to potatoes can lead to serious crop injury and losses. Incorrect application or non-target application due to drift are the main reasons that could injure the current potato crop or the seed tubers. Herbicide injury can have a significant impact on a potato stand, its ability to transform sunlight into carbohydrates, and can result in reduced yield and marketability. Herbicide injury generally occurs through seed contamination, soil carryover, drift, spray equipment contamination or misapplication. It results in poor emergence, chlorosis, necrosis and distortion of growth in plants and tubers. Join Dr. Vikram Bisht on July 21 to learn and explore herbicide injury issues for potatoes especially, how to identify and ways to avoid the damage.



# Exploring Teff at PCDF

The Parkland Crop Diversification Foundation (PCDF) is deepening its understanding of teff for both forage and grain. Building on research conducted at the site since 2020, this year's projects include variety trials, seeding rate evaluations, intercropping trials, and herbicide evaluations. Identifying optimal seeding rates for Manitoba growing conditions is an essential step in establishing a new crop like teff. So far, optimal yields for both forage and grain have been obtained from seeding with a drill at rates of 5 lb/ac. Slightly higher rates might be suitable for broadcasting seed, or when field conditions are less favourable. Currently, only one teff variety is commercially available in Manitoba, but PCDF is working with collaborators to test other varieties, including several white-seeded varieties that are favoured for grain and bread production. Due to Manitoba's relatively short growing season, some of these varieties may not reach maturity before the end of the growing season. PCDF also received about 100 seeds each of six varieties from the Plant Gene Resources of Canada, operated by the Government of Canada in Saskatoon. These varieties were propagated in a greenhouse and transplanted into the field at PCDF. The seed harvested from those plants will be used for small-plot trials in 2024.



**Teff Seedlings at PCDF**



**Teff Transplants, Started in a Greenhouse**



**Teff Intercrop with Wheat, Barley and Oats**

Intercropping teff with other forage or grain crops provides an exciting opportunity to increase the nutritional quality of forages and to provide late-season grazing to livestock after grain harvest. Learn more about teff cultivation for grain and forage at the PCDF Annual Field Day, scheduled for August 2, 2023. We look forward to seeing you there.

**About Teff:** Teff is a cereal grain that has been farmed in Ethiopia for more than 6,000 years. It is used to make injera, a fermented flatbread that is naturally gluten-free and high in protein, fibre and iron. Teff is about the size of a poppy seed and has an earthy flavour reminiscent of hazelnut. It appears to be well suited for western Canada, especially for late spring, early summer planting.

# Featured Updates

## WADO and MCDC Studying New Crop... Lupins!

A new crop has arrived at the Diversification Centres for the locations of WADO in Melita and MCDC in Carberry. Lupins! They are not quite as pretty as the horticultural version you may see in the Maritimes, but they are still quite stunning. The company Lupin Platform Inc. located in Calgary contacted Dennis Lange, our provincial pulse Specialist, to organize a research project at the two Diversification Centres comparing the adaptation and performance of blue and white lupin varieties to pea varieties. So far things are looking quite intriguing. Did you know lupins contain 36% protein compared to pea which is at 23%. They are also quite disease tolerant to diseases like Aphanomyces that can plague field peas. The white lupin is adapted to higher pH soils compared to blue lupin, so we will see how things grow in Melita where soil pH is 7.1 compared to Carberry with soil pH of 6.1. In 2021, a research plot of white lupins near Souris yielded 43 bushel per acre while in 2022 it yielded 78 bushel per acre!



## Dry Conditions Prevail at PESAI Site in Arborg

The Prairies East Sustainable Agriculture Initiative (PESAI) site in Arborg did not get enough precipitation this spring causing extreme dry conditions at the research site. The site received 142% GDD during May 1- June 18. During the same time period, the site had only 19% of the normal rainfall. The dry spell resulted in poor germination in Quinoa, Teff, Berseem Clover and Canola plots. Other trials had good germination but plots are suffering growth wise due to lack of moisture. The site has received half an inch rainfall on June 20. Many plots have been irrigated to save them from drought conditions. Moreover, water has been applied through tiles as sub-surface irrigation.



# Staff Biography (Summer Students)

High school has finally come to a finish and that means Westman Agricultural Diversification Organization (WADO) quota of summer staff is finally back at work. We have three summer students returning back to duties featuring Tylan Chalmers, Joy Mayes and Tommy Burnette.

Tommy lives on a mixed farm located south of Tilston. Tommy has an interest in agriculture and plans to attend the Agribusiness program at the Assiniboine Community College (ACC) after graduation. His hobbies include playing baseball and is quite musical. He will be attending the International Band camp at the Peace Gardens this summer.



**Left to Right: Tylan Chalmers, Joy Mayes & Tommy Burnette**

Joy is a good candidate for a career in agriculture. She is a good badminton player who is able to challenge any opponent in the provincial championship title. Apparently, she is also a pretty good shot when it comes to gopher control. She seems to find time for a second job at her local Pierson Coop grocery store on a part time basis.

Tylan's career aspirations are still evolving, but he does enjoy working in the plots. He just won awards a school for pre-calculus, science, band and personal finance. He resides from the town of Reston where he formerly worked as a day camp entertainer. He is an avid gamer, hunter, and loves to play several musical instruments such as the electric guitar, saxophone, and organ. It is great to see them all back as WADO veterans. Hopefully they all stay cool this summer!



**Oats/Fall Rye Intercrop Trial's Seedlings and Progression**

## **PESAI is Testing Oats / Fall Rye Intercrop at the Field Scale Level**

PESAI has funded a project in which fall rye is under seeded with oats. Field scale strips are planted having oats @ 3 bu/ac seeding rate. However, fall rye is planted at three different seeding rates (0.4, 0.6 & 0.8 units). Each treatment strip is replicated three times. Once oats is harvested for grain, fall rye will be grazed, cut or kept undisturbed in the fall to see its effect on winter survival and grain production next year. The results will be published in PESAI Annual report.



PESAI



WADO

# Diversification Centres

Extending Ag-Innovations for Sustainable Agronomic Solutions

## 2023 Extension Events

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 19**

Westman  
Agricultural  
Diversification  
Organization

Contact:

Scott Chalmers  
Applied Research  
Specialist  
204-522-5415  
Scott.Chalmers@gov.mb.ca

**PESAI**  
**July 25**

Prairies East  
Sustainable  
Agriculture  
Initiative

Contact:

Nirmal Hari  
Applied Research  
Specialist  
204-391-3623  
Nirmal.Hari@gov.mb.ca

**PCDF**  
**August 2**

Parkland  
Crop  
Diversification  
Foundation

Contact:

James Frey  
Applied Research  
Specialist  
204-247-0346  
James.Frey@gov.mb.ca

**MCDC**  
**August 9**

Manitoba  
Crop  
Diversification  
Centre

Contact:

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

## 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



[mbdiversificationcentres.ca](http://mbdiversificationcentres.ca)



@CropCentre



Diversification Centres



[info@mbdiversificationcentres.ca](mailto:info@mbdiversificationcentres.ca)

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

# Diversification Centres Site Directions



## Manitoba Crop Diversification Centre

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



**PCDF**

## Parkland Crop Diversification Foundation

PCDF is located 3 miles south of Roblin, MB at the corner of Highway No. 83 and Road No. 148N.  
Directions from Roblin to the site: Travel south from Roblin on Highway No. 83 (toward Russell) for 3 miles. Turn west on Road No. 148N (south of a feedlot on the west side of the Highway). Continue for 1/2 mile. Turn into the driveway at two white shops located on the south side of the road).



**PESAI**

## Prairies East Sustainable Agriculture Initiative

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



**WADO**

## Westman Agricultural Diversification Organization

Travel 1 mile north of Melita off Highway No. 83, Corner of 156 west and 20 north.



# WADO Field Day

Wednesday, July 19, 2023

Registration at 9:30 Tour begins 10:00 a.m. - 2:45 p.m.

Corner of Hwy 3/83 and Road 15N, East Side of Cargill Elevator Turn  
Large Tent, Seating, Snacks, Refreshments and Portable Washrooms

## WHAT TO SEE:

- Hybrid Corn Varieties
- Wide Row Corn with Cover Crops
- Corn Soybean Intercrop
- Flax Seed Treatment Trial
- Lupin Adaptation Trial
- Annual Forage Trial
- Cereal & Legume Relay trial
- Cereal Agronomic Considerations with Nitrogen, PGRs, and Seeding Rates
- Lots of Variety Trials for Dry Beans, Soybeans, Mustards, Peas, Wheat, Oats Barley, Quinoa
- Peaola

## FREE LUNCH AT NOON

BBQ burgers, salads  
and cold drinks, veggie subs

## RSVP

to the  
Manitoba Agriculture  
Melita Office

204-522-5415

or email

[scott.chalmers@gov.mb.ca](mailto:scott.chalmers@gov.mb.ca)



WADO







## HERBICIDE INJURY IN POTATOES

Seeing is Believing

**JULY 21, 2023 | 9:30 AM – 11:30 AM**

**2-MILES NORTH OF MCDC SITE AND FOLLOW SIGNS**

Herbicide injury to potatoes can lead to serious crop injury and losses. Incorrect application or non-target application due to drift are the main reasons that could injure the current potato crop or the seed tubers. Herbicide injury can have a significant impact on a potato stand, its ability to transform sunlight into carbohydrates, and can result in reduced yield and marketability. It also results in poor emergence, chlorosis, necrosis and distortion of growth in plants and tubers.

Join **Dr. Vikram Bisht** on July 21 to learn and explore herbicide injury issues for potatoes especially, how to identify and ways to avoid damage to the potatoes. We will see impact of selected herbicides on potatoes and rotation crops, and also performance of seed from herbicide exposed plants in 2022.

**Coffee and baked goods would be served!**



**Manitoba Crop Diversification Centre (MCDC)**  
North-East Corner of Highway No. 1 & 5  
Carberry, MB | 204-834-2007

# PESAI Crop Tour



**July 25, 2023**

## Where ?

At PESAI Site  
(Two miles west of Arborg on Hwy 68)

## PROGRAM

- |                        |   |
|------------------------|---|
| <b>9.30-10.00am</b>    | Registration & Coffee   |
| <b>10.00 - 10.15am</b> | Sub-surface irrigation strategies through tile drainage<br>(Komlan Koudahe, U of M)         |
| <b>10.20 - 10.40am</b> | Soybean herbicide timing (Brodie Erb, U of M)   |
| <b>10.45 - 11.05am</b> | 2023 Flax trials in Manitoba (Morgan Cott, Manitoba Crop Alliance)                          |
| <b>11.10 - 11.35am</b> | Incorporating legume cover crops in spring cereals<br>(Anne Kirk, Manitoba Agriculture)     |
| <b>11.40am -12pm</b>   | Linking GHG emissions with Nitrogen fertilizers<br>(Manasah Mkhabela, Manitoba Agriculture) |
| <b>12.00 -1.00pm</b>   | Lunch   |

Please RSVP by July 17 @  
204-494-0480 or [prairies.east@gmail.com](mailto:prairies.east@gmail.com)



# **Parkland Crop Diversification Foundation**

**Annual Field Day — August 2, 2023 — 10:30-2:00**

Understanding Nitrogen and Greenhouse Gas - Dr. Mario Tenuta

Intercropping Wheat and Forage Legumes - Jessica Frey

Winter Wheat Varieties and Fertility - Elmer Kaskiw and Alex Griffiths

Teff for Forage and Grain - James Frey

**For more info, contact Sara Marzoff**

204-773-6423, [pcdfroblin@gmail.com](mailto:pcdfroblin@gmail.com)

**FREE LUNCH INCLUDED  
PLEASE RSVP**



**PCDF**

**Located 3 miles south of Roblin, MB  
at the corner of Hwy 83 and Rd 148N**



# MCDC FIELD DAY 2023

Participate to Experience the Innovative Applied Research in Potato & Crop Diversification

## August 9, 2023

- 08:45 AM**     **Registration and Coffee**  
*Sponsored by Simplot Canada (II) Limited  
2-miles north of MCDC site and follow sign*
- 09:00 AM**     **Opening Remarks**  
*Garth Christison, Dan Sawatzky, Susan Ainsworth*
- 09:10 AM**     **BMPs in Potato Applied Research**  
*Potatoes small plot and Field Scale Research – Amy Unger  
Overview of ADA Groundwater Recharge Study – Kayla Moore  
Mustard as a Biofumigant for Potatoes – Haider Abbas  
Herbicide Injury in Potatoes – Seeing is Believing – Vikram Bisht*
- 10:30 AM**     **Off to the MCDC on-site**
- 10:45 AM**     **Crop Diversification & Potato Rotational Options**  
*How Deep Your Roots Are – A Soil Pit Demo – Marla Reikman  
GHG – If you can Measure it, You can Manage it – Elmer Kaskiw  
Peas, Protein and Profitability – Dennis Lange & Amir Farooq  
Teff Grass – Potential & Opportunities – James Frey  
Farm to Market Opportunities – Shauna McKinnon*
- 12:15 PM**     **Lunch**  
*Sponsored by McCain Foods Canada*

