



Adaptation to Climate
Change and Food Safety
in Food Processing

Key date

Application submission deadline
March 31, 2025



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Fonds de recherche Québec





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1. Context and objectives

The Quebec agri-food sector is facing growing challenges due to the effects of climate change, which impact not only agricultural practices but also the food processing industry. These climatic disruptions call for innovative adaptation strategies to ensure the resilience of supply chains while maintaining high standards of quality, safety, and food integrity.

Although studies have explored the effects of climate change on agricultural production, its specific consequences on the food processing sector remain underdocumented, both in Canada and globally¹. Climate change influences the dynamics of microorganisms responsible for food spoilage and increases risks related to pathogens, chemical toxins, and physical contaminants. According to the FAO report *Climate Change: Unpacking the Burden on Food Safety*², these emerging risks require heightened attention to anticipate and mitigate their effects. This report highlights the urgency of developing adapted policies and strengthening food risk management systems to protect consumers from these growing threats.

These challenges underscore the importance of implementing innovative solutions to enhance the resilience of processing methods, reduce their environmental footprint, and uphold rigorous food safety and quality standards.

This call for projects aims to foster the development and integration of responsible and sustainable solutions to help the food processing sector adapt to climate challenges while ensuring food safety and integrity.

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¹ Schnitter, Rebekka, and Peter Berry. 2019. *The Climate Change, Food Security and Human Health Nexus in Canada: A Framework to Protect Population Health*. International Journal of Environmental Research and Public Health 16 (14). https://doi.org/10.3390/ijerph1614253

² FAO. 2020. *Climate change: Unpacking the burden on food safety*. Food safety and quality series No. 8. Rome





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The specific objectives are as follows:

- Study the implementation of processes that mitigate the impacts of climate change on the safety and quality of processed foods;
- Encourage the development of new approaches for contaminant control, efficient resource management, and optimization of processing methods;
- Promote increased collaboration among stakeholders to accelerate the transition toward a sustainable, safe, and equitable agri-food sector.

This call for projects is part of a structuring initiative of the Pôle bioalimentaire, led by the Institute of Nutrition and Functional Foods (INAF) and supported both financially and strategically by the Fonds de recherche du Québec — Nature et technologies (FRQNT). It engages all Quebec researchers who are members of strategic clusters affiliated with the FRQNT and the FRQ — Society and Culture.

2. Eligibility criteria and conditions

- All researchers must be affiliated with a Quebec postsecondary institution recognized by the FRQ and be members of an FRQ research cluster in the Nature and Technology or Society and Culture sectors at the time of the project's implementation. If a researcher is not a member of a cluster at the time of application submission, they will be supported in the membership process to confirm their eligibility. Researchers with dual affiliations must choose one of their two affiliations.
- The team must consist of at least two researchers from two distinct institutions (mandatory) and two different strategic clusters (an asset). The formation of new intersectoral teams is considered an advantage. Please contact us for assistance with networking needs (pole@inaf.ulaval.ca).
- All researchers must be members of the Pôle bioalimentaire. If membership is not in effect at the time of application submission, support will be provided to facilitate registration and ensure the applicant's eligibility.
- The team may also include collaborators. A collaborator is a person identified
 by the principal researcher as providing specific expertise to the project or
 research program for which funding is requested. They cannot be delegated
 the management of any portion of the funds and are not considered a
 researcher within the core research team.





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- Researchers may only be part of one official application under this call for projects.
- Teams receiving financial support must submit a detailed statement outlining the allocation of the received funds in accordance with FRQNT regulations.
- Each project team awarded funding must submit a report twelve (12) months
 after receiving the funds. This report must outline the objectives achieved
 through the research in terms of benefits for the biofood sector or scientific
 advancements generated by the project.
- Partnering with an end-user organization for project implementation is considered an asset.
- Projects whose deliverables will contribute to the preparation of more ambitious funding applications to provincial and federal organizations will be prioritized.
- Projects may last a maximum of 18 months. All projects must be completed by March 31, 2027.
- This call for projects aims to initiate pilot projects that promote collaboration
 with end-user organizations in the food processing sector. As such, you may
 request additional funding through the MITACS program. In this case, the
 project may exceptionally be extended to a maximum duration of 24 months.
 If you wish to explore this possibility, we encourage you to contact us as soon
 as possible (pole@inaf.ulaval.ca).
- The maximum funding available is \$50,000 per project (excluding indirect research costs).

3. Application submission

Applications must be submitted using the application submission form (downloadable here) and must include all the information listed below.

- **1. Project Information** (max. 3 pages)
 - 1.1. Project title (in French and English)





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- **1.2.A short project summary** (in French and English): Provide a concise summary of the project that may be used for public communications (e.g., on the INAF website, LinkedIn post, etc.).
- **1.3.A project description** (max. 2 pages): Present the context and problem statement, objectives, methodology, and implementation plan, including a project timeline.
- 2. Team members: List the researchers, their affiliated institutions, their memberships in FRQ strategic clusters, and the scientific and technical complementarities required to achieve the project's objectives within the proposed timeline.
- 3. Expected results and short- and medium-term perspectives (max. 1 page): Describe the expected outcomes for end users and the projected development perspectives for the biofood industry in Quebec in the short and medium term.
- **4. Knowledge dissemination and mobilization plan** (max. 1 page): Define the project's end users, specify the dissemination strategies for the results, and outline the planned actions to mobilize knowledge among end users.
- **5.** A detailed budget and justification of funds (max. 1 page): Provide a detailed budget, justifying the requested expenses in relation to the project's objectives. Specify the distribution of funds among team members, if applicable.
- 6. Curriculum Vitae (CV): Include the CVs of researchers involved in the project.

The deadline for submitting the application in PDF format is March 31, 2025. Documents must be sent to the following email address: pole@inaf.ulaval.ca. Please use the subject line: "Submission for the Innocuity Call for Projects".

4. Evaluation of applications

Evaluation procedure

Eligible applications will be submitted to a scientific evaluation committee composed of researchers whose expertise aligns with the nature of the proposed projects and who have no conflicts of interest with the applicants.

Applications will be evaluated based on the four criteria listed below.





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Evaluation Criteria

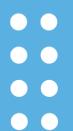
- <u>Project quality (25 points):</u> Scientific rigour, relevance of objectives, robustness of methodology, feasibility of the timeline, and budget coherence.
- <u>Team quality (25 points):</u> Synergy of research expertise, collaboration between private and academic partners, resource sharing, interdisciplinarity, complementarity of strategic clusters, and contribution to the formation of a new research team.
- Potential results for the Quebec biofood sector (30 points): Advancement of knowledge, contribution to innovation and sector competitiveness, expected leverage effect, supervision of students, and potential use of deliverables to support a more ambitious funding application.
- <u>Knowledge mobilization plan (20 points):</u> Scope and quality of the mobilization and knowledge transfer strategy, engagement of end users, and their integration into the dissemination and application process.

5. Announcement of results

The awarding of funded projects will be announced in May 2025, with project commencement no later than June 1, 2025. Please note that a report detailing deliverables and results must be submitted at the end of the project.

6. Nature of financial support

- **Granted amount:** A maximum of \$50,000 per project (excluding indirect research costs).
- Eligible expenses: Costs related to materials, equipment, and resources directly required for project execution that are not typically covered by institutions; compensation for participants, salaries, scholarships, and professional fees (for students and professionals); travel expenses; dissemination and knowledge transfer expenses. (Details on eligible expenses can be found in section 8 of the following document: https://frq.gouv.qc.ca/app/uploads/2024/06/rgc_2024_vf-1.pdf
- **Support duration:** Financial assistance is granted for a maximum period of 18 months, with no possibility of renewal. However, if the project receives additional funding, such as through the MITACS program, the financial support period may be extended up to 24 months. This initiative is made possible through the support of the FRQ, Nature and Technologies sector.





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