MANITOBA CROP ALLIANCE

P.O. Box 188, 38 4th Ave. NE
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mbcropalliance.ca

CALL FOR LETTERS OF INTENT

Manitoba Crop Alliance (MCA) invests in research that is designed to help members be more productive and sustainable. For every levy dollar collected, MCA maximizes resources into meaningful, independent research, valuable knowledge and targeted advocacy.

MCA is now accepting letters of intent (LOIs) for research conducted on corn, sunflower, flax, wheat, winter wheat, barley or whole farm topics. Research projects should **begin in 2027**.

Researchers are encouraged to integrate economic analysis, or return-on-investment (ROI) assessments, where applicable, along with the consideration of the broader agricultural, economic or societal impact of their proposed research. Collaborative and multi-disciplinary projects are strongly encouraged.

MCA will review projects submitted through the AFC and ADF programs. If you are applying through either of these funding streams, a separate application to MCA is not required.

Each year, MCA farmer delegates identify research priorities for investment. The following priority areas have been identified for 2027:

Plant Genetics Improvement

- Develop crops with enhanced resilience to environmental stress. Priority traits include resistance to pre-harvest sprouting in cereals, improved tolerance to freeze-thaw cycles in **winter wheat**, enhanced drought tolerance, resilience to excess moisture and greater heat tolerance to maintain yield stability under extreme temperature.
- Trait development to reduce lodging in cereal crops.
- Improve genetic resistance to important cereal disease and pests in Manitoba and the Prairies (e.g. Fusarium head blight, rusts, bacterial leaf streak, leaf spot diseases, wheat midge)
- Improve genetic resistance of **sunflower** to important diseases like sclerotinia, rust and downy mildew.
- Genetic improvements to nitrogen-use efficiency for input reduction and yield maximization.

Agronomy and Crop Production

Crop Management

- Production systems to maximize profit, maintain or build soil health and improve crop resilience.
- Evaluation of minimal (i.e. strip till) and no-till management strategies in **sunflower** production. Assess their impact on stand establishment, maturity, weed pressure, soil health and productivity.
- Management practices to mitigate the impact of abiotic stress and enhance yield stability.

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- Assess long-term crop rotation performance by integrating yield data, economic trends, market conditions and land quality indicators to identify regional decision support for improving productivity, profitability and resilience.
- Evaluate water-management strategies for both excess and deficit conditions in the context of crop productivity, resource efficiency, environmental considerations and long-term resilience.
- Identify methods for rapid emergence of **corn** under cool spring temperatures.

Integrated Disease, Weed and Pest Management

- Integrated disease management of Fusarium head blight, rusts, bacterial leaf streak, and leaf spot diseases in cereals.
- Evaluation of foliar fungicide application timing on cereals for disease control, grain quality and yield. Under what conditions in Manitoba, do fungicides deliver positive ROI.
- Develop integrated pest management strategies that consider both the management and prevention of trait and pesticide (insecticide, fungicide, herbicide) resistance. Consider the biology and epidemiology of diseases, weeds and insects, as well as cropping systems dynamics.
- Assess herbicide rotation frameworks and residual herbicide challenges/opportunities for the inclusion of minor crops (**flax, sunflower**) in rotation.
- Novel integrated management strategies for herbicide resistant kochia and waterhemp with a focus on Manitoba crop rotations.

Soil & Nutrient Management

- Evaluation of enhanced-efficiency nitrogen products and nitrogen-use efficiency in major and minor crop types (**flax, sunflower)**. Under what conditions do enhanced-efficiency nitrogen fertilizers deliver positive ROI.
- Assessment of micro-nutrient formulations and applications in **flax** production.
- Agronomic and economic outcomes of in season nitrogen rate adjustments (single, split, top-up, etc.) and optimization for crop types.
- Identify management strategies to mitigate compaction on heavy clay soils, headlands and crossings.
- Novel research in soil health to improve cropping systems resilience and productivity.

Precision agriculture, digital technologies and modelling

- Optimization of variable rate production practices to improve input efficiency, environmental impact and profitability, demonstrating return on investment for different soil types.
- Evaluation of novel digital agriculture tools, automation and equipment technologies with an emphasis on ROI and cost-benefit.
- Determine the use of predictive tools and data-driven management to optimize decision-making, crop rotations, water-use strategies and resource allocation.

Harvest, Post-Harvest and Quality Management

Harvest Management

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- Evaluate the effectiveness and feasibility of alternative and novel methods for pre-harvest weed control and harvest aid in cereal crops.
- Identify and evaluate **flax** straw management practices that enhance agronomic performance, reduce operational challenges and support long-term soil and environmental sustainability.
- Develop efficient decision support tools to optimize harvest timing in late-season crops like **sunflower** and **corn**. Consider factors such as crop moisture, weather forecasts, drying costs and time, and crop quality.

Grain Handing, Drying and Storage

- Explore grain drying technologies that improve efficiency and profitability, and reduce GHG emissions.
- Identify cost-effective grain storage and monitoring practices to maintain grain quality and safety in specialty crops like **sunflower** and **flax**.
- Optimization and evaluation of drying temperature for ranges of moisture content in **corn**. Assess impacts on grain quality, cost-efficiency and energy use.
- Optimization of grain handling systems to create efficiencies and cost-savings.

Quality and value-added

- Identify production practices and grain quality improvement opportunities for specific end uses and value-added markets (e.g., wheat protein content, winter wheat quality, malting barley).

Profitability, Market Development and Decision Support

- Economic assessment of **sunflower** (oil & confection type) profitability compared to other crops in Manitoba. Compare the competitiveness of the sunflower market in Manitoba to other provinces and countries.
- Evaluating the viability of incorporating **sunflower and flax** into plant-based protein value chains.
- Conduct a market and transportation feasibility assessment to determine the economic and logistical opportunities for **grain corn** exports to Alberta's feed industry.
- Evaluate the sustainability and growth potential of Manitoba's **grain corn** market through an integrated assessment of domestic demand, supply-chain capacity and external market access. Determine whether current market activity is self-sustaining or requires targeted development interventions.
- Develop a comprehensive understanding of current and emerging market opportunities for ethanol produced from Manitoba-grown **corn**. This research should evaluate the domestic and export demand, policy drivers and long-term economic viability.
- Comprehensive analysis of Manitoba's **winter wheat** production and market landscape – past, present and future.
- Economic, environmental or supply-chain considerations of MCA crop types that may influence marketability or opportunities to expand acreage in Manitoba.

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Contact:

For Special Crops and Whole Farm Projects

Submit applications and any questions to:
Katherine Stanley, Research Program Manager – Special Crops
Manitoba Crop Alliance
katherine@mbcropalliance.ca
204-898-4122

For Spring Wheat, Winter Wheat and Barley Projects

Submit applications and any questions to:
Lauren Gislason, Research Program Manager – Cereal Crops
Manitoba Crop Alliance
lauren@mbcropalliance.ca
204-295-5149