ANNUAL REPORT

23.24

INVESTING TO ACCELERATE INNOVATION

Novalait
RESEARCH CATALYST

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A WORD FROM THE PRESIDENT

Dear Shareholders,

The 2023–2024 fiscal year marks an important milestone for Novalait. With the establishment of the Carbon-Neutral Milk Living Laboratory, we are fulfilling our commitment to the goal of achieving carbon neutrality in the dairy sector. Novalait has also expanded its team with a new leader assigned to the management of the living laboratory.

The R&D investment and portfolio management role entrusted to Novalait nearly 30 years ago has allowed us to expand our network to more than 100 research and knowledge transfer collaborators, which strengthens our ability to meet the challenges of Quebec dairy farms and plants.

As president, I saw researchers and stakeholders in the sector come together around projects that respond to real needs in the field. I would like to express my gratitude for the excellence you demonstrate in the management of your projects and in the innovations you bring to our industry.

Communication, as well as the transfer of research results and the adoption of new knowledge, is at the heart of Novalait's priorities. Your organization is committed to occupying this strategic space and is committed to making the results of its research investments accessible. To this end, we strengthened the team with the addition of new strategic communications expertise.

At the same time, Novalait continues to optimally leverage the funds entrusted to it by Quebec dairy farmers and processors. However, Novalait's human and financial resources are currently committed to the maximum of their capacity. Our shareholders will soon be asked to decide on our future capacity for action.

> As president, I saw researchers and stakeholders in the sector come together around projects that respond to real needs in the field.

Many thanks to the management team and the members of the Board of Directors for their commitment to Novalait's values and mission. We also thank our financial partners for their trust and unwavering support.

Together, we are implementing an innovative vision for the future, and I am confident that the next few years will be just as constructive.

Respectfully yours,

David Poulin
President of Novalait

A WORD FROM THE CEO

> Novalait maintained its pace of research investments through the signing of five new research agreements, confirming investments of $665,000 out of a total budget of $2.5 million.

Novalait shareholders,

During 2023–2024 fiscal year, Novalait maintained its pace of research investments through the signing of five new research agreements, confirming investments of $665,000 out of a total budget of $2.5 million. These projects were set up to respond to challenges in the dairy sector. In addition, a committee of shareholder representatives assesses their relevance based on criteria that take into account the economic consequences and the potential for environmental and social benefits.

In its portfolio of 20 projects and research chairs active in 2023–2024, Novalait maintains a leverage of 5.9, that is, $17.4 million in investments from public and private sources and $2.9 million from Novalait. This performance is based on the creation and renewal of funding partnerships and the excellence of research teams.

A highlight of 2023–2024, Novalait expanded its service delivery through the granting by Les Producteurs de lait du Québec of a mandate to manage the Carbon-Neutral Milk Living Laboratory. This initiative, in support of the dairy sector's carbon-neutrality objectives, allows Novalait to showcase its R&D project management expertise and serves as an opportunity to develop its team. Novalait welcomes the hiring of a new project director, Mr. Jacques Leblanc, whose main mandate is to provide leadership for the living laboratory.

As Communications Director, Charlène Paradis has taken up the challenge of establishing effective communication with Novalait shareholders, intensifying the dissemination of research results and highlighting the expertise of researchers and students. There is no shortage of stories to tell about the tangible benefits of Novalait's research investments!

Thank you to Novalait's new team for their enthusiasm for our mission and to the Board of Directors for their wise governance and trust. Quebec dairy farmers and processors are a source of inspiration in all that Novalait accomplishes.

Élise Gosselin
CEO of Novalait

NOVALAIT AT A GLANCE

$20.3 M
invested in research by Novalait and its partners in 2023-2024

A LOOK AT OUR RESEARCH INVESTMENTS

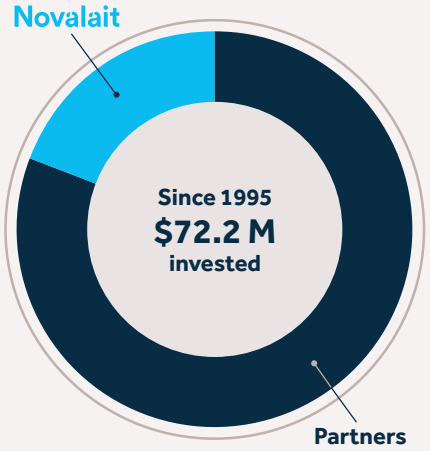
Novalait is the tool that Quebec milk producers and processors have created to invest in research. Every year, all dairy production and processing companies in Quebec contribute to Novalait's research funds. Since 2015, this contribution has been fixed at 1.27 cents per hectolitre of milk processed. In return, dairy farmers and processors benefit from the outcomes of Novalait's research investments:

- Data and knowledge that responds to the research priorities established by the dairy sector;
- Training of highly qualified and specialized personnel;
- Proximity and commitment of a world-class network of researchers.

INVESTMENT HISTORY 1995–2024

Few industrial sectors have had the vision to develop an organization like Novalait to invest in research. Since its establishment nearly 30 years ago, **$13.8 million has been invested in a portfolio of more than 146 research projects, with an overall value of $72.2 million** (Figure 1). Through its funds, Novalait provides access to research for all companies that produce and process milk in Quebec. By setting up partnerships, Novalait creates leverage that allows it to obtain a share of public funding earmarked for research.

Figure 1 **Overall value of the research portfolio**



VALUE OF THE CURRENT PROJECT PORTFOLIO

In the 2023–2024 fiscal year, Novalait's portfolio consisted of 21 projects in progress, including four research chairs. Commitments by Novalait and its partners in these ongoing projects totalled $20.3 million (Figure 2).

Novalait maintained strong leverage on its research investments through diversified partnerships (Figure 3).

Government funds account for 78% of partner contributions to the portfolio of ongoing projects. In addition, public partners manage the scientific evaluation of projects and reports. Novalait also partners with Canadian dairy partners (15% of partner funds) and other agri-food stakeholders (7% of partner funds) to share the risks and costs of research.

Figure 2 **Value of portfolio of projects underway**

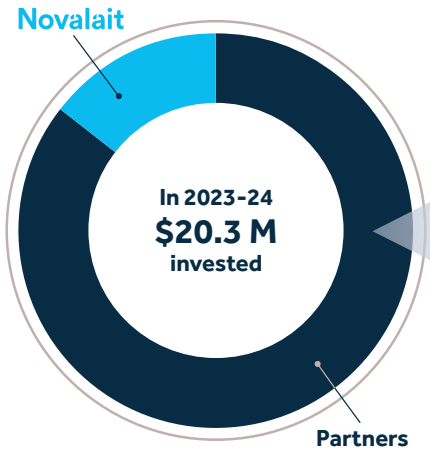
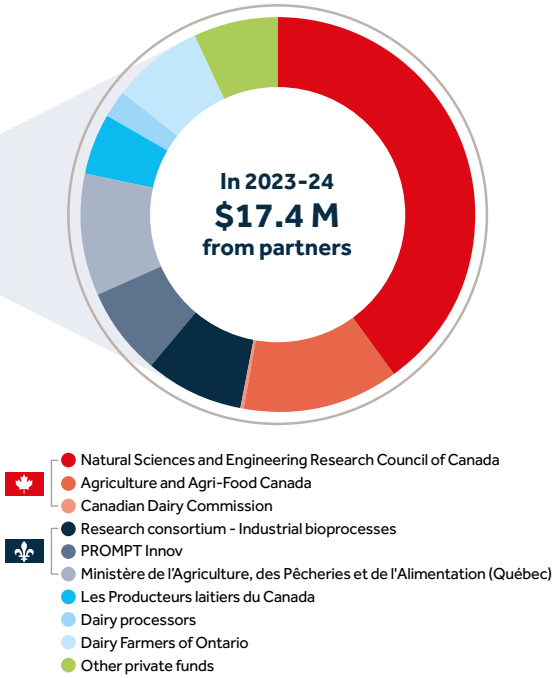


Figure 3 **Funding partners**



Ferme La Croisée Inc.

A FIRST YEAR COMPLETED FOR THE CARBON-NEUTRAL MILK LIVING LABORATORY

The Producteurs de lait du Québec mandated Novalait to implement and manage the Carbon-Neutral Milk Living Laboratory over five years (2023–2028). With a budget of $7.5 million under Agriculture and Agri-Food Canada's (AAFC) Agricultural Climate Solutions—Living Labs program, this project aims to support dairy farmers in improving their carbon footprint.

LABORATOIRE VIVANT
Lait carboneutre

To this end, it measures the consequences and benefits of adopting beneficial management practices that are co-developed, improved and adapted to the context of different types of dairy farms. Twenty companies in four regions of the province were selected to take part in the project.

In 2023–2024, Novalait tabled its first performance report, which is currently being evaluated by AAFC.

Key achievements include:

- the establishment of a number of collaboration and service agreements with key partners such as Agrinova, CIARC, UPA de la Montérégie, Agriclimat, Logiag, and Université Laval;
- the voluntary commitment of 20 dairy farms ready to collaborate on the project for five years;
- the organization of four regional meetings and one provincial meeting bringing together dairy farmers, researchers and partners;
- the launch of data collection for the carbon balance sheets of the 20 participating farms;
- support for the deployment of research activities on farms;
- the development of a preliminary communication plan and the implementation of communication activities, including the publication of a page dedicated to the laboratory by the Producteurs de lait du Québec.

The project is on track to achieve its objectives for the coming year, including the implementation of nine research activities during the summer season and the presentation of the 20 carbon balances to dairy farmers scheduled for fall 2024.

BOARD AND COMMITTEES ACTIVITIES

The two-year term of office of Novalait's directors ended in 2023. At the 2023 annual general meeting of shareholders (AGM), Novalait shareholders re-appointed the directors. Mr. Jean-Marc Bertrand and Mr. Charles Langlois (secretary-treasurer) represent the Conseil des industriels laitiers du Québec (Research). Ms. Claudine Martel and Mr. Alex Berthiaume (Vice-President) were appointed for Agropur coopérative. Ms. Chantal Fleury represents Les Producteurs de Lait du Québec with Mr. David Poulin, who also took over as President of Novalait.

MR. DAVID POULIN, NEW PRESIDENT OF NOVALAIT

David Poulin is co-owner of Ferme Davico Inc., a family business founded in 1967 in Saint-Joseph-de-Beauce. Director of the Producteurs de lait de Chaudière-Appalaches-Sud since 2016, he became president in 2021. He has also held various positions at the Union des producteurs agricoles du Québec (UPA), including that of administrator of the Robert-Cliche UPA. Through his involvement, he wishes to contribute to the evolution of dairy products to meet the current and future needs of Quebec consumers.

MEETINGS ON GOVERNANCE AND MONITORING OF R&D PROJECTS

7 board of directors meetings

2 relevance committee meetings

3 steering committee meetings

6 scientific committees meetings for the follow-up of 4 chairs

4 management committees meetings for the follow-up of 4 chairs

THE NOVALAIT TEAM IS GROWING

APPOINTMENT OF TWO EXPERTS TO KEY POSITIONS AT NOVALAIT

Since April 10, 2024, Novalait has two recognized experts in strategic roles. Novalait is delighted to welcome them and to see them contribute to accelerating innovation in the dairy sector. Congratulations to Jacques and Charlène for their current responsibilities within the organization!

Jacques LeBlanc
Director of the Carbon-Neutral Milk Living Laboratory

With a bachelor's degree in agronomy from Université Laval, Jacques brings with him solid experience in project management in the agriculture and agri-food sector. He is known for his ability to bring people from diverse backgrounds together around collaborative projects. His ability to create partnerships and his in-depth knowledge of the dairy ecosystem are essential assets for Novalait and the Carbon-Neutral Milk Living Laboratory. In his current role, he implements the lab's strategic vision, an innovation project in partnership with Agriculture and Agri-Food Canada, aimed at supporting dairy farmers in continuously improving their carbon footprint.

> I admire the ability of dairy farmers to be visionary in creating projects that impact the future of the sector, despite the daily challenges. The creation of Novalait is a perfect example of this. It is an honour to join Novalait and collaborate with a committed and dynamic multidisciplinary team to make this ambitious and innovative project for Quebec dairy farmers a reality.

Charlène Paradis
Communications Director

Charlène holds a master's degree in history from Université Laval and has over 15 years of experience in research, communication and marketing strategies. She has worked for organizations such as the Université du Québec network, the Fondation de l'Université Laval and Novo SST, where she has contributed to the design and implementation of custom communication strategies. As Communications Director, she plays a vital role in disseminating research findings and developing innovative strategies to maximize the reach of Novalait's research in the dairy sector.

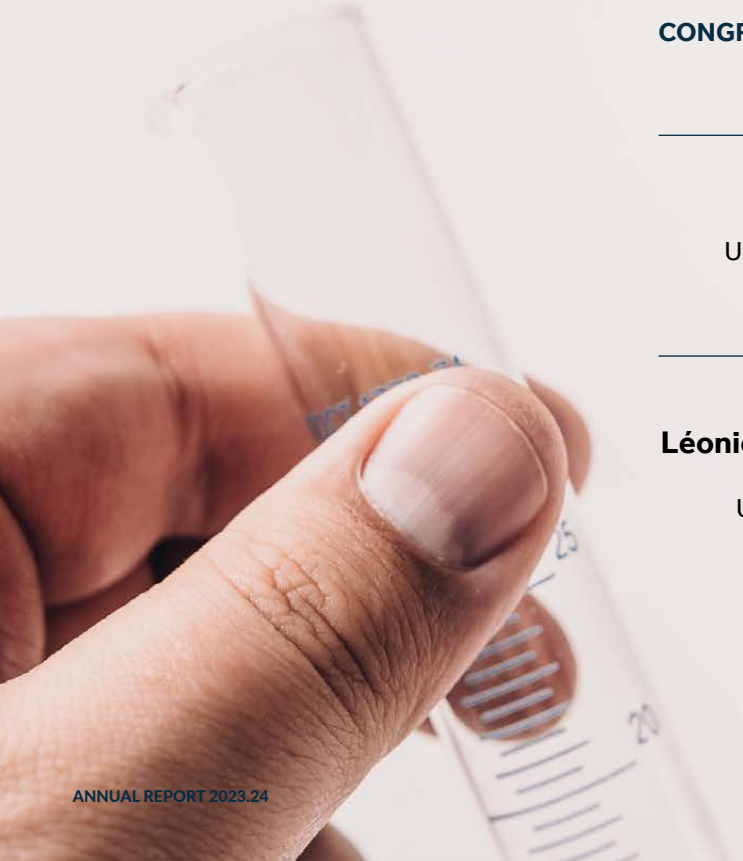
> Since joining the Novalait team, I have discovered a very dynamic and innovative sector. I am proud to contribute to the promotion of research projects and to support Novalait in its mission to stimulate innovation and promote the sustainable development of Quebec's dairy industry.

COMMUNICATIONS SPOTLIGHT

THE FORUM TECHNO AT THE DAIRY CATTLE SYMPOSIUM

In 2023, Novalait redesigned the Forum Techno formula to disseminate research results more widely and to further highlight the expertise of researchers and students. As a result, our team partnered with CILQ to better reach dairy processors and reached an agreement with CRAAQ to present a Novalait session in the 2023 to 2025 editions of the Dairy Cattle Symposium which draws a large number of stakeholders and dairy farmers.

On November 8, 2023, the new forum was held as part of the Dairy Cattle Symposium. Novalait hosted a 45-minute session dedicated to presenting the results of the research it supports. Our team also coordinated the dairy science poster competition. A jury composed of researchers and field experts analyzed 10 proposals.



CONGRATULATIONS TO THE WINNERS OF THE NOVALAIT AWARDS FOR THE BEST SCIENTIFIC POSTERS!

1st PRICE

Faustin Farison,
master's student,
Université de Montréal

2nd PRICE

(ex aequo)

Léonie Laflamme-Michaud,
master's student,
Université Laval, and

Myriam Landry,
master's student,
Université Laval

From left to right: Faustin Farison, Myriam Landry, Élise Gosselin, CEO of Novalait, Léonie Laflamme-Michaud and Édith Charbonneau, researcher at Université Laval.

NOVALAIT GENERAL MEETING OF SHAREHOLDERS

Novalait held its annual general meeting on November 14, 2023, at the Centre des congrès de Saint-Hyacinthe and by videoconference. The event brought together more than 80 participants, including representatives of its dairy farmers and processor shareholders and its partners in research, financing and the communication of R&D results.

Participants learned about Novalait's most recent activities, including new research investments. Our president, Mr. Charles Langlois, highlighted Novalait's high level of investment in research and thanked the scientific community for its interest in meeting the challenges of the dairy sector. He also welcomed the $7 million in funding over five years (2023–2028) announced by Agriculture and Agri-Food Canada (AAFC) for the Carbon-Neutral Milk Living Laboratory through the Agricultural Climate Solutions program.

This meeting also marked the end of the term of office of Novalait's president, who would like to deliver this message:

> The creation of Novalait remains a unique asset for the Quebec dairy sector. The research investment company for dairy farmers and processors maintains its performance, innovates in its practices and continually takes up new challenges. It remains an ideal place for consultation and reflection to tackle the challenges of the dairy sector in an innovative way, for the benefit of all.
>
> *Charles Langlois*

STRATEGIC REFLECTION ON NOVALAIT COMMUNICATIONS

On June 18, 2024, board members were invited to participate in a strategic reflection workshop on Novalait's communications in order to assess and discuss the main orientations of its communication and knowledge transfer plan. The discussions revealed observations that will allow the Novalait team to update its overall communication and outreach strategy.

NOVALAIT GETS INVOLVED

The Novalait team is involved in multiple organizations as a member of committees or boards of directors:

- **Planification stratégique de la filière laitière québécoise [Strategic planning– Quebec dairy sector]**
- **Canadian Dairy Research Council (Dairy Farmers of Canada)**
- **Quebec Cheese Expertise Centre (Board of Directors)**
- **CRIBIQ (Board of Directors)**
- **Dairy Bovine Committee (CRAAQ)**
- **Quebec Dairy Technology Foundation (Board of Directors)**

OUR RESEARCH ACTIVITIES

NEW PROJECTS SET IN MOTION

During the 2023–2024 fiscal year, Novalait signed five new research agreements. The additional $665,000 in investments brought the total budget to $2.5 million.

5
new research agreements

21
projects underway

NEW RESEARCH PROJECTS

NUTRITIONAL STRATEGIES PROMOTING HEALTH AND PERFORMANCE IN MOTHERS AND CALVES: A WINNING COMBINATION FOR DAIRY FARMS

Cristiano Côrtes, Agrinova

The transition period, which spans the three-week period before and after calving, is a crucial moment for dairy cows. Numerous health problems can develop during this time. For example, an inadequate ration before calving can worsen the negative energy balance at the beginning of lactation, resulting in an excessive mobilization of body fat reserves that can lead to metabolic diseases. The calf is born without antibodies and is dependent on the ingestion of immunoglobulins contained in colostrum to protect against pathogens. In addition, other bioactive compounds that are present in colostrum and essential to calf health have yet to be identified. Problems encountered at the beginning of lactation in cows and in the first weeks of life in calves result in considerable financial losses for dairy farms.

The main goal of this project is to identify nutritional strategies that improve colostrum quality and cow and calf health during the perinatal period, in the context of commercial farms. B vitamins play an important role in a number of metabolic reactions, including energy and protein reactions, DNA methylation and cell growth. The intake of certain B vitamins has been shown to improve energy metabolism at the beginning of lactation. The researchers hypothesize that a specific ration before calving, without B vitamin supplements, could improve the B vitamin status of cows in the perinatal period and their colostrum. Through feeding, the calf would then benefit from an increased intake of B vitamins, which could improve its epigenetic programming, especially thanks to the influence of vitamin B9 on DNA methylation in heifers. Since calves do not have a functional rumen at birth, they depend on an external

intake of B vitamins to meet their needs. Optimizing the B vitamin status of cows before calving and calves at birth could reduce health problems in both, while decreasing financial losses for farms.

This project is investigating whether B vitamins in colostrum can be considered bioactive compounds that promote calf growth and health. Correlations will be made between the mother's vitamin B status, the concentration of immunoglobulins in colostrum and the epigenetic profile of calves. This is essential to better understand which nutritional factors of the precalibration ration affect the immunoglobulin concentration of colostrum in order to maximize them. Recommendations will be made on the ideal ration type (e.g., inclusion rate of corn silage) or nutrient balance (e.g., proportion of fibre and starch) to be to improve B vitamin and immunoglobulin status in both cows and calves.

BACTERIOCINS FROM LACTIC ACID BACTERIA: A NEW GENERATION OF NATURAL ANTIMICROBIALS WITH HIGH POTENTIAL FOR THE FOOD AND LIVESTOCK SECTORS

Ismaïl Fliss, Université Laval

The main objective of this project is to optimize and scale environmentally responsible and economically viable technological processes for the large-scale production, packaging and stabilization of natural antimicrobial ingredients based on pre-identified and pre-selected bacteriocins from lactic acid bacteria. It also aims to demonstrate, through pilot tests, the effectiveness of these ingredients in various applications in the food and livestock sectors.

This objective was established in close consultation with the community and responds to current market trends, as well clear demands from the Canadian agri-food industry, namely:

1. Reduce food waste and its major impacts on the environment and the profitability of agri-food businesses by developing new approaches to improve shelf life.
2. Reduce the use of chemical additives and salt as preservatives, due to their adverse effects on consumer health.
3. Meet growing consumer expectations for "clean labelling," i.e. promote natural foods, free of chemical additives and with a long shelf life.
4. Limit the use of antibiotics as growth factors in livestock to counter antibiotic resistance in humans and animals.
5. Integrate the "One Health" approach by encouraging collaborations between sectors that influence overall health.

At the end of this project, new knowledge and new industrial processes will be developed on the production of bacteriocins from lactic acid bacteria and their potential as natural antimicrobials in the dairy sector. High value-added products will also be developed, including antibacterial and antifungal additives for food applications, as well as formulas for the treatment and prevention of bovine mastitis. Strong scientific evidence and technical-economic data will be generated to prove the feasibility and efficacy of these ingredients in testing in various dairy matrices. This data will be crucial for the homologation of these ingredients by regulatory agencies such as Health Canada and the Canadian Food Inspection Agency, and for their use as new food additives or as alternatives to antibiotics.

VALORIZATION OF NON-FATTY SOLIDS IN THE FORM OF LIQUID CONCENTRATES: SEASONALITY, STABILITY, TECHNO-FUNCTIONAL PROPERTIES AND APPLICATIONS

Guillaume Brisson, Université Laval

Butter and table cream production generates skim milk in excess of Canadian needs. This milk is partly exported as skim milk powder, but the Canada–United States–Mexico Agreement (CUSMA) restricts its export. As such, skim milk must be redirected to other uses, resulting in a strong devaluation of non-fatty solids and under-utilization of skim milk proteins, despite their remarkable nutritional, techno-functional qualities. One of the valorization strategies for these proteins is to produce milk protein concentrates with a high protein content (≥ 85% dry matter) since the export of these ingredients is not restricted by international trade agreements.

Milk protein concentrates are produced by ultrafiltration (UF), a well-established technology in the dairy industry. However, the processes necessary for dehydration and export of milk protein concentrates are expensive and energy-intensive. In addition, their high protein content (≥ 85% dry weight) complicates rehydration, which impairs their techno-functional properties. To address these challenges, this project focuses on the production of liquid milk protein concentrates for human nutrition, which is a promising solution. However, producing liquid milk protein concentrates of interest to the food sector requires control over several factors, including the effects of seasonality on their composition, production conditions, storage stability, safety and techno-functional properties.

The goal of this project is to develop an effective and efficient method to create a milk protein concentrate in liquid form for the food sector. This research aims to enable the scalable production of a high-quality nutrient ingredient.

USE OF MILK PERMEATE IN DAIRY CATTLE FEED AND MONITORING OF THE TECHNOLOGICAL PROPERTIES OF MILK ON THE FARM TO IMPROVE ENERGY EFFICIENCY IN THE DAIRY SECTOR

Rachel Gervais, Université Laval

The dairy sector needs to find ways to optimize milk composition to meet the growing demand for high commercial value products such as cheese and butter. At the same time, valorizing the by-products generated by milk processing is critical. One of these by-products, whey permeate, is mainly composed of lactose and can replace starch in dairy rations. Earlier research shows that adding lactose to dairy cows' diets can increase dry matter intake, milk production and fat yield. However, there is a need to better understand the impact of adding whey permeate to the diet on the microbiome and rumen function, and the subsequent effect on milk composition and its technological characteristics.

The overall objective of this project is to evaluate the effect of the use of lactose (in the form of whey permeate) on milk properties and ruminal function as a partial substitute for starch in dairy rations. This research aims to improve the sustainability and profitability of dairy production by utilizing a significant by-product of the sector as part of the circular economy.

STUDY OF USEFUL TECHNOLOGICAL AND GENOMIC MECHANISMS FOR THE PREVENTION OF DEFECTS AND THE CONTROL OF THE NATURAL MICROFLORA OF CHEDDAR CHEESE

Steve Labrie, Université Laval

The main objective of this project is to identify the technological and genomic mechanisms affecting the persistence of the indigenous flora in long-aged cheddar cheese and its quality. The research team is using a global approach that takes into account the chemical, physical-chemical and microbiological factors related to the prediction of the long-term ripening potential of cheddars in high-volume industrial contexts as well as in artisanal contexts. The mechanisms studied include the effects of protein preconcentration by ultrafiltration and the salt level.

Producing long-aged thermized cheddar (>1 year) is a major industrial challenge. Detecting cheeses that are unable to reach the required maturity as early as possible is essential to avoid unnecessary prolonged storage (from one to five years). The first defects begin to be noticeable 90 days after production, but some develop later. Because indigenous flora is responsible for the complexity of the cheese's flavours and is difficult to control, cheesemakers are looking for new, more accurate tools to assess it. This project aims to develop new genomic and physical-chemical methods to rapidly detect cheeses with a high potential for long maturation and to assist cheese factories in their decision-making.

Analyses through metagenomics, physical-chemical and rheology methods will identify quality markers of cheddar maturation.

The monitoring of batches of industrial and artisanal thermized cheddar cheeses over a long maturation period (up to four years) will be carried out in collaboration with the cheese factories recruited to study the ripening conditions and will involve professional evaluators. Analyses through metagenomics, physical-chemical and rheology methods will identify quality markers of cheddar maturation. Notably, the analyses will allow for the identification of members of the indigenous flora in cheddar. In addition, this information will be crossed with proteolysis, lipolysis, water mobility, textural properties and biogenic amine production. New data on cheddar cheeses with reduced salt and pre-concentrated proteins will be generated and evaluated with these new quality markers to estimate the ripening potential of these cheeses. As industrial and artisanal cheese factories will be targeted, viable solutions adapted to their reality will be jointly developed. This research aims to help cheesemakers reduce the costs of storing defective cheeses and optimize production.

ONGOING RESEARCH PROJECTS

Of the 21 projects underway in 2023–2024, there were four research chairs.

PRODUCTION

INNOVATIVE PRACTICES ON THE FARM

Bacteriocins from lactic acid bacteria: A natural approach for the control of sporulated thermoduric bacteria in silage

Principal investigator:
Ismail Fliss, Université Laval

Financial partners: CRIBIQ and NSERC

New silage production technique to reduce harvesting losses and improve silage quality

Principal investigator:
Édith Charbonneau, Université Laval

Financial partners: CRIBIQ and NSERC

Nutritional strategies promoting health and performance in mothers and calves: A winning combination for dairy farms

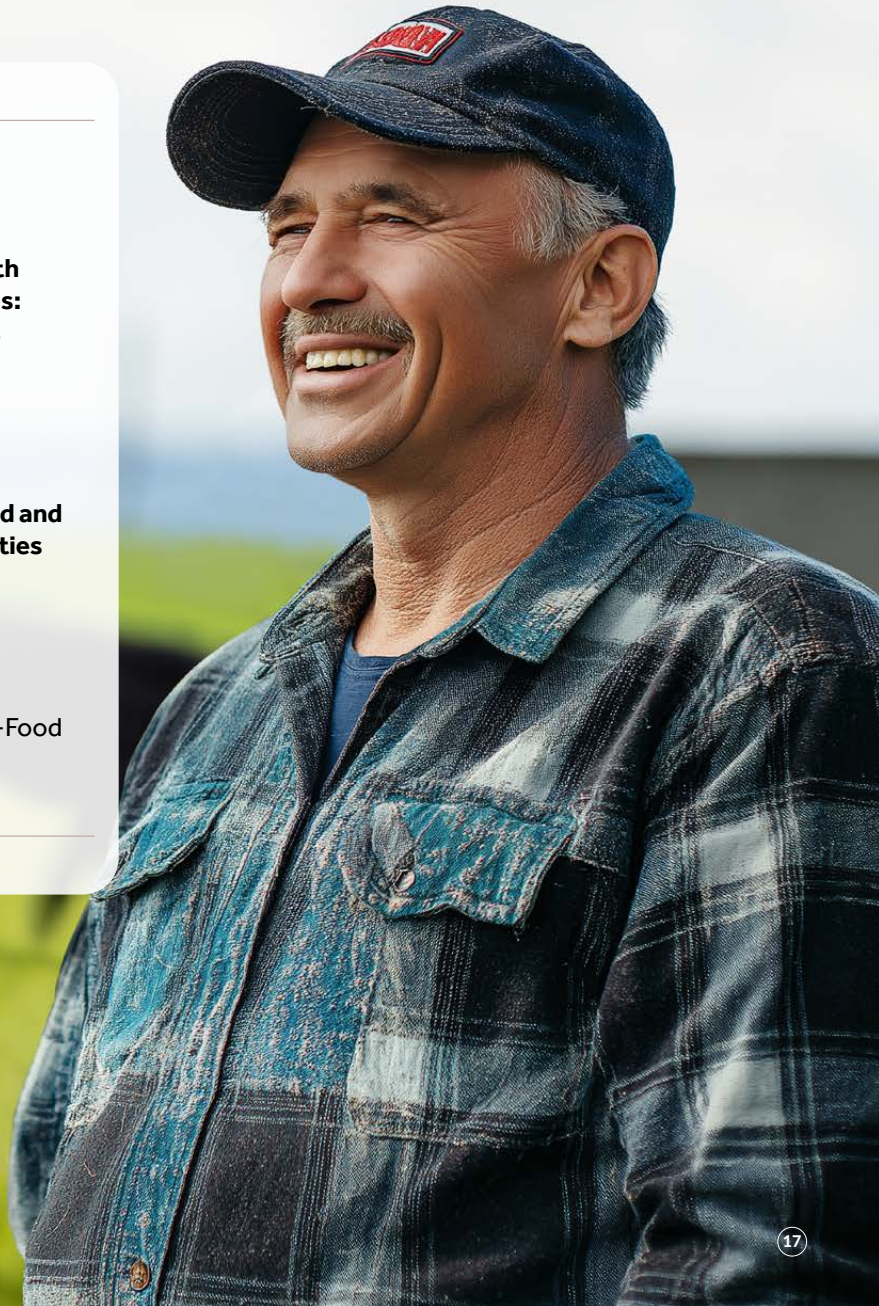
Principal investigator:
Cristiano Côrtes, Agrinova

Financial partners: CRIBIQ and NSERC

Use of milk permeate in dairy cattle feed and monitoring of the technological properties of milk on the farm to improve energy efficiency in the dairy sector

Principal investigator:
Rachel Gervais, Université Laval

Financial partners: Agriculture and Agri-Food Canada, Dairy Farmers of Canada



⊕ For more information on each project, visit **novalait.ca**

DAIRY PRODUCTION AND FEED EFFICIENCY

Optimizing the efficiency of proteins in rations

Principal investigator:
Cristiano Côrtes, Agrinova

Financial partners: CRIBIQ and NSERC

Variability of water quality on Quebec dairy farms and its effects on performance

Principal Investigator:
Véronique Ouellet, Université Laval

Financial partner: MAPAQ

WELL-BEING, REPRODUCTION AND HEALTH OF COWS

Research and Innovation Chair in Animal Welfare and Artificial Intelligence (WELL-E)

Co-investigators: Elsa Vasseur, McGill University, and Abdoulaye Baniré Diallo, UQAM

Financial partners: NSERC, Dairy Farmers of Ontario, Lactanet Canada, Les Producteurs de lait du Québec, Dairy Farmers of Canada, PROMPT

A new approach to optimizing the fertility and profitability of dairy cows and heifers

Principal investigator:
Marc-André Sirard, Université Laval

Financial partners: CRIBIQ and NSERC

NSERC–MAPAQ–NOVALAIT-DFC Industrial Research Chair in Biosafety of Dairy Production

Chairholder:
Simon Dufour, Université de Montréal

Financial partners: NSERC, MAPAQ, Dairy Farmers of Canada

PROCESS TECHNOLOGY AND ECO-EFFICIENCY

Educational Leadership Chair in Cheese Technology

Chairholder: Julie Jean, Université Laval

Financial partners: AAFC-MAPAQ Canadian Agricultural Partnership, Agropur coopérative, Quebec Cheese Expertise Centre, Conseil des industriels laitiers du Québec, Lactalis, Saputo

Study of technological and genomic mechanisms useful for the prevention of defects and the control of the natural microflora of cheddar cheese

Principal investigator:
Steve Labrie, Université Laval

Financial partners: Agriculture and Agri-Food Canada, Dairy Farmers of Canada

VALORIZATION OF CO-PRODUCTS

Prospective study on the valorization of non-fatty milk solids and processing co-products

Principal investigator:
Alain Doyen, Université Laval

Financial partners: CRIBIQ and Canadian Dairy Commission

From milk to milk packaging

Principal investigator:
Gregory Patience, École Polytechnique

Financial partners: CRIBIQ, NSERC AND BOSK

Valorization of non-fatty solids in the form of liquid concentrates: Seasonality, stability, techno-functional properties and applications

Principal investigator:
Steve Labrie, Université Laval

Financial partners: Agriculture and Agri-Food Canada, Dairy Farmers of Canada

MILK QUALITY

How do milk's natural microflora and composition contribute to cheese quality?

Principal investigator:
Steve Labrie, Université Laval

Financial partners: Agriculture and Agri-Food Canada, Dairy Farmers of Canada

Presence and impact of microbial biofilms on milk quality, from the farm to dairy plants

Principal investigator:
Denis Roy, Université Laval

Financial partners: Agriculture and Agri-Food Canada, Dairy Farmers of Canada

Development of a collection of microorganisms associated with non-conforming and atypical dairy products

Principal investigator:
Julie Jean, Université Laval

Financial partners: CRIBIQ and MAPAQ

The lipid diet of cows and its effect on the production, composition and technological properties of milk

Principal investigator:
Rachel Gervais, Université Laval

Financial partners: CRIBIQ and MAPAQ

Artificial intelligence tool for rapid and accurate identification of pathogenic mastitis and spoilage microorganisms in milk

Principal investigator:
Arnaud Droit, Université Laval

Financial partners: CRIBIQ and MAPAQ

Dairy Alliance: Industrial Research Chair in Dairy Microbiology

Principal investigator:
Gisèle LaPointe, University of Guelph

Financial partners: NSERC, Dairy Farmers of Ontario, Dairy Farmers of Canada, Lactalis, Lallemand Inc.

Bacteriocins from lactic acid bacteria: A new generation of natural antimicrobials with high potential for the food and livestock sectors

Principal investigator:
Ismaïl Fliss, Université Laval

Financial partners: CRIBIQ, RITA Consortium, Olymel, Sani Marc, Sollio

OUR ORGANIZATION

NOVALAIT'S DNA

In 1995, Quebec's dairy farmers and processors came together to create Novalait, a company that would allow them to invest in R&D and develop solutions and the expertise that dairy companies need to innovate.

OUR VISION

Accelerate the development of scientific knowledge and skills for the dairy industry of tomorrow.

OUR MISSION

To ensure, through our leadership, knowledge and investments in research, the development and promotion of knowledge to stimulate innovation and foster the sustainable growth of Quebec's dairy industry.

OUR VALUES

Leadership | Innovation | Expertise | Integrity | Collaboration

HOW NOVALAIT OPERATES

Novalait brings together all of the businesses that produce or process milk in Quebec—from small-scale cheese factories to family farms and multinational companies. They are represented within Novalait by three groups of shareholders. Les Producteurs de lait du Québec hold 50% of Novalait shares. Agropur cooperative, which represents dairy cooperatives, and the Conseil des industriels laitiers du Québec, which brings together private dairy processors, split the other half of Novalait shares.

Novalait seeks out the creativity and expertise of researchers to meet the research priorities set by its shareholders. Novalait's committees evaluate the proposals received according to the potential for commercial opportunities and applications on farms and in plants. We are also very invested in the development and monitoring of R&D projects and collaborate with stakeholders to promote and transfer the results.

Novalait involves its shareholders in all of its activities, including:

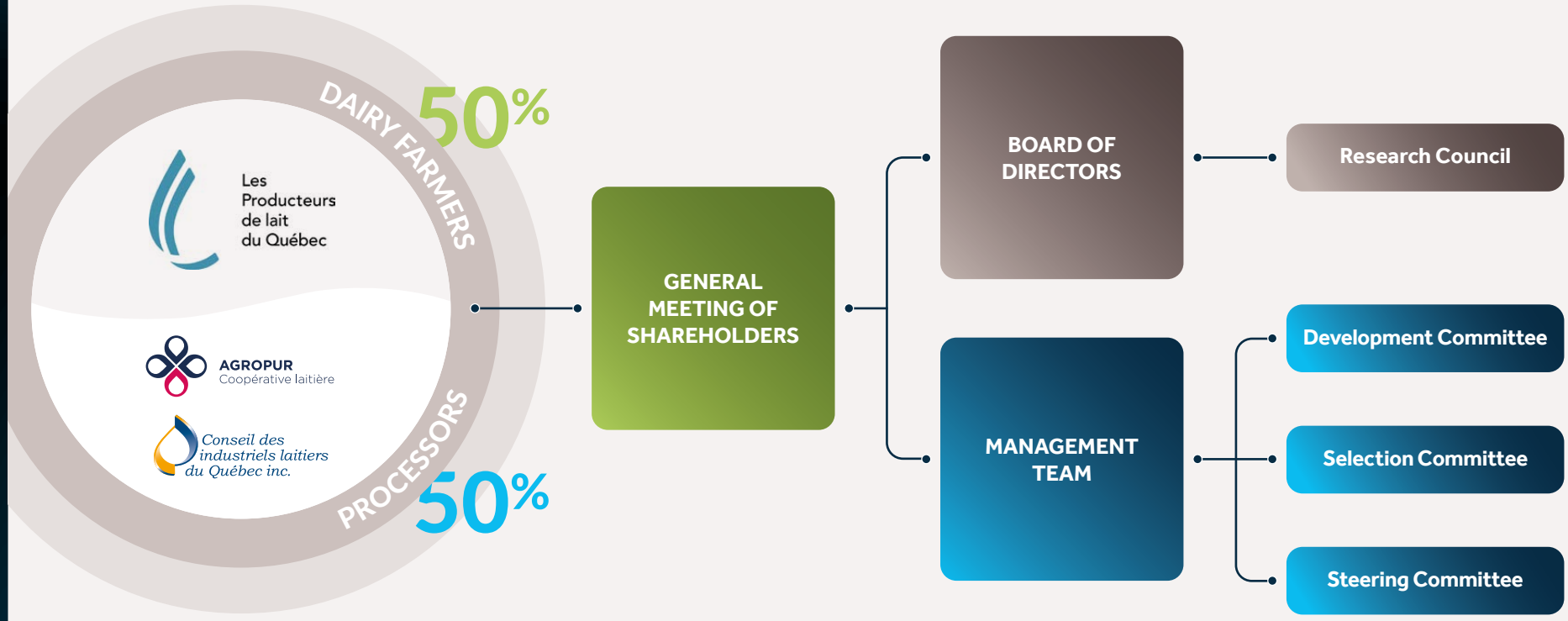
Establishing research priorities

Developing, selecting and monitoring projects

Communicating and promoting results

Novalait

ORGANIZATIONAL STRUCTURE



A COMMITTED TEAM

Novalait is fortunate to be able to count on a multisectoral team invested in research in the pursuit of a common goal, that of accelerating the development of scientific knowledge and skills.

OUR GOVERNANCE

Novalait is governed by six directors representing each of Novalait's three shareholder groups.

President
David Poulin
Les Producteurs de lait du Québec

Vice-President
Alex Berthiaume
Agropur coopérative

Secretary-Treasurer
Charles Langlois
Conseil des industriels laitiers du Québec

Administrator
Jean-Marc Bertrand
Conseil des industriels laitiers du Québec

Administrator
Chantal Fleury
Les Producteurs de lait du Québec

Administrator
Claudine Martel
Agropur coopérative

OUR MANAGEMENT TEAM

Novalait is managed by a permanent team dedicated to fulfilling the organization's mandates.

Élise Gosselin, M. Sc.
CEO

Jacques LeBlanc, agr.
Director of the Carbon-Neutral Milk Living Laboratory

Charlène Paradis, M. Sc.,
Communications Director

OUR COMMITTEES

Steering Committee

Novalait solicits the participation of its shareholders in the monitoring of research projects through steering committees, composed of users of research results and other stakeholders responsible for transferring results. The role of these committees is to answer questions from researchers and identify the potential for transferring research results and their applications on farms and in dairy plants. They recommend adapted knowledge transfer strategies, dissemination methods, training strategies and scaling methods implemented by the various organizations in the field, in support of knowledge transfer and innovation.

Novalait then implements the knowledge transfer strategies through its own communications (capsules, articles, videos, website, Forum Techno) and in collaboration with its partners for training, consulting services and validation projects on the farm and in plants.

Project Development Committees

In addition to appealing to researchers' creativity, Novalait launches research initiatives, particularly for large-scale projects. In the development of these initiatives, project development committees are set up to identify research teams and set up scientific programming between partners. The members of these committees master the strategic issues related to the initiative and have the practical and scientific knowledge necessary for the co-development of research.

Novalait thanks all shareholders and partners who are members of its committees for their unwavering commitment.

ACKNOWLEDGEMENTS

We wish to express our gratitude to our valued partners. As a small organization, Novalait could not accomplish its mission without the support of a large network of collaborators.

Our funding partners play a key role in complementing our research investments, which allows us to implement innovative projects. It is through their support that we can mobilize the creativity of researchers at the university, government and college levels to meet the concrete needs of dairy farmers and processors.

Thank you to our researchers for their interest in the scientific challenges facing milk production and processing. Your work is exceptional.

Last but not least, thank you to our knowledge transfer partners who integrate research results supported by Novalait into their communication tools, training or consulting services, making them accessible to farms and dairy processing companies.

Together, we are advancing innovation in the dairy industry.

Your trust and commitment are at the heart of our success.

Thank you for being part of this great adventure with us!

Design and development

Writing: Novalait
Graphic design: Isabelle Jobin, graphic designer
Photographs: Agrinova, CRAAQ, Le Grand Chien and Les Producteurs de lait du Québec
Translation: Natalie Pavey, Word+Style Translations

Novalait

RESEARCH CATALYST

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