

Canada's first

ACCELERATE-ON

FOOD INNOVATION WITH CELLULAR AGRICULTURE

A competition in collaboration with
Canadian Food Innovation Network and Ontario Genomics

Application Guide

December 2021

The AcCElLerate-ON - Food Innovation with Cellular Agriculture Competition is an Initiative of the Canadian Food Innovation Network and Ontario Genomics.



Getting Started

AcCELLerate-ON Food Innovation with Cellular Agriculture Competition provides flexible and rapid support on a cost-shared basis to enable start-up companies, Small- or Medium-sized Enterprises (SMEs)¹ and researchers² to advance their cellular agriculture food innovation and research outcomes, using genomics or engineering biology technologies, or those that are genomics- or engineering biology-enabled.

The total eligible project costs should be between \$150,000 and \$200,000. The maximum level of matching funding from CFIN will be 50% of total eligible project costs (between \$75,000 and \$100,000) and from Ontario Genomics will be 25% of total eligible project costs (between \$37,500 and \$50,000). The remaining 25% (between \$37,500 and \$50,000) must be provided by the applicant. The project must be led by an Ontario-based start-up, SME or academic researcher and must lead to innovations that are applicable to the food sector. Any service provider(s) for the project must be independent of the applicant.

A non-refundable project management fee of 5% of total project costs is payable by the Lead Applicant to CFIN. The project management fee collected will be divided 75% to CFIN 25% to Ontario Genomics. This fee cannot be claimed as an Eligible Project Cost.

Eligible Projects

To qualify for funding, all projects must:

- Be led by a start-up or SME that is incorporated in Ontario or an Ontario-based researcher in the food ecosystem. Multi- and cross-disciplinary innovators are encouraged to apply with resulting innovations that are applicable to the food sector;
- Identify a specific cellular agriculture food innovation and research project with a clear methodology and defined goal or outcome that has or will lead to commercial application, or benefit the Ontario cellular agriculture ecosystem more broadly;
- Include use of genomics³ or engineering biology⁴ technologies, or be genomics or engineering biology-enabled⁵;
- Demonstrate benefits both to Ontario and to the food and beverage industry;
- Conduct research and development at Technology Readiness Levels (TRL) 1 to 7. Projects including TRL 8 and 9 components will only be considered if they are part of a project that also includes a TRL 1 to 7;

¹ A SME is defined as a business with 499 or fewer employees and less than \$50 million in gross revenues.

² Universities and colleges

³ The term genomics includes related disciplines such as epigenomics, metabolomics, metagenomics, proteomics, transcriptomics, bioinformatics, etc., as long as the link to genetic information is clear.

⁴ Methodologies deriving from a convergence of technologies and disciplines that have led to great advances in the reading, writing and editing of DNA, and utilize the design-build-test-learn cycle for the creation of improved or de novo biological systems.

⁵ Projects should directly employ genomics and/or engineering biology methodologies or build on previous genomics or engineering biology-derived innovations

- Advance TRL during the project, or describe how industry will utilise project outcomes to advance TRL level (applicable to academic lead applicants only);
- Include a financing plan/budget indicating what the estimated cost is to advance the food innovation and research forward from its current state to be closer to market readiness or at market readiness;
- Each project must be matched with 25% cash contribution from the lead applicant (to a total project size of \$150,000 - \$200,000).
- Be undertaken by members of CFIN (lead applicant).

Cellular Agriculture with Food - Innovation Topics

The applicable areas of food and cellular agriculture innovation could include, but are not limited to, the innovation topics and project examples listed below:

- **Sustainable Food & Ingredients Production:**
 - *New and alternative proteins and ingredients produced through cellular agriculture (e.g., proteins, enzymes, flavour molecules, vitamins, pigments and fats)*
 - *Upcycling/Reducing waste (e.g., feedstock optimization for cellular agriculture cell or chassis types, e.g., growth media for microbes, cells, etc.)*
 - *Food Science (e.g., flavour, texture)*
 - *Business-to-business tools or products (e.g., growth factors, scaffolding)*
- **Genomic Diagnostics in Food Safety:**
 - *Standardized QC testing across the industry*
 - *Diagnostic tools applied to cellular agriculture*
- **Biomanufacturing and Scale Up:**
 - *Scale-up of lab processes for new ingredients and food products*
 - *Novel approaches to biotechnology and biomanufacturing (e.g., cell-free production of proteins)*
- **Reducing Red Tape, Regulatory Burden or other Barriers:**
 - *Policy models for improving regulations in cellular agriculture*
 - *Addressing/improving consumer perception*

Assessment Criteria for the Application Process

Each application that meets the eligibility requirements will be assessed using the following criteria:

AcCELLerate-ON Assessment Criteria	Scoring
1. Background and the rationale (including industry pull/market need) for completing the project	15
2. Innovative aspects of the project, including cellular agriculture and genomics and/or engineering biology	15
3. Expected impact and outcomes, including direct or indirect benefits to Ontario and to food and beverage manufacturing	15
4. TRL progression/advancement within project, or within the broader industry/ecosystem (academic projects only)	10
5. Next steps and pathway to implementation	15
6. Detailed project work plan, including project objectives, design and methodology, with activities, milestones, timelines with specific roles and responsibilities of the applicants and team	20
7. Comprehensive budget, including co-funding plan for industry partner	10
Total Score	100

Principles of Inclusivity, Diversity, Equality and Accessibility (IDEA) and consumer engagement/perspective are mandatory and are key considerations towards project evaluation.

CFIN and Ontario Genomics at their sole discretion, reserve the right to alter the project assessment criteria; applicants will be advised if any changes are made.

Contacts

CFIN: innovation@cfin-rcia.ca

Ontario Genomics: Laura Riley, lriley@ontariogenomics.ca

Guidance for Completing the Application

The goal of this application guide is to provide guidance for applying to the *CFIN-Ontario Genomics AcCELLerate-ON – Food Innovation with Cellular Agriculture* Competition. This application guide is subject to change. Applicants will be advised of any such changes. Please refer to *AcCELLerate-ON – Food Innovation with Cellular Agriculture* Competition Guide for further details.

General Instructions

Application deadline is 12:00 PM (EST), February 28, 2022. Submit the final Application package to CFIN at innovation@cfin-rcia.ca.

Throughout the application, the term *project* refers to the initiative/work undertaken to complete the funded activities.

CFIN and Ontario Genomics at their sole discretion, reserves the right to alter or cancel the program timelines. Applicants will be advised of any such changes.

For questions about the application form, please contact CFIN at innovation@cfin-rcia.ca.

The completed application submission must include the following electronic files:

- a) Application in Word
- b) Budget and Workplan in Excel
- c) Supporting Documentation in PDF
- d) Proof of financial ability to take on the project, this can include:
 - o Financial Statements (the last two years of external accountant prepared financial statements for the Applicant) in PDF
 - o Term Sheets
 - o Interim Financial Statements
 - o CFIN and OG are willing to consider other financing proof options on a case-by-case basis.

Completing the Application Template

*** information in fields marked with an asterisk may be disclosed publicly. See Terms and Conditions (Section 7) in the application template for due diligence disclosure requirements.**

Section 1. Project Overview *

- Propose a concise but informative project title;
- Include the Total Budget, Total CFIN Funding Request and Total Ontario Genomics Funding Request, which should align with the amounts in your completed Excel budget; and,
- Select the start and end date for the project. The start date for projects will be May 1, 2022. Projects must be completed in accordance with the Master Project Agreement and no later than 18 months from the start date. Applicants approved for funding will be required to enter into a Master Project Agreement with CFIN and Ontario Genomics within 15 business days from the date of receipt of the Master Project Agreement.

Section 2. Lead Applicant Details *

- Metrics collected in the Applicant Details section will be reported to Industry, Science and Economic Development Canada and the Ontario Ministry of Colleges and Universities;
- Legal Business or Organization Name and Operating Name;
- Description of business/research organization core capabilities, a snapshot of your business and what you do;
- Organization Type – select from the drop down menu;
- Provide your address, city/town, province and postal code, website URL
- For business applicants only, 9-digit business number and date of incorporation;
- For business applicants only, Percentage Canadian Ownership – indicate the percentage of the company that is ultimately owned by Canadians or by firms incorporated in Canada (as determined by voting shares);
- For business applicants only, primary NAICS Code – The North American Industry Classification System (NAICS) is an industry classification system developed by the statistical agencies of Canada, Mexico and the United States. For more information, visit the Statistics Canada [website](#);
- For business applicants only, total number of full-time equivalents (FTE)s in your business or institution in the past calendar year⁶. Please exclude employees on unpaid leave of absence;
- Have you registered as a CFIN member? If you have checked no, visit the CFIN website to register for a free CFIN membership before submitting your application.
- Primary contact for the project – Provide a name, title, email and phone number for an individual, who will be the primary for CFIN and Ontario Genomics to use for any communications related to the Lead Applicant and project.

Section 3. Project Partners (If Applicable) *

- Complete this section only if the Lead Applicant is working directly with other project partners (businesses and/or researchers) (i.e., they play an active role in the project, they are providing a cash contribution, and they are not a paid service provider, etc.), identify the partner(s) and their role and/or contribution;
- Copy and paste this section for each additional project partner;
- Legal business/organization name and Operating Name (if different from legal name);
- Provide a short description of the project partner's role and/or contribution to the project (150 words or less). This can highlight an active role they are playing in the project and not getting paid for or detail a cash contribution they are making directly to the project. (Details for paid service providers will be outlined in section 5); and,
- Primary contact for the project – Provide a name, title, email and phone number for an individual, who will be the primary for CFIN and Ontario Genomics to use for any communications related to the partner(s).

⁶ Employment figures should be provided using the following definition of an FTE: “means each employee or, where applicable, intern, who works for the business on a full-time basis (i.e. they are responsible to work at least 2000 hours when calculated on an annual basis) and, in the case of hourly paid employees or interns who are responsible to work for the business less than on a full-time basis, each equivalent to such a full-time worker”.

Section 4. Project Description and Summary

Section 4.1 Provide a short description of the project in lay language (maximum 150 words).*

- Provide a high-level overview of the project in non-technical language;
- Focus on the objectives that the project intends to achieve and the potential impact.
- This information will be used to communicate your goals to a wider audience, if successful.

Section 4.2 Provide a short project summary explaining why the proposed project will advance the competitiveness of Ontario's cellular agriculture and food business ecosystems and create economic impact, and why CFIN and Ontario Genomics funding is required to carry out the project (maximum 150 words).*

- Consider what specific challenges and/or technical complexities your project will address and how solutions to those challenges might be innovative and transformative for Ontario
- Indicate how the project will provide demonstratable benefits and is of strategic importance for a specific area of the Ontario cellular agriculture and food and beverage sectors; and
- Describe why AcCELLerate-ON funding is required to carry out the project.

Section 5. Application Questions

Provide responses (maximum 500 words unless otherwise indicated) to each of the following questions that will form the basis for assessing the proposal. Lead applicant and partner roles should be provided where appropriate.

Section 5.1 Cellular Agriculture with Food Innovation Topics.

- Indicate all innovations topics that align with your project; and
- Describe how your project aligns with the selected innovation topics, focusing on the cellular agriculture innovation and its applicability to the Ontario food and beverage industry (maximum 200 words).

Section 5.2 Provide the background and rationale for completing the project (including industry pull/market need).

- Describe the industry pull or market need that triggered this project (quantify where possible), and with relevance to Ontario;
- Outline any related background work that has set the stage for this project;
- Describe the project objectives; and,
- Describe how this project will meet this need.

Section 5.3 Provide a detailed project work plan, including project design and methodology, with activities, timelines, milestones, and deliverables, and specific roles and responsibilities of the applicants and team (maximum 1,000 words).

- Provide all relevant details to enable an evaluation of the technical and/or scientific merit or the proposed project design and methods, references and supporting documentation;
- Based on the specific opportunities outlined in section 5.2, describe the research questions that will be addressed during the project;
- What methodology will you use to carry out the project and why. Consider the design of the investigation/experiments/test marketing/piloting/ commercialization.
 - Highlight any genomics and/or engineering biology methodologies,
 - Describe any novel research that will be undertaken;
- Clearly articulate the timelines, milestones and concrete deliverables that will result from the project;
- Describe the roles, expertise and experience of the lead applicant and partners, as relevant to successful project completion; and
- Provide any additional relevant details to enable an evaluation of the proposed project.

Section 5.4 Outline the innovative aspects of the project, including details of the specific cellular agriculture food innovation and highlight how genomics and/or engineering biology was or will be used.

- Identify the extent to which the project is both innovative and transformative from a technical and/or commercial standpoint;
- Describe the cellular agriculture innovation as applied to the food and beverage sector in Ontario;
- Highlight how genomics or engineering biology will be used, or has enabled this project; and
- Describe the new knowledge that is being created by each partner to advance Ontario's cellular agriculture and food and beverage sectors.

Section 5.5 Using defined TRL start and end points, describe the expected TRL progression/advancement within the project, or describe how the broader industry/ecosystem will utilise the project outcomes to advance the TRL or aid in implementation (academic projects only).

- Projects must conduct research and development at TRL 1 to 7 levels. Projects including TRL 8 and 9 components will only be considered if they are part of a project that also includes a TRL 1 to 7 <https://www.ic.gc.ca/eic/site/125.nsf/eng/00007.html#annex-a>.

Section 5.6 Describe the expected impact and outcomes, including direct or indirect benefits to Ontario and to food and beverage manufacturing and cellular agriculture ecosystems.

- Describe how the project deliverables and outcomes will achieve a significant and lasting impact Ontario's food innovation and cellular agriculture ecosystems; and
- Describe direct and indirect (i.e., to the broader ecosystem) benefits to Ontario, and to food and beverage manufacturing and cellular agriculture in the province.

Section 5.7 Describe the next steps and pathway to implementation, and how the outcomes of the project will lead to or shorten the pathway to commercial application, including any Intellectual Property (IP) considerations.

- Using the deliverables and outcomes of this work, describe your plans to leverage the results from this project to go to the next phase and describe the next steps most appropriate to Ontario's food and beverage and cellular agriculture industries, e.g., scale-up, follow-on investment, further research, validate a new business opportunity, obtain future partners, etc.;
- Describe how the outcomes of the project will lead to or advance the innovation towards commercial application or implementation;
- Describe plans for ownership, protection and sharing of background and foreground IP; and
- Describe the expertise of your team and potential partners to carry out the next steps.

6. Other considerations

These sections are **mandatory** and are key considerations towards project evaluation.

6.1 Principles of Inclusion, Diversity, Equality and Accessibility (IDEA) (maximum 250 words):

- Describe how you will take actions that will remove barriers to the recruitment and full participation of individuals from all underrepresented groups, including the four designated groups as defined by the Employment Equity Act (women, Indigenous Peoples, members of visible minorities, and persons with disabilities) on your team

6.2 Consumer engagement/perception (maximum 250 words):

- Describe current or future plans for consumer engagement to mitigate potential concerns about this innovation and cellular agriculture more generally, to ensure that there will be a market for these products in Canada

Supporting Documentation

Supporting documentation should be compiled into a single PDF.

CVs/resumes

- 2 pages (freeform) for the lead applicant and the primary contact of any Partners named in the application form;
- Highlight experience and expertise relevant to this project.

Letters of Support

Letters of support from project Partners and other supporting organizations, as applicable.

Other Documentation, as applicable

- References, e.g., previous and/or complementary work relevant to proposal
 - By team/team members
 - By others
- Any other relevant or supporting documentation.

Budget and Workplan

The budget and workplan will be completed using a separate Excel template “AcCELLerate-ON Budget and Workplan”, which has four tabs to complete.

Tab 1. Project Profile

- List the Lead Applicant and all Project Partner’s organization name(s);
- Include the Project title that you used in your application; and,
- Start Date and End Date for the project that you used in your application.

Tab 2. Budget

- Refer to the "Appendix C - Guidelines for Eligible and Ineligible Costs" in the Program Guide and on Tab. 5 to determine which cost categories your project costs will fit under. You can add rows if you need to add more costs. The costs must be outlined based on the Fiscal Year in which they are incurred.
- Based on your costs inputted into the budget, the spreadsheet will calculate the Total Eligible Costs, Unsupported Costs (based on the calculation of Indirect Costs), Total Project Costs Eligible for CFIN and Ontario Genomics funding, CFIN (50%) and Ontario Genomics (25%) contributions, and the Total Costs to be financed by Lead Applicant and Partners (25%).
 - Lead Applicants will lead all claims and any partner’s contributions must take the form of cash contributions to the Lead Applicant.
- The 5% Project Management Fee is calculated on total project cash eligible for CFIN and Ontario Genomics funding.

- Complete the Forecast by Quarter to forecast the amount of CFIN reimbursement funding that you will be requesting in a fiscal quarter (based on the government fiscal year from April 1 - March 31). This will be based on the invoice date for the expenses incurred.

Tab 3. Sources of Funds

- The purpose of this spreadsheet is to provide a further breakdown about the sources of funding from the Lead Applicant and Partner;s
- The Business/Organization Name will populate from the Project Profile tab;
- Indicate with a Y/N if the funding partners are a Small or Medium Enterprise (SME), a business with 499 or fewer employees and less than \$50 million in gross revenues;
- Indicate with a Y/N if any of the project partners are affiliated to each other, as defined in the Program Guide;
- Outline the co-funding cash coming directly from the Lead Applicant and Partner(s); and,
- Indicate with a Y/N if your co-funding Cash Contribution is sourced from outside Canada (i.e. any of the Lead Applicant or Partner cash is directly from an international source).

Tab 4. Work Plan

Complete a detailed project work plan with activities, milestones, timelines (fiscal year) with specific roles and responsibilities of the service provider(s). This should correlate with the information in Section 5.3.

- Select the appropriate fiscal year associated with the activity start date from the drop-down menu;
- Activity Description should outline the planned activities in chronological order and include any project milestones;
- Expected Outcomes and Deliverables are the benefits or results that will occur during the project and their achievement is a measure of success. These might include items such as new products, practices, processes, and systems that are developed:
 - New products are goods and services that differ significantly in their characteristics or intended uses from products previously produced and used. Examples could include equipment, software, novel foods or consumer goods;
 - New practices are new techniques or methods that can be applied
 - New processes are the set of operations performed by equipment in which variables are monitored or controlled to produce an output in labs or processing facilities; and,
 - New Systems are the set of detailed methods, procedures and routines created to carry out a specific activity, perform a duty, or solve a problem.
- Select the appropriate TRL that represents the achievement of the Expected Outcomes. If no TRL is associated with the Expected Outcome then select “_”

For more information about Technology Readiness Level (TRL), review the descriptions in the Competition Guide

Example:

Fiscal Year (FY)	Activity Description	Expected Outcomes	TRL Associated with the Outcome
FY One 2021-2022	Engage laboratory capable to undertake research and development for protein extraction	Principal Investigator is identified, masters student is engaged, timeline is secured.	-
FY One 2021-2022	Test the lab scale method to effectively isolate proteins from growth media. January – March	Protocol is documented. Ready to test pilot plant protocol with industry partner.	TRL 5
FY Two 2021-2022	Hire engagement officer on short-term contract. April - June	New business partners are identified, samples ready to be tested in facilities.	TRL 6

Tab 5. Cost Categories

Please refer to Tab 5 for eligible and ineligible costs.

If you have any further questions or need assistance with your application submission, please reach out to the CFIN team at innovation@cfin-rcia.ca or Ontario Genomics at lriley@ontariogenomics.ca.