

NEWSLETTER

Diversification Centres

April 2024



Spring Production Meeting 2024 held at Canad Inns Destination Centre in Portage la Prairie

MCDC Participated in the Spring Production Meeting 2024

Potato growers and industry experts gathered on Tuesday, March 26, at Canad Inns in Portage la Prairie for the United Potato Partners' Spring Production Meeting, an event aimed at addressing key issues and developments in the potato farming sector. The Manitoba Crop Diversification Centre (MCDC) participated in the event, leveraging the opportunity to network and gain insights across diverse sectors of the industry.

A diverse range of presenters representing the potato industry, academic institutions, and research organizations provided updates for the year 2023-24, shedding light on the latest initiatives and advancements within their respective sectors.

Following the lunch provided for attendees, the meeting continued with a session exclusively for potato growers, allowing for more focused discussions.

UPCOMING EVENTS*

April 2

Southwest Region Crop Day

Legion Community Hall –
Melita, MB

April 10

PESAI Annual General Meeting - 2024

TransCanada Brewing Company –
Winnipeg, MB

April 10, 17 & 24

CropTalk - 2024

Webinar Series

April 11

StockTalk - 2024

Webinar Series

June 18-19

Manitoba Sustainable Protein Research Symposium 2024

Fairmont Winnipeg, MB

*Click event's link for more details.

Manitoba Potato Research & Extension Reporting Day



Heather Martens, Director of Primary Agriculture at Manitoba Agriculture, delivered opening remarks at the event

Industry leaders and stakeholders convened for the Annual Manitoba Potato Research & Extension Reporting Day at Canad Inns, Portage la Prairie, on March 27, with a shared goal of advancing potato research and innovation. Chaired by Susan Ainsworth from the Keystone Potato Producers Association (KPPA), the meeting welcomed representatives from various entities, including Agriculture and Agri-Food Canada (AAFC), Manitoba Agriculture, the University of Manitoba, Peak of the Market, and Seed Potato Growers Association of Manitoba, McCain Foods Canada, Simplot Canada, MDCDC, Manitoba Horticulture and Productivity Enhancement Centre (MHPEC), and Gaia Consulting.

Opening the session, Scott Duguid of AAFC emphasized the importance of potato research for Canada and Manitoba, highlighting existing funding programs. Representing Manitoba Agriculture, Heather Martens commended industry efforts to align research with the Potato Strategy and highlighted the provincial funding support for industry, MHPEC, and MDCDC. Presentations from various stakeholders showcased a spectrum of research capabilities, ongoing projects, and future endeavours. Discussions revolved around extension and knowledge transfer priorities, with notable proposals including holding an annual Potato Scouting School extension event in Carberry to facilitate education and collaboration among agronomists, growers, and industry stakeholders. In her closing address, Susan emphasized the importance of effective communication and collaboration for Manitoba to solidify its position as a North American potato industry leader.



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Research Ideas with Real-Life Applications: Winter Cereals for Early-Season Grazing with Livestock

One key to maintaining a healthy pasture is knowing when to move animals onto the pasture in spring. The pasture will deteriorate if grasses are grazed before they have grown 3 to 3.5 new leaves. A proven rule of thumb states that if animals are moved onto pasture one week too soon in the spring, three weeks of grazing may be lost in the fall. This loss can have serious financial implications for livestock producers.

With this in mind, Sara Marzoff, a research technician with Parkland Crop Diversification Foundation (PCDF), is looking into options to provide early- and late-season grazing for the 80 animals in her family beef operation. Research from Canada and the United States shows that fall rye and some winter wheat varieties can be good options for spring grazing.

Depending on the level of intensity of grazing, the crop may not yield much grain after it has been grazed; instead, it could be terminated and replanted to an annual forage, such as barley or oats. Alternatively, Sara may plant annuals after the rye, which would be cut for hay in September, mixed with some biennials or perennials, which could provide additional grazing in the following year.



Sheep Grazing the Fall Rye



Sara Marzoff and the Herd

Sara's project will build on research done at PCDF in 2022 and 2023, in which fall rye was used to provide about 15 days of grazing for sheep in late May and early June. In brief, the research confirmed that winter cereals can be a good source of early-season grazing, with good palatability for livestock. Importantly, delaying the date when animals were put on pasture appeared to positively affect pasture performance towards the end of the season, allowing for a later grazing season.



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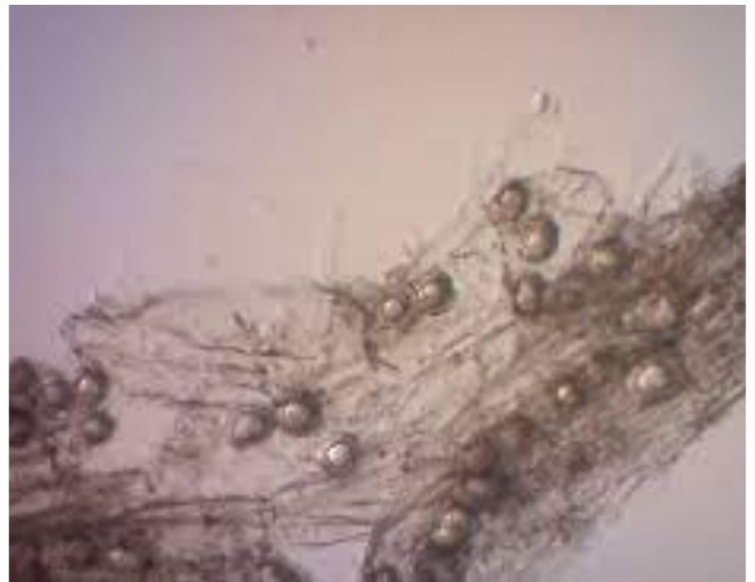
Unveiling Hope: Battling *Aphanomyces* Root Rot in Pea Fields with Innovative Research

Aphanomyces euteiches Drechs. (*A. euteiches*) is an oomycete root rot fungus that has the potential to devastate pea fields, reducing yield to the potential of single digits and even to nil. There are registered seed treatments for *Aphanomyces* suppression. However, *Aphanomyces* is still capable of causing substantial yield loss beyond seed treatment use. There are few other known methods of management other than long rotations away from peas or susceptible crops, with eight years being the minimum recommendation.

The Westman Agricultural Diversification Organization (WADO), in collaboration with researchers across the Prairies, AAFC, as well as with the lead researcher of the project, Dr. Jeff Schoenau, at the University of Saskatchewan together, is planning to initiate a field research trial to help potentially combat *Aphanomyces* and the notorious *Fusarium* root rot complex. The hypothesis is that applications of copper sulphate and possibly in tandem with phosphorus will assist in the prevention of infections by these fungi. Two years of trials are occurring at WADO as well as at the 5 other locations across the Prairies. Pea root rot samples will be sent to AAFC at Dr. Syama Chatterson's pathology lab in Lethbridge for disease quantification using PCR analysis. The hope is that copper sulphate, possibly with phosphorus applications, will show inhibition of the disease and potential for increased yields compared to untreated plots. Trials are set to begin this spring. Pulse Canada is administering funding under the Pulse Science Cluster with funds from the Sustainable Canadian Agriculture Partnership and provincial pulse industry groups such as the Manitoba Pulse & Soybean Growers Association.



Contrast in Crop Health: On the left, thriving pea roots; on the right, overtaken by the destructive duo of *Aphanomyces* and *Fusarium* root rot complex



Oospores developing in pea roots can survive in the soil for years. Photo courtesy: Saskatchewan Pulse Growers Association.



Contact us: info@mbdiversificationcentres.ca

Sub-Surface Drainage and Seeding Rate Effects on Peas

Pea-harvested acreage increased from 67,000 in 2015 to 224,000 in 2021, mostly covering the western part of Manitoba. Peas thrive in relatively dry soil conditions and are susceptible to root rot in wet soils. Choosing fields with well-drained, coarse-textured soils that are not prone to waterlogging is recommended. However, soils in the eastern and Interlake regions of the province have more clay content and have issues with sub-surface drainage.

Tile drainage has been utilized successfully to improve sub-surface drainage in many states of the US. The Prairies East Sustainable Agriculture Initiative (PESAI) site in Arborg has plots with 30' wide tiles underneath. This enabled us to explore if tiles can benefit pea cultivation in heavy clay soils of the Interlake region. Peas are recommended to plant at a seeding rate of 7-8 plants/ft² in Manitoba, but here in this study, we have also evaluated a reduced seeding rate (on tiles) to determine its effects on crop growth and yield. The objective of this study was to evaluate the effects of tile drainage and seeding rate on crop growth and yield of peas.

Treatments Evaluated:

1. Peas grown on tilled land with 100% of the recommended seeding rate (7.5 plants/ft²)
2. Peas grown on tilled land with 75% of the recommended seeding rate
3. Peas grown on non-tilled land with 100% of the recommended seeding rate

Replications: Six

Seeding Depth: ¾"

Variety: AAC Carver

Fertilizer: N-P: 0-15 lbs/acre applied with the seed

Pesticides Sprayed:

1. May 19 – Glyphosate @ 0.67L/acre pre-emerge
2. June 14 – Basagran Forte @ 0.91L/acre

Table 1. Comparison of peas grown over tilled vs non-tilled land with recommended and reduced seeding rates

Treatment	Plant establishment (no. of plants / ft ²)	Days to maturity	Plant height at harvest (inches)	Grain Yield (bu/acre)
Peas on tiles (recommended seeding rate)	10.9a	78.1a	29.2b	62.8b
Peas on tiles (75% of recom. seeding rate)	14.7b	78.2a	28.9b	62.2b
Peas on non-tilled land (recommended seeding rate)	13.1b	77.3a	23.0a	18.8a
Significant Difference	YES	NO	YES	YES
P	0.001	0.454	<0.0001	<0.0001



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The seeding rate did have a significant effect on pea plant survival (Table 1). Peas grown at a recommended seeding rate (7.5 plants / ft²) on tiles resulted in less survival than when seeded at 75% of this rate. Tiles or seeding rate did not affect days to maturity for peas. Plants were significantly shorter at harvest when grown on non-tiled land. Peas yielded almost three times more on tiled land than on non-tiled land. There was no yield difference between the recommended and reduced seeding rate (75%) when peas were grown over tiles.

During this study (May 15 to August 18), the Arborg site received 56% of the normal rainfall. However, the site was extremely dry after seeding and received only 12% of the normal rainfall between May 15 and June 15. Peas are usually susceptible to excess moisture during crop growth, but the plants are also sensitive to water stress during flowering and pod fill. Field peas have similar moisture requirements to cereal grains.

In the current study, peas struggled to grow due to a lack of moisture at critical crop stages on non-tiled land. These peas were shorter and yielded less than pea plots grown over tiles. Significantly lower Thousand Kernel Weight (TKW) in non-tiled plots also pointed out poor pod filling due to a lack of moisture. On the contrary, sub-surface irrigation was given through tiles from June 12 to June 15, and it did benefit peas grown over tiles in terms of better yield.

The current study demonstrated that tile drainage positively influenced pea yield. Pea plots grown over tiles produced greater grain yield irrespective of seeding rate. Peas grown even at 75% of the seeding rate yielded as good as 100% of the recommended seeding rate. Plant establishment was good in all the treatments, and this might explain the relatively good yield even at a reduced seeding rate.



Field Peas Grown on Tiles at PESAI's Arborg Site

PESAI is Holding the Annual General Meeting on April 10

Prairies East Sustainable Agriculture Initiative (PESAI) Annual General Meeting (AGM) for 2024 will be held in Winnipeg on April 10. The meeting will start at Fort Garry Brewery with a tour of the brewery. Following the tour, the AGM will feature a guest speaker, Denis Trémorin, Director of Sustainability at Pulse Canada. The AGM will commence at 5:00 pm, and stakeholders, industry professionals, and interested individuals are encouraged to participate.

RSVPs can be sent to prairies.east@gmail.com



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Prairies East Sustainable Agriculture Initiative Inc.



PESAI 2024 Annual General Meeting

Wednesday April 10th 2024

Annual Agribusiness Tour: 2pm – 3:30pm

Fort Garry Brewery

130 Lawson Cres, Winnipeg, MB

Guest Speaker: 4pm – 4:30pm

Denis Trémorin - Director of Sustainability - Pulse Canada

Dinner 4:30 pm

TransCanada Brewing Company

1290 Kenaston Blvd, Winnipeg, MB

AGM Begins: 5pm

All Are Welcome To Attend

Please RSVP your group by April 5th

prairies.east@gmail.com

Special thank you to this year's hosts:



FORT GARRY
BREWING COMPANY

