

FERTILIZER ACCELERATING SOLUTIONS & TECHNOLOGY CHALLENGE

PROJECT GUIDELINES (2022/23)

October 5, 2022

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[Bioenterprise webpage](#)

[Fertilizer Accelerating Solutions & Technology Challenge webpage](#)

Table of Contents

Section 1. Initiative Overview	3
1. 1. Objectives.....	3
1. 2. Overview	4
1. 3. Eligible Applicants	5
1. 4. Eligible Projects & Activities.....	6
1. 5. Financial Guidelines.....	7
1. 6. Timelines	10
1. 7. Proposal Review	11
1. 8. Intellectual Property.....	12
Section 2. How to Submit an Application	13
2. 1. Application Process	13
2. 2. Application Requirements.....	13
2. 3. Application Workbook & Budget	14
2. 4. Supporting Documentation.....	16
2. 5. Important Considerations	16
Section 3. Project Administration	17
3. 1. Project Contribution Agreement.....	17
3. 2. Claims & Payment Reconciliation	17
3. 3. Reporting Requirements	18

Section 1. Challenge Overview

1.1 Introduction and Background

The Ontario agri-food supply chain is facing unprecedented challenges, including its ability to access competitively priced inputs for agricultural production, namely fertilizer. As Ontario is not a major producer of fertilizer and is therefore primarily reliant on imports, its food supply chain is open to shortages and higher prices. World political turmoil, such as the war in Ukraine, has added considerable strain to global food security and has resulted in federal government-imposed tariffs on imported Russian fertilizer which has negatively impacted Canadian farmers. Approximately 85-90 per cent of the total nitrogen fertilizer used in Eastern Canada is imported from Russia to Eastern Canada. Canada's agriculture industry is well-positioned to help, but farmers' ability to do this relies on a secure, predictable supply of fertilizer to maximize crop yields.

The Fertilizer Accelerating Solutions & Technology Challenge (the Challenge) promotes the commercialization of technologies and solutions in the alternative fertilizer space. It will be delivered through an acceleration financing program with the goal of advancing new and emergent fertilizer alternatives (products and solutions) to market. This will ultimately lead to solutions that have the potential to address supply challenges faced by Ontario's agri-food sector.

Bioenterprise Canada Corporation (Bioenterprise) is pleased to partner with the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) to support the delivery of the Fertilizer Accelerating Solutions & Technology Challenge. This Challenge is supported with up to \$2 million in funding from OMAFRA.

1.2 Objectives

The Challenge will provide funding support to Ontario-based organizations looking to commercialize technologies and solutions in the alternative fertilizer space, targeting those transitioning from research and validation phases to successful commercialization and market entry. These efforts aim to address the dependency of Ontario agriculture on imported fertilizers, as well as provide alternatives to traditional fertilizers to ensure a continuous and cost-effective supply of fertilizer products to the Canadian agriculture industry.

The Challenge will directly accelerate agricultural technologies to market, bolstering rural business growth and agri-food sector performance. Eligible projects should align with the objectives outlined by OMAFRA that further support Ontario's agri-food sector:

- Enhance safety and risk management practices in the agri-food sector;
- Encourage agri-food and rural development outcomes of agriculture, food, and rural affairs; and
- Address risks in the fertilizer supply chain and drive economic benefits back into the Canadian ecosystem.

Bioenterprise is delivering and administrating this programming. Bioenterprise brings more than 15 years of industry experience as well as a national and international network of research institutions, academia, mentors and experts, government, and industry to help small and medium-sized businesses in the sector nationwide connect, innovate, and grow. Through its experienced service partner network, Bioenterprise offers a wide range of expertise and support to its clients. Established partnerships with other industries help open doors to new technologies and platforms to help food and agri-tech businesses succeed.

1.3 Overview

Project Duration: Up to 14 months beginning no earlier than September 8, 2022 and ending no later than November 15, 2023.

Project Start: Projects may start as early as September 8, 2022. Eligible costs can only be incurred, invoiced, and paid for on or after the eligible start date. Bioenterprise has no commitment to provide funding until approval is communicated to the applicant when they are notified of the funding decision.

Project End: Projects must be completed, and all eligible costs must be incurred no later than November 15, 2023.

Note: All projects must advance the applicant’s solution towards market readiness, and the solution must be at a minimum readiness level of [Technology Readiness Level](#) (TRL) 7 at the start of the project.

- **Priority will be given to projects that will advance solutions to market (TRL 9) by Spring of 2023.**
- Projects advancing solutions to market by November 15, 2023 are eligible and will be considered for funding, if available.

Funding Available:

The total funding available through the Challenge is \$2 million over a 14-month period from September 8, 2022 through to November 15, 2023. Applicants can request up to **70% of the total budget** (Eligible Project Costs) of the Eligible Project, **to a maximum of \$200,000 per project.**

The applicant's organization must demonstrate that it has the financial capacity and sufficient resources to complete the project in its entirety. Funding under this programming is provided on a reimbursement basis meaning the applicant's organization must pay for project costs up front. If a project exceeds the approved budget, the applicant's organization must raise the additional funding required to complete the project; additional funds will not be provided from this programming.

In addition to project funding, approved applicants will receive a one-year complimentary Access membership to Bioenterprise's [Canada's Food & Agri-Tech Engine](#) upon successful project completion.

1.4 Eligible Applicants

Organizations that meet the following eligibility criteria can submit a full proposal:

Eligible Applicants:

- Must be located in Ontario;
- Must be a corporation, partnership, sole proprietor, or unincorporated association, including an Indigenous community or band council; and
- Must have an alternative fertilizer solution (i.e., product, process, technology, or system) at or beyond TRL 7 at the start of the project.
 - TRL 7: Prototype ready for demonstration in an operational environment.
 - Alternative fertilizer solutions may include or be a combination of:
 - New products that reduce dependency on fertilizer imports.
 - Solutions that reduce reliance on traditional fertilizers.

Applicants may submit more than one proposal if multiple alternative fertilizer solutions exist however, only one project will be approved per applicant.

Note: Applicants who have received prior funding from OMAFRA but have outstanding required reports are not eligible for funding under this program until OMAFRA has received and approved the outstanding reports.

Project partners and service providers may include but are not limited to: for-profit entities, not-for-profit entities, government and non-government organizations, universities and colleges, and research institutions based in Ontario.

1.5 Eligible Projects & Activities

Eligible Projects

Eligible projects must advance the applicant's solution towards market readiness and commercialization:

- Priority will be given to projects that will advance solutions to market by Spring of 2023.
- Projects advancing solutions to market by November 15, 2023 are eligible and will be considered for funding, if available.

Eligible projects will address risks in the fertilizer supply chain, and drive economic and environmental benefits back into the Ontario ecosystem, including:

- Advancing alternative fertilizer product(s)/solution(s) to market.
- Demonstrating efficacy, efficiency and performance validation of new products and solutions.
- Technology or solution must be at a minimum readiness level of TRL 7 at the start of the project.
 - All projects must advance a technology towards market readiness. Priority will be given to projects that plan to advance the product or solution to TRL 9 (i.e., actual technology proven through successful deployment in an operational setting).
- Project activities must take place in Ontario and eligible project costs must be incurred in Ontario. Exception may be granted only with prior approval in extenuating circumstances.
- Project activities should result in increased revenue generation, job creation, and attraction of new investment for the applicant's organization.

Eligible Activities

Eligible activities can include but are not limited to:

- Executing business plans to get solutions into the market.
- Sourcing and implementing on-farm demonstration.
- Activities to secure and protect Intellectual Property (IP).
- Customer discovery and validation: Identifying and securing new partnerships with end-users.
- Marketing and extension work: Activities related to awareness building, providing technical advice to end-users, or success story sharing.
- Creating market and technical communications: Creation of technical documents, digital content, and presentations for technical and marketing uses.
- Removing any barriers to market launch or private sector adoption.

- Tradeshow and/or conference attendance: Activities related to presenting and/or exhibiting at tradeshows or conferences where the solution will be showcased. This includes travel-related activities.
- Internal employee labour: Activities that require new and existing staff to complete and are directly related to the execution of the project.
- Other commercialization activities: Any other activities that will bring the solution to market.

1.6 Financial Guidelines

The Challenge will provide **up to \$200,000 in project-based matching funding, where applicants can request up to 70% of the total eligible project budget**, to support the validation and acceleration of eligible technologies to market.

The total project budget can include eligible and ineligible project costs. However, the approved eligible project costs will be considered as the total eligible project budget when approval is received.

Funding under this programming can only be used for Eligible Project Costs that are:

- Directly related to the intent of the project.
- Reasonable and required to carry out the project.
- Incremental to the cost of doing business.
- Directly connected to the Project Milestone Plan.
- Subject to approval by Bioenterprise.
- Auditable by Bioenterprise (complete documentation is necessary).

Eligible Project Costs

The eligible and ineligible costs listed below are not exhaustive but provide a guideline for developing project budgets under the Challenge. **Bioenterprise reserves the right to determine the eligibility of all expenses, including salaries and other expenses, on a case-by-case basis.**

Eligible project costs include:

a. Internal Employee Labour

- Eligible Costs:
 - Actual salary costs for employing experts to contribute directly to the project, such as:
 - Trainee salaries (i.e., graduate and summer students) and Post-Doctoral Fellows.

- Contract technicians and other staff contributing to project activities.
 - Employee’s direct hourly labour rate related to charges to the project plus normal benefits including organization portion of CPP, EI, WSIB, and health/dental benefits (benefits cost in total not to exceed 15 per cent of the hourly rate).
- Ineligible Costs:
 - Salaries of permanent staff whose time is not directly spent on executing the approved project.
 - Individuals with permanent academic appointments.
 - Individuals with provincial, federal or municipal government employment.
 - Salaries for executives, administrative staff, or Board members.
 - Discretionary severance and separation packages.

b. Consulting and Professional Service Providers

- Eligible Costs:
 - Costs of consultants and professionals that are directly related to the project activities.
 - Note: Funding for eligible legal fees, including Intellectual Property costs, are limited to 10% of the total eligible project budget to a maximum of \$15,000.
 - Patent or filing fees are not eligible.

c. Equipment (leased or purchased)

- Eligible Costs:
 - Equipment is defined as any item (or interrelated collection of items comprising a system) which is used wholly or in part for the proposed project having a useful life of more than one year and costing more than \$2,000.
 - Equipment leases and rentals to conduct the project are eligible.
 - New equipment purchases to conduct the project are eligible.
 - Equipment costs are to be apportioned to the project and other uses (if applicable).
 - Costs related to commissioning of new equipment or modification/relocation of existing equipment (infrastructure and commissioning) related to the project may be eligible.
 - Note: Funding for eligible equipment (leased or purchased) is limited to 50 per cent of the total eligible project budget, to a maximum of \$100,000.
- Ineligible Costs:
 - Purchase of common use items not directly related to the approved project (e.g. computers, office equipment).

d. Consumables

- Eligible Costs:
 - Materials and supplies directly related to project activities.

- Ineligible Costs:
 - Common use items not specific to the project.
 - Food or entertainment costs.

e. Travel

- Eligible Costs:
 - Travel, meal, and accommodation costs, as outlined in the [Travel, Meal and Hospitality Expenses Directive](#), necessary to carry out the project (e.g., travel to research stations, partner facilities, and field plots).
 - Rental vehicle (compact model or equivalent) and gasoline (no costs for fees/penalties incurred, including for failure to refuel rental vehicle before returning it); or
 - Personal/fleet vehicle with the distances calculated in kilometers and tracked and submitted for project-related use according to the following maximum rates per kilometer:

Number of Kilometres	Southern Ontario (\$/km)	Northern Ontario (\$/km)
0-4,000 km	\$0.40	\$0.41
4,001-10,700 km	\$0.35	\$0.36
10,701-24,000 km	\$0.29	\$0.30
More than 24,000 km	\$0.24	\$0.25

- Air and rail travel directly attributable to the project activities (economy or coach class equivalent).
- Single accommodation in a standard room is eligible where directly attributable to the project activities.
- Ineligible Costs:
 - Travel costs (flights, mileage, accommodation, meal allowances etc.) for participants in workshops and meetings who are not part of the core project team.
 - Car allowance.
 - Parking, and tolls for bridges, ferries, and highways (no cost for traffic or parking violations).

Other travel costs that are, in Bioenterprise’s sole and absolute discretion, direct, incremental, and necessary for the successful completion of the project may be eligible, provided those costs have been approved by Bioenterprise in writing prior to being incurred.

Note: In order to be eligible, travel costs must be identified and approved as such in the application for an approved project.

f. Indirect Costs

- Eligible Costs:
 - Other indirect eligible costs include external premises rented specifically to carry out the project activities, including meeting rooms, space, or facilities.
- Ineligible Costs:
 - Allocation of the organization's facility costs.
 - Leasehold improvements as a category.

g. Other Ineligible Project Costs

- Costs incurred before the approval of the project by Bioenterprise or after the project completion date identified in the Agreement.
- Costs incurred in preparing an application.
- Any cost not specifically required for implementation of the project.
- Normal costs of establishing, expanding, or operating a business or organization.
- Goods or services provided by federal or provincial government departments or agencies.
- Deposits (prepayments) for which goods or services are not yet fully received.
- Costs of membership in a professional body.
- Purchase or lease of land, building, or facilities.
- Purchase of vehicles, transportation equipment, mobile material handling equipment (powered or unpowered), and construction and agriculture machinery.
- Financing charges, loan and lease interest payments, bank fees and charges, fines, or penalties, as well as debt restructuring or fundraising.
- Interest on invested capital, bonds, debentures, or mortgages.
- Bond discount.
- Costs related to litigation.
- Opportunity costs.
- Costs of conference or tradeshow admission if not exhibiting or presenting as part of the project activities.
- Gifts and incentives.
- Permits and approvals.
- Costs related to activities that directly influence or lobby any level of government.
- Costs of intangible assets such as goodwill, whether capitalized or expensed.
- Extraordinary or abnormal fees for professional advice unless approval is obtained from Bioenterprise before incurring the cost.
- Non-refundable Taxes, including Harmonized Sales Tax.
- Any refund or rebate the applicant receives or is eligible to receive.

1.7 Timelines

Submission deadline: 11:59am EDT on Friday, November 4, 2022.

Anticipated Notification of the Status of Full Proposals: Wednesday, November 30, 2022.

Project Start and End Dates (for the purpose of developing project milestones): September 8, 2022. Actual start and end dates may vary, but all projects must be completed by November 15, 2023.

Final Report Deadline: 30 days following project completion, and no later than December 15, 2023.

1.8 Application Review

Panel Review

Applications will be submitted to a Review Panel for evaluation. The application title and abstract may be shared by Bioenterprise with third parties for the purpose of finding expert reviewers who are not in a conflict of interest with the proposal. All reviewers are required to declare any conflict of interest and to sign a confidentiality agreement prior to accessing and reviewing any submission. Once reviewers are selected, they have access to the entire application for evaluation purposes.

Review Panels will evaluate the proposals according to the following criteria:

1. The project's fit with the objectives of the Challenge.
2. How clear is the plan to commercialize the alternative fertilizer solution?
3. How well is the barrier or gap defined and understood?
4. What is the value or benefit of the potential solution to the agri-food sector?
5. What is the economic impact of the project?
6. What realistic benefits will the project deliver once completed as planned? Who will benefit in Ontario and Canada?
7. What is the level of uniqueness of the solution to Ontario?
8. Quality and clarity of methodology and overall project work plan. The review committee must understand the step by step process the project will use to achieve milestones as stated.
9. The experience and expertise of the applicant and project partners to produce the anticipated project outcomes to benefit Ontario.
10. The completeness and appropriateness of the proposed budget, evidence of stakeholder support, and level of available funds from eligible sources (requested and confirmed) where applicable.
11. Assessment of risks associated with successfully completing the project.

Applicants whose applications are selected for funding will be notified via email. Funding is contingent on the applicant signing and complying with the terms and conditions outlined in the Project Contribution Agreement with Bioenterprise.

1.9 Intellectual Property

The Recipient is required to include, in the Application, their Intellectual Property (IP) Strategy related to achieving project objectives through IP-related activities. IP activities should facilitate increased technical collaboration and provide an opportunity for Recipients to advance their technologies.

Bioenterprise makes no claim to ownership of IP resulting from activities supported through this Challenge.

2 How to Submit an Application

2.1 Application Process

The application process is a one-phased full application consisting of:

- [Challenge Intake Form.](#)
- [Application Workbook.](#)
- [Budget Workbook.](#)
- Required financial appendices:
 - Two (2) years of financial statements reviewed and reported on by an independent external accountant with a minimum “Notice to Reader Report” to the most recently completed year-end.
 - Internally prepared financial statements for the current fiscal year to the date of application submission.
 - Evidence of funding available or accessible by the Applicant to complete the project, such as:
 - Proof of available operating line of credit.
 - Letter of Comfort from the applicant’s bank or accounting firm.

Applications must be submitted online through the Bioenterprise website (Wufoo link). **Email, mail, in-person, and facsimile (fax) submissions will not be accepted.** Applications must be received by the submission deadline to be considered for funding.

Upon submitting an application, a confirmation email will be automatically sent. Applicants are encouraged to retain a copy of their completed submission for ease of reference until funding decisions are made.

All applications received on time will be reviewed and assessed. Funding awards under the Challenge will be announced upon completion of the application review process. Successful applicants will enter into a Project Contribution Agreement with Bioenterprise. Unsuccessful applicants may ask for a debrief with Bioenterprise as to why the project was not selected to receive funding.

Applicants with additional questions can contact: submissions@bioenterprise.ca.

2.2 Application Requirements

Application Contents

Complete applications must include the following elements, completed in full:

- Challenge Intake Form (required):
 - Applicant Information.
- Application Workbook that contains the following sections (required):
 - Organization & Fertilizer Solution Overview.
 - Project Overview & Projected Outcomes.
 - Milestone Plan.
- Budget Workbook.
- Required financial appendices.
- Supporting documentation (optional).

Templates

Templates include:

- An electronic version of the [Challenge Intake Form](#).
- An Application Workbook provided in a Microsoft Word template.
- A Budget Workbook provided in a Microsoft Excel template.

All templates are accessible in the [Application Toolkit](#) located on the Bioenterprise website.

Formatting

- Document type: All applications must be typed.
- Font: Must be easy to read (11-point minimum). Smaller font may be used in figures and tables but must be clearly legible.
- Figures, graphs, images, and pictures: Presented in a size that is easily readable or viewable and may be landscape orientation.
- Line spacing: Single.
- Margins: One (1) inch top, bottom, left and right.
- Page limit for written proposal: 20 pages excluding the appendices.
- Paper size: Letter (8 ½ inches by 11 inches).
- Application language: Official language (English or French) of choice. Applications will not be accepted in any other languages.

2.3 Application Workbook & Budget

The Application Workbook must be completed by providing information that corresponds to each of the sections listed below. The Application Workbook template containing the required information must be submitted as an attachment to the Challenge Intake Form.

Section A) Organization & Fertilizer Solution Overview

The Organization & Fertilizer Solution Overview provides a description of the applicant's business and its solution (including TRL), as well as short and long-term growth plans. It should also include details on the applicant's proposed vision, including an overview of key aspects of the organization, including solutions to be commercialized.

Section B) Project Overview & Projected Outcomes

The Project Overview & Projected Outcomes provides a description of the proposed project's requirements, deliverables, and outcomes. It should outline objectives, activities to be done, when and by whom, milestones and expected outcomes.

This plan will outline and describe in detail:

- An overview of the project.
- A clear explanation of the scope and required resources in order to achieve desired outcomes.
- A description of the solution to be commercialized through project implementation.
- A description of how the solution will be commercialized through project implementation.
- A description of the timeline associated with commercializing the solution.
- A description of how the project addresses one or more of the Challenge objectives.
- Geographic location where the project activities will take place.

An overview of the project benefits for the business and project partners, as well as its overall economic impact for Ontario must be included. An assessment of the projected economic growth, industrial benefits, and business outcomes of the proposed project must be provided. This section should highlight opportunities for job creation and retention, revenue generation, commercialization, and new investment opportunities.

Project team and partners must be identified including the nature of their involvement in the project, as well as highlighting their capabilities, technology expertise and sector knowledge. Applicants must explain how their participation strengthens the proposal and impacts expected outcomes.

Section C) Milestone Plan

Applicants must provide a detailed implementation plan, including:

- Activities and timelines.
- Milestone activity descriptions and projected outcomes.

Section D) Budget Workbook

Applicants must provide a detailed project budget, including all eligible and ineligible project costs, corresponding to the activities listed in the Milestone Plan.

2.4 Supporting Documentation

Supporting documentation is not required to submit an application but is encouraged to provide further context to the organization and project. Supporting documentation should be in PDF format and may include:

- Organization business plan and/or:
 - Pitch deck.
 - Product specification sheets.
 - Solution (i.e., product, process, technology, or system) overview.
- Letter(s) of support from project partners or stakeholders as evidence of need for the solution.

2.5 Important Considerations

When naming attachments for the Challenge Intake Form, refrain from using the following characters: “ # % & * : < > ? / \ | . Otherwise, the form will not submit to Bioenterprise for review.

The Challenge Intake Form will only submit successfully once the questions are completed and the required attachments have been added.

Applicants should clearly mark as “proprietary” any information contained in their applications that they believe is a trade secret or proprietary business information. Proprietary information also includes applicant and project details provided. This information is to be maintained confidential and will not be shared with other applicants nor on public sites.

Proprietary information contained in applications will be used or disclosed only for the purposes of project evaluation and assessment. Funded projects under the Challenge are subject to the federal [Access to Information Act](#) and the [Privacy Act](#).

3 Project Administration

3.1 Project Contribution Agreement

A Project Contribution Agreement will be executed with successful applicants outlining, at a minimum:

- Eligible Project details including the Project Milestone Plan.
- Approved budget and spending timelines.
- Payment schedules and reconciliations.
- Reporting requirements.
- Retention of data requirements.

The project is considered approved upon execution of the Project Contribution Agreement. Funding payments will be managed by Bioenterprise and support eligible project costs as described in the Project Contribution Agreement.

3.2 Claims & Payment Reconciliation

Payments are reconciled on a periodic basis through the submission of claims by the recipient. Claims will be submitted based on milestones as outlined in the Project Contribution Agreement and are reconciled with cash flow requirements and actual expenditures. All claims must be accompanied by a report of the work accomplished.

Each claim submitted will include details of costs incurred and paid during the period. Expenditures must be substantiated by appropriate documentation such as invoices, timesheets, contracts, proof of payment, and other approved documents. Claims must be certified by an authorized financial officer of the recipient. Prior to approval, Bioenterprise will review, sample, and request supporting documentation for all claims submitted. Bioenterprise may require that any claim for payment be certified by an external auditor.

If at any time during the term of the Agreement, Bioenterprise provides funds in excess of the amount to which the recipient is eligible to receive, Bioenterprise may:

- Deduct an amount equal to the excess funds from further payments; or
- Demand the recipient pay an amount equal to the excess funds to Bioenterprise.

The recipient must keep records and documents for a minimum of six (6) years following the conclusion of the project and Project Contribution Agreement.

There will be a minimum 10 per cent holdback of reimbursement until a Final Report for the project is received and approved by Bioenterprise. The Final Report submitted for the project must include a certification that the project has been completed within the project timelines

stated in the Project Contribution Agreement, and the project must fulfill all other requirements stated in the Agreement.

3.3 Reporting Requirements

The Contribution Agreement outlines the reporting requirements for:

- Claims and project expenditures.
- Project activities.
- Results and outcomes of the project.

Required Reports

- Claims and interim progress reports:
 - Recipients will submit claims on a periodic basis, as outlined in the Project Contribution Agreement, on prescribed forms as provided. Interim progress reports must be submitted with each claim using the template provided.
 - These reports will provide information to assess progress and to track recipients' success against the terms and conditions of the Project Contribution Agreement.
- Final report:
 - Recipients must submit a final report within 30 days of the completion of the project on overall goals, achieved outcomes, results and economic benefits of the project.
 - Recipients must submit an evaluation form based on their experience of the Challenge to Bioenterprise and directly to OMAFRA.
 - All final reports are due the earlier of 30 days following the completion of the project or December 15, 2023.
- Annual Client Surveys post project completion:
 - Recipients are required to complete Annual Client Surveys for up to six (6) years after the completion of the project. Client surveys are designed to report on programming objectives, to measure achievements and to provide feedback on engagement with Bioenterprise.

Retention of Reports

Recipients are required to keep official records, including all interim, annual, and final reports, and supporting claims documentation for a minimum of six years following the conclusion of the Project Contribution Agreement.

END OF DOCUMENT