Ontario.ca new page template

Use this document when requesting new content/page to be published on Ontario.ca.

Mandatory information

Ministry:	OMAFA	**English footer:**	OMAFA
English topic:	ARIO 2023–2024 Annual Report	**Contact us:**	Ag.info.omafra@ontario.ca
Internal Tags:	(omafa-rib)		

2023–2024 Agricultural Research and Innovation Ontario annual report

On this page

1. About Agricultural Research and Innovation Ontario (ARIO)
2. 2023–2024: A Year in Review
3. ARIO Governance 2023–2024
4. ARIO Membership 2023–2024
5. Annual Letter of Direction
6. Chair and Managing Director's Report
7. Conclusion

About Agricultural Research and Innovation Ontario (ARIO)

Agricultural Research and Innovation Ontario (ARIO), formerly known as the Agricultural Research Institute of Ontario, is classified under the Agencies and Appointments Directive (AAD) as a Board Governed Operational Service Agency reporting to the Minister of Agriculture, Food and Agribusiness. ARIO was created in 1962 by the *Agricultural Research and Innovation Ontario Act* (*ARIO Act*). To deliver on ARIO's commitments, duties, responsibilities and direction the agency will concentrate its efforts in these 5 ways:

1. Provide strategic advice to the Minister on agri-food research and innovation.
2. Implement the ARIO strategic plan 2023–2032 with the vision of enabling high impact and transformational research for Ontario's agri-food sector, which includes the ARIO's infrastructure strategy to modernize the province's agri-food research and innovation infrastructure.
3. Promote the Ontario agri-food research and innovation system.
4. Provide oversight of open research programs and the 14 ARIO-owned research properties.
5. Modernize the ARIO's governance, procedures, and processes to strengthen the foundation of the ARIO as a modern, effective agency focused on research and innovation.

Vision

ARIO's mission is to enable high impact and transformational research for Ontario's agri-food sector.

Mission

ARIO is a trusted, authoritative, credible organization reporting to the minister on:

- research and infrastructure priorities, strategic relationships and programs
- optimizing and leveraging the research infrastructure owned by ARIO
- driving research into action, evaluating and communicating the value of research
- fostering a prosperous, sustainable and resilient agri-food sector

Strategic pillars

- **Infrastructure**: Ontario's research and innovation infrastructure and assets are leveraged to maximize benefits for the agri-food sector.
- **Advice**: Provide bold, informed strategic advice to the Minister on transformative, high-impact agri-food research and innovation.
- **Strategic Relationships**: Establish strategic relationships that enhance the research ecosystem and align with the priorities and objectives of the Ministry, the agency and sector.
- **Communications**: Communicate the value of Ontario's agri-food research, including opportunities and success in research and innovation.

Disclaimer about this report

Several key events will have taken place at the time of this report's publishing. The following disclaimers are made in the interest of continuity and historical accuracy.

Report timeframe

This annual report was drafted following the conclusion of ARIO's 2023–2024 fiscal year as well as the proclamation of the new *ARIO Act* (*R.S.O. 1990, c. A.13*) and represents the timeframe of April 1, 2023, to March 31, 2024, but no further.

New agency name – ARIO: Agricultural Research and Innovation Ontario

On July 1, 2024, the Agricultural Research Institute of Ontario was renamed Agricultural Research and Innovation Ontario (ARIO). The pages in this report, while referencing events that may have occurred while using the previous name, are represented with the current agency name.

New ministry name – OMAFRA becomes OMAFA

On June 6, 2024, a cabinet shuffle occurred and re-organized what had previously been the Ministry of Agriculture, Food and Rural Affairs (OMAFRA) into 2, new, separate ministries: the Ministry of Agriculture, Food and Agribusiness (OMAFA) and the Ministry of Rural Affairs (MRA). The pages in this report, while referencing events that may have occurred while the ministry was still under the old name (OMAFRA), are represented in this document with the current ministry name (OMAFA).

2023–2024: A year in review

A message from the chair, Dr. Lorne Hepworth

I am pleased to share the 60th annual report of Agricultural Research and Innovation Ontario (ARIO), in a year that sees the agency poised to enter a new era in its history.

This past year was another year of forward progress even in the face of the global and national challenges facing the agri-food sector. For example, there are the ongoing challenges of labour shortages, supply chain disruption, climate change, food insecurity, high interest rates and volatile markets. Despite these pressures, ARIO successfully opened the new $19 million Ontario Swine Research Centre and signed a memorandum of understanding for a soon-to-be-built new Ontario Poultry Research Centre. As an agency of the Government of Ontario, ARIO also made legislative history. After some 60 years, the Act governing ARIO is being modernized. The new Act will expand the mandate and profile of the agency. There will be a name change to Agricultural Research and Innovation Ontario. A new Act, and the sector consultations leading up to it, serve to shine a light on the importance of research and innovation and what it means to the future success of the agri-food value chain.

So, while much work has been done, there is much more to do. We cannot rest on our laurels. Further, increased investment in new research infrastructure, maintenance of the existing infrastructure, equipment, and technology upgrades, and increasing funding for the research that goes on at the facilities will be of paramount importance. I think particularly of the new infrastructure needs for the crops sector. I want to acknowledge the contribution of the commodity associations who have co-funded the major builds. This type of collaboration has

been critical to the success of the projects. More co-funding will be needed, along with other novel approaches, as we make future investments.

Four ARIO member meetings were held in 2023–2024. During these, ARIO's board of directors provided leadership and strategic advice on key strategies, policy, research priorities and projects which include working on the tenets of ARIO's ambitious 10-year strategic plan. These included the development of key performance indicators (KPIs), the asset management plan, the funding strategy, innovative breeding research program and ARIO's communications and branding strategy.

Additionally, ARIO's governance strategy will be aligned with the new *ARIO Act*. The agency continued its commitment to build, strengthen Indigenization, equity, diversity and inclusion (IEDI) values, priorities and learning. ARIO is committed to the advancement of Indigenous learning at every agency meeting.

Looking ahead to the 2024–2025 fiscal year, the agency will focus on some key priorities that will support the 10-year strategic plan. On a personal note, this is my final year as ARIO chair. It has been a great honour and privilege to serve as chair of this agency. I want to thank the staff of ARIO's secretariat for their support and diligence. They made my job easy. Similarly, I want to thank the entire board of directors who bring their incredible passion and extraordinary commitment on behalf of the agri-food sector to the board table. Ontario agriculture is well served by these outstanding individuals who give so willingly of their time for research and innovation. Finally, I want to thank all the ministers and their staff that I have had the pleasure of working with over my 2 terms. These hard-working dedicated individuals always made themselves available and considered the advice and recommendations arising from the board deliberations. Collectively we can be proud of what has been accomplished. The agency is well positioned to continue to play a vital role (enabling high impact transformational research) to help Grow Ontario. An Ontario where the agri-food value chain remains prosperous, competitive, and sustainable.

Sincerely,

Dr. Lorne Hepworth

Chair, Agricultural Research and Innovation Ontario

ARIO governance 2023–2024

Managing director (formerly director of research), Gregory Wootton

The managing director (formerly known as the director of research) is appointed by the minister under the *ARIO Act* and has responsibilities related to the administration of ARIO's business affairs. The managing director is the Assistant Deputy Minister of Research and Corporate Services Division in the Ministry of Agriculture, Food and Agribusiness (OMAFA).

Chair, Dr. Lorne Hepworth

The chair, acting on behalf of the ARIO's board of directors, is accountable to the minister for the agency's performance in fulfilling its mandate. The chair is also responsible for carrying out the roles and responsibilities assigned to the board of directors and chair by the *ARIO Act*, the memorandum of understanding (MOU) and applicable Treasury Board/Management Board of Cabinet and applicable government directives.

ARIO secretariat

ARIO's secretariat is accountable to the managing director for fulfilling the operational and administrative requirements of the agency, and to the ministry liaison in supporting the ministry's requirements of the agency. ARIO's secretariat is comprised of OMAFA employees within the Research and Innovation Branch including:

- Douglas Reddick, director, Research and Innovation Branch
- Kelli Rice, manager, Research Accountability, Management and Administration Unit
- Adam Meyer, manager, Research and Knowledge Management Unit

Comptroller, Sue Mihelchic

The comptroller is responsible to ARIO's managing director. The comptroller is responsible for oversight of the financial affairs of the agency.

ARIO members

ARIO membership can be comprised of up to 15 members and are appointed by the minister. The chair recommends candidates for appointment to ARIO to ensure a strong mix of skills, experience, and perspectives. Members are appointed for three-year terms and may be reappointed.

Agriculture and Agri-Food Canada (AAFC) federal representation

Sérgio Paulo, director of research, development and technology at AAFC serves to contribute a federal perspective on research activities across Canada at ARIO's board meetings.

ARIO membership 2023–2024

There are 10 ARIO members that comprise the board of directors, including 1 chair and 1 vice-chair. ARIO's board can be comprised of no less than 7 but no more than 15 members, serving in three-year terms. Numerous members were reappointed for new terms in 2023. Several members have terms expiring in early 2025. Continuing the philosophy of reflecting the diversity of Ontario and expertise across the agri-food value chain, ARIO endorsed a new member appointment plan for the upcoming 2024–2025 year which will see the ARIO appoint several new members. Additionally, with the current ARIO chair's term ending in January 2025, and his indication of not seeking reappointment, the board endorsed a chair succession plan which will allow the board to canvass, recommend, and onboard a new chair for the 2024–2025 year at the appointment of the minister.

Table 1. 2023–2024 ARIO members

2023–2024 ARIO members	Appointment date	Per diem renumeration ($)	Total remuneration 2022–2023 ($)

Dr. Lorne Hepworth (chair)	Jan. 18, 2025	221	11,934
Ms. Rose Marie Gage (vice-chair)	Mar. 9, 2025	184	1,748
Ms. Jennifer Doelman	Mar. 8, 2021	168	1,848
Denise Hockaday	Jul. 8, 2021	168	1,764
Mr. David Jenkins	Nov. 30, 2020	168	1,176
Mr. Nevin McDougall	Nov. 30, 2020	168	1,092
Mr. David McInnes	Nov. 30, 2020	168	1,932
Dr. Gordon Surgeoner	Jun. 2, 2005	168	840
Mr. Evert Veldhuizen	Jan. 2, 2019	168	504
Dr. Youbin Zheng	Jan. 21, 2021	168	1,008

Annual letter of direction

In the fall of 2022, Ontario's then-Minister of Agriculture, Food and Rural Affairs, the Honourable Lisa M. Thompson, issued the annual letter of direction to ARIO's chair, outlining the government's 2023–2024 priorities and expectations for all agencies including priorities specific to ARIO. The work completed by ARIO's board to establish the goals, objectives and strategic direction ensured that ARIO continued to support research and innovation in the agri-food sector and drive economic growth, jobs and sustainability in Ontario.

As part of the Government of Ontario, agencies are expected to act in the best interests of Ontarians by being efficient, effective, and providing value for money to taxpayers. Agencies are also required to adhere to government policies and directives. Per the requirements of the Agencies and Appointments Directive (AAD), the letter of direction sets out the expectations for ARIO for 2023–2024 This included:

Competitiveness, sustainability and expenditure management

- Identifying and pursuing opportunities for revenue generation through partnerships, where appropriate, including seeking opportunities to enhance use of research stations.
- Identifying efficiencies and savings through innovative practices and/or improved program sustainability.
- Operating within the agency's financial allocations.

- Complying with applicable direction related to supply chain centralization, including contract harmonization for planned and pending procurements, accounting practices and realty interim measures for agency office space.

Transparency and accountability

- Abiding by applicable government directives and policies and ensuring transparency and accountability in reporting.
- Adhering to accounting standards and practices, and responding to audit findings, where applicable.
- Identifying appropriate skills, knowledge and experience needed to effectively support the board's role in agency governance and accountability.

Risk management

- Developing and implementing an effective process for the identification, assessment and mitigation of agency risks, including cyber security, and any future emergency risks.

Diversity and inclusion

- Developing and encouraging diversity and inclusion initiatives by promoting an equitable, inclusive, accessible, anti-racist and diverse workplace.
- Support the strengthening of Indigenization, equity, diversity and inclusion (IEDI) in the Ontario Agri-Food Innovation Alliance.
- Adopting an inclusion engagement process to ensure all voices are heard to inform policies and decision-making.

Data collection

- Improving how the agency uses data in decision-making, information sharing and reporting, to inform outcome-based reporting and improve service delivery.
- Increasing data sharing with Supply Ontario when applicable regarding procurement spending and planning, contract arrangements and vendor relations to support data-driven decision-making.

Digital delivery and customer service

- Exploring and implementing digitization to increase the agency's operational efficiency and modernize ARIO's accounting and financial management system.
- Using a variety of approaches or tools to ensure service delivery in all situations, including pursuing delivery methods that have evolved since COVID-19.

Priorities specific to ARIO

Property management

- Continuing to provide value for money, in efficiently owning and managing the Government of Ontario's agri-food research facilities and infrastructure.
- Continuing to provide advice on the long-term strategic plan and recommendations for the province's agri-food research infrastructure and strategies to continue investments in research infrastructure within the current fiscal limitations.
- Continuing to revitalize the province's agri-food research infrastructure necessary to support innovative research and the long-term sustainability and growth of the agri-food sector by developing state of the art, integrated research infrastructure capacity built on shared funding models and partnerships between industry and government.
- Pursuing private partnerships in support of industry-government research and innovation priorities and modernizing research infrastructure.
- Continuing to engage with the poultry sector on the development of a new poultry research centre in Elora.

Strategic planning and advice

- Continuing to provide strategic advice to the minister and the ministry on current research priorities and programs that contribute to prosperous, competitive, and sustainable agricultural and food sectors and rural communities in Ontario.
- Continuing to develop and implement ARIO's vision and strategic plan for Ontario's agricultural future to be a global leader, empowered by transformational research and innovation.
- Continuing to enable adoption of innovation by supporting the objectives of OMAFA's agri-food innovation and technology strategy.

- Implementing strategies that will improve the strategic management of ARIO's interests in intellectual property and commercialization.

ARIO Act modernization

- Continuing to assess potential legislative and non-legislative options to modernize the *ARIO Act* to ensure the *ARIO Act* is more relevant to the current and future agri-food research environment in Ontario and harmonized to better support OMAFA's overall technology and innovation strategy, as well as evaluating operational tools to enhance the functions of the agency.
- Continuing to lead stakeholder consultations to inform potential updates to the legislation in 2023.

Enhance collaborations, global expertise and partnerships

- Increasing collaboration with other universities/research institutions, industry organizations including Indigenous peoples, communities and organizations to enhance public/private partnerships and to leverage ARIO's assets for the benefit of the province and agri-food sector.
- Directly engaging with sector partners for the purpose of expanding innovation demonstrations and technology deployment through the ARIO research stations.
- Seeking opportunities to leverage expertise and knowledge from around the world to address emerging issues and enable the sector to compete in the global market.

Communications

- Actively promoting the research activities and network of research stations within the agri-food sector.
- Exploring options to brand ARIO and the province of Ontario to increase the prominence of the agency and the province within the agri-food sector.

Chair and managing director's report

We are pleased to provide an update and highlights on the agency's key pieces of work from the 2023–2024 fiscal year. ARIO's objectives and strategic direction continue to fulfill the

expectations as set out in the annual letter of direction and align with the government of Ontario's priorities to enable agri-food research and innovation in Ontario.

2023–2028 Ontario Agri-Food Innovation Alliance Agreement

The Ontario Agri-Food Innovation Alliance Agreement (agreement) is a tripartite agreement between OMAFA, ARIO and the University of Guelph to advance research and innovation that contributes to the success of the province's agri-food sector and promotes rural economic development. ARIO's network of agri-food research and innovation platforms across the province plays a key role in delivering on the agreement's objectives and outcomes. Under the agreement, ARIO-owned research centres are managed and operated by the University of Guelph to bring farm-tested innovations for a secure, sustainable and resilient agri-food sector for the province of Ontario.

In 2022–2023, the OMAFA and the University of Guelph successfully negotiated a new five-year agreement that builds on the success of the previous agreement and continues to strengthen the long-standing and unique relationship that has supported the agri-food sector for over 25 years.

The 2023 agreement is a $343 million investment over 5 years to support agri-food research and innovation, veterinary education, laboratory services, ARIO research station management and support the development of a highly skilled workforce that will lead to more economic growth opportunities for our sector.

ARIO property management

The University of Guelph and the Vineland Research and Innovation Centre (VRIC), in addition to providing program delivery, maintain and operate ARIO-owned research centres, provide property management services and modernize infrastructure at ARIO's research centres to address research needs under agreements with OMAFA and ARIO. Additionally, University of Guelph and VRIC provide oversight of the minor capital program across all of ARIO's properties.

Annual minor capital plans were submitted to ARIO by the University of Guelph and VRIC and approved at the beginning of the fiscal year outlining the priority projects for each research centre. Some of these projects were completed throughout the past fiscal year, while others cover multiple fiscal years depending on the size and scope of the project. The University of Guelph and VRIC submitted an updated priority list in the third quarter of the year for approval and implementation in the subsequent fiscal year. Funding for these minor capital projects is received annually by way of a transfer payment agreement (TPA) between OMAFA to ARIO.

University of Guelph and VRIC are continuing to work on several minor capital projects exiting 2023–2024 and entering 2024–2025. These current projects, which will be covered in the minor capital highlight section, span across all 14 research properties, with projects ranging from life-cycle replacement and code compliance, to improving research program capacity.

VRIC

ARIO-owned Vineland Research Centre continues to be managed by VRIC, an independent, not-for-profit, horticultural research and innovation organization established in 2007. As of April 1, 2023, VRIC is no longer captured under the agreement and has direct agreements between OMAFA and ARIO for research programming, and the management and modernization of infrastructure and assets. VRIC is led by an independent board comprised of leading industry representatives. VRIC's vision is to "be recognized as Canada's leader in horticulture research and innovation." Their resulting value proposition to Canada and the horticultural sector is to strengthen Canadian companies by making them globally competitive through the application of Vineland supported innovation.

OMAFA, ARIO and VRIC staff frequently collaborate on research projects and industry initiatives including collaborating with staff from the Agriculture Development Branch on specific projects

related to their specialty commodities, such as sweet potatoes, pest management, greenhouse vegetables and ornamentals, hazelnuts and tender fruit.

Use and access plan for ARIO research centres

Researchers leverage ARIO's network of research centres to advance agri-food research and innovation. Through the agreement, University of Guelph researchers addressing ministry research priorities are provided subsidized access to ARIO's research centres to enable a broad spectrum of research across the agri-food sector and to deliver on the province's evidence-informed research priorities.

The agreement requires the development of a use and access policy and plan for ARIO properties, which aims to:

- increase third-party access to ARIO properties
- enhance the use of the ARIO properties in accordance with ARIO's mandate and support of delivering on the objectives of the agreement
- encourage research and innovation for the development, growth and vitality of Ontario's agri-food sector and rural economic development
- clarify use and access provisions, including but not limited to the prioritization, decision making and activities at ARIO's properties by different users or parties

OMAFA, University of Guelph and ARIO continue to work together in developing the use and access plan as the parties look to ensure that there are clear guidelines, processes and decision-making tools in place for users of the facilities, and to maximize the use of the research properties overall.

The following table includes examples of 2023–2024 provincial priority research being delivered at ARIO research stations.

Lead applicant	**Project title**	**Ministry priority**
David Hooker	Development of vaccines against necrotic enteritis in chickens	Plant health and protection
Lee-Anne Huber	Evaluation of on-farm processed full fat soybeans and probiotics for use in swine diets to improve growth	Animal health and safety

	performance, health, and carcass value	
Katerina Jordan	Study and management of summer diseases of apples	Plant health and protection
Michael Steele	Optimization of crossbred (beef on dairy) calf performance, health, and welfare	Animal health and safety
Jocelyn Smith	Advancing insect resistance management for Ontario's riskiest corn pests	Plant health and protection
Mehrzad (Milad) Eskandari	Evaluation of management practices for SCN in Ontario to support the SCN Coalition	Plant health and protection
Shayan Sharif	Mitigating the risk of avian influenza virus transmission	Animal health and safety
John Lauzon	Corn fertilizer response and safe rate guidance for various strip-till fertilizer placements	Competitive production systems
John Cant	Using artificial intelligence to improve feed efficiency of lactating dairy cows monitored by remote sensing devices	Competitive production systems
Alexandra Harlander	Understanding feather pecking in laying hens: The gut-microbiome-brain connection II	Animal health and safety
Karl Peter Pauls	Assessing Ontario dry bean germplasm for nitrogen fixing capacity	Competitive production systems
Rebecca Hallett	Determining the biology and impact of the canola flower midge on spring canola in Ontario	Plant health and protection
Art Schaafsma	Impact of new emerging Fusarium strains on mycotoxins in Ontario	Plant health and protection
Terri O'Sullivan	Investigation of the efficacy, animal welfare, and pharmacokinetic impacts of needle-free administration of iron dextran and meloxicam compared to intramuscular injection in piglets	Animal health and safety
Neil Rooney	Upper limits for insect meal inclusion in salmonid diets using biological and economic endpoints	Competitive production systems
Mary Ruth McDonald	Agricultural robotics for vegetable production and weed management	Plant health and protection
Claudia Wagner-Riddle	Connecting changes in soil carbon storage over 20+ years to dynamics of net ecosystem carbon balance through modelling and remote sensing tools	Soil health

This data is from University of Guelph's –22023–2024 consolidated annual report.

Livestock research centre capacity and utilization[1]

Livestock research station	Capacity (ARD)	Research utilization (ARD)	Research preparation (ARD)	2021–2022 Utilization rate (%)
Arkell Equine Research Facility	18,250	18,762	730	100.0%
Ontario Aquaculture Research Centre	111,690	4,995	28,105	29.6%
Ontario Beef Research Centre: Elora	219,000	83,419	55,700	63.5%
Ontario Beef Research Centre: New Liskeard	24,000	19,180	0	79.9%
Ontario Dairy Research Centre	173,010	35,233	83,950	68.9%
Ontario Poultry Research Centre	3,923,750	1,181,619	335,800	38.7%
Ontario Sheep Research Centre	102,200	19,018	10,950	29.3%
Ontario Swine Research Centre	156,950	62,321	14,600	49.0%
Ponsonby General Animal Facility	100,375	4,566	21,900	26.4%
Total	4,829,225	1,429,123	551,735	53.9%[2]

This data is from University of Guelph's 2023—–2024 consolidated annual report.

[2] Average of the utilization rates for each research centre.

[1] As noted in the 2023-2024 University of Guelph consolidated annual report, the utilization rates are calculated by adding research utilization to the research preparation requirements and dividing the total by the capacity of the research centre. The research preparation requirement accounts for the need for crop rotation, replacement animals or cycle time in space-based animal facilities. As noted by the University of Guelph, in general, the utilization rates for the Crops Research Centres are higher than those of the Livestock Research Centres as crop trials can better expand to utilize available research plot area by increasing replications or increasing the number of varieties being tested or evaluated for breeding or performance determination. Livestock trials, on the other hand, are more limited to the nature of the resident herd or available housing spaces or types, and therefore cannot be easily scaled to increase usage. The livestock research centres had an average utilization rate of 53.9% in 2023-2024, which is 5% higher than the 2022-2023 rate and 20% above the target of 45.0%. There were several factors that increased Livestock Research Centre utilization rates in 2023-2024 including strong increases in animal utilization in trials, size increases to support upcoming approved projects, and increasing expanded capacity into research programs. Several other factors acted in reducing utilization rates including the wrapping of several large research trials, transition of research programs from existing facilities to new ones, and delays in the start to new research programs.

Average livestock research centre utilization rates over the term of the agreement

Metric	Five-year average (2018–2019 – 2023–2024)	2023–24	Target
Average livestock research centre utilization rate	48.0%	53.9%	45.0%

This data is from University of Guelph's 2023—2024 consolidated annual report.

Crop research centre capacity and utilization[2]

Crop research station	Capacity (plot area (ha))	Research utilization (plot area (ha))	Research preparation (plot area (ha))	2020—2021 Utilization rate (%)
Ontario Crops Research Centre: Bradford	2.06	1.62	0.00	78.4
Ontario Crops Research Centre: Cedar Springs	7.28	6.47	0.00	88.9
Ontario Crops Research Centre: Elora	164.87	68.55	95.51	99.5
Ontario Crops Research Centre: Emo	17.85	6.01	1.29	40.9
Ontario Crops Research Centre: Huron	42.90	10.56	10.12	48.2
Ontario Crops Research Centre: New Liskeard	51.31	12.34	10.32	44.2
Ontario Crops Research Centre: Ridgetown	96.32	39.66	52.61	95.8
Ontario Crops Research Centre: Simcoe	46.78	14.89	24.44	84.1
Ontario Crops Research Centre: Winchester	40.51	16.23	13.76	74.0
Ontario Crops Research Centre: Woodstock	43.30	18.41	15.38	78.0

[2] As noted in the 2023-2024 University of Guelph consolidated annual report, the utilization rates are calculated by adding research utilization to the research preparation requirements and dividing the total by the capacity of the research centre. The research preparation requirement accounts for the need for crop rotation, replacement animals or cycle time in space-based animal facilities. As noted by the University of Guelph, in general, the utilization rates for the crops research centres are higher than those of the Livestock Research Centres as crop trials can better expand to utilize available research plot area by increasing replications or increasing the number of varieties being tested or evaluated for breeding or performance determination. The crops research centre capacity and utilization rates for 2023-2024 are shown in this section and illustrates the average crops research centre utilization rates over the term of the agreement. The Crops Research Centres had an average utilization rate of 73.2% in 2023-2024, which is a slight increase from 2022-2023 but still 6% below the target of 78.1%. There were several factors that increased crop research centre utilization rates in 2023-2024 including a return to traditional plantings after a previous year of poor weather conditions, and a rebound in research activity related to key research programs. Several other factors acted in reducing utilization rates including, delays in recruiting researchers and the completion and wind up of large research trials.

Total: crop stations	**513.18**	**194.76**	**223.43**	**73.2[2]**

This data is from University of Guelph's 2023––2024 consolidated annual report.–22023–2024

Average crops research centre utilization rates over the term of the agreement

Metric	**Five-year average (2018–19 – 2023–24)**	**2023–24**	**Target**
Average crops research centre utilization rate	**77.9 %**	**73.2%**	**78.0%**

This data is from University of Guelph's 2023––2024 consolidated annual report.–22023–2024

ARIO strategic plan 2023–2032

ARIO has focused on the continued implementation of the strategic plan 2023–2032 and the development and adoption of key performance indicators (KPIs) to measure the effectiveness and impact of ongoing projects and initiatives. These will be key for strategic decision making, advice, and direction provided by ARIO's board, and will assist us by ensuring ARIO efforts are focused and in alignment with, and achieving the objectives set out in the strategic plan and Grow Ontario.

ARIO's strategic plan aligns with the agreement and Grow Ontario's innovation and technology goals for a secure, safe and resilient supply chain, and maintaining Ontario's competitive advantage in today's modern agri-food innovation and research environment through the ongoing work being done to modernize the *ARIO Act*.

ARIO's strategic plan long-term objectives focus on the main pillars of:

- infrastructure
- advice
- strategic relationships
- communications

During the February 2024 meeting, ARIO's board of directors endorsed the operational, transformational, and strategic KPIs for ARIO's strategic plan 2023––2032. The KPIs provide ARIO with targeted milestones to measure, track and evaluate the agency's progress towards achieving its vision of 'enabling high impact and transformational research' and Grow Ontario's goals.

Infrastructure pillar

Overview

ARIO continues to own and provide managerial oversight of 14 agri-food research properties, comprised of 200+ buildings and 5,600 acres, to help ensure effective and efficient management of the research infrastructure portfolio. These are vital provincial investments and key enablers for Grow Ontario's priority to deploy and adopt new technologies to strengthen the sector and enhance the competitiveness and create new growth opportunities.

ARIO's agri-food research infrastructure strategy provides a plan for the renewal and modernization of Ontario's network of 14 agri-food research stations. Implementation of the Strategy is resulting in the establishment of renewed and modernized, multi-disciplinary research and innovation platforms focused on consumer, market and economic outcomes, as well as improving the overall competitiveness and sustainability of the Ontario agri-food sector.

A cornerstone of ARIO's infrastructure strategy involves industry engaging directly with government and academia to address the highest research priorities and needs of the Ontario agri-food sector. Modernized infrastructure enables scientific excellence, knowledge dissemination and industry adoption, all of which are necessary to the economic growth of the agri-food and agri-products sector for the province. Stable funding for research infrastructure is essential to enable world class research and innovation.

ARIO continues to make some strategic infrastructure investments. The investments are supported by industry, which provides capital dollars to projects (typically 20%) and is guided by 2 key pillars which seek to renew and modernize research infrastructure, as well as drive operational efficiencies across the research station portfolio through consolidations of facilities and livestock.

Overall highlights

ARIO asset management policy and plan

In the previous fiscal year, the agency began developing ARIO's asset management policy (AMP) to provide effective long-term oversight and management of ARIO's physical assets. As of 2023–2024, ARIO now has an approved AMP in place. The focus has now turned to

developing a strategic asset management plan (SAMP). The SAMP will help provide the framework for developing individual asset management plans for each station. The AMP includes policies and principles that drive improved asset management. Work on evaluation and assessment of facilities and infrastructure across ARIO locations to inform planning, funding and decision making is underway and will inform the SAMP moving forward. This approach aligns with broader government policy for managing provincial assets.

VRIC: new agreement

As of April 1, 2023, VRIC is no longer part of the agreement, and now has a new and direct agreement between ARIO and VRIC for an infrastructure delivery agreement funded through the Sustainable Canadian Agricultural Partnership (Sustainable CAP).

This agreement will provide VRIC $12 million over 5 years to deliver capital improvement activities including the development of an infrastructure master plan, develop and maintain an asset management plan for the station and to provide property management at VRIC.

ARIO, VRIC and University of Guelph worked collaboratively in transitioning from the Alliance Agreement to the new ARIO-VRIC infrastructure delivery agreement, leading to a successful first year under the new governance structure and Sustainable CAP agreement.

ARIO funding strategy

ARIO's funding strategy is captured under ARIO's strategic plan 2023—–2032 as a key activity. In recent years, the agency faced ongoing internal funding and external fiscal challenges. The challenges pertain to provincial budget constraints (including the ending of the major capital funding) and global financial issues such as inflation, supply chain issues and increased labour costs. These challenges served as the impetus for ARIO to initiate the development of a comprehensive funding strategy - a roadmap to financial sustainability and opportunity to effectively deliver on ARIO's expanding mandate.

A key objective of ARIO's funding strategy is to identify, and secure sufficient and stable funding to deliver on the agency's expanding mandate by:

- securing stable and ongoing funding to modernize the research platforms to meet the complex and robust needs of Ontario's agri-food sector and ongoing capital funds to ensure the long-term sustainability of ARIO's infrastructure and assets
- increasing ARIO's human and financial resources to capitalize networks to meet the goals set out in the strategic plan and Grow Ontario

Another key objective is to capitalize on opportunities that allow investment into research programming that will serve the long-term research and innovation objectives of the Grow Ontario Strategy and of the agri-food sector. The funding strategy is critical to ensuring ARIO can continue to assist Ontario's agri-food sectors to meet the challenges of the future through continued investment while also preventing a return to the era of obsolete and aging assets pre-2008.

First consideration of the framework for the funding strategy was presented to ARIO's board at the February member meeting. A unanimous endorsement was passed to continue work on the finalization of the funding strategy as one of the agency's highest priorities entering the next year, 2024–2025.

Major capital highlights

Ontario Swine Research Centre: Elora

In early fall 2021, ARIO and Ontario Pork commenced construction of a new swine research centre at the Elora Research Station. The project was completed in summer of 2023 and the new Ontario Swine Research Centre held an open house for producers on August 24, 2023.

As of fall 2023, the new centre is now populated with hogs with a transition of operations from the current Arkell Swine Unit to the new centre having occurred throughout fall 2023. Beginning in September 2023, research has begun at the new centre to develop Ontario-relevant knowledge and best practices in:

- swine health
- welfare
- nutrition
- economics

- genetics
- breeding

The centre will help advance the pork sector by creating a platform where researchers can develop Ontario-relevant knowledge and best practices for the benefit of the Ontario swine sector.

Ontario Poultry Research Centre: Elora

Since June 2021, ARIO worked to develop and sign a MOU with Ontario's four industry feather boards and the University of Guelph that will enable the planning, design and construction of new poultry research facilities at Elora. The MOU was officially signed in April 2023 and announced by the minister on April 24, 2023.

ARIO has confirmed $13.5 million towards the project, with an additional 20% financial contribution from industry totaling approximately $17 million. The new centre to be built at Elora will replace the current poultry research facilities at Arkell Research Station, which are past their useful lifecycle and costly to operate and maintain.

Minor capital highlights

ARIO's Minor Capital Program (MCP) is an ongoing multi-year program that allocates funds across the ARIO property portfolio to support significant investments in addressing:

- maintenance
- upgrades
- program related systems
- equipment
- building/site infrastructure

The MCP is in line with ARIO's broader infrastructure strategy to continue the development and renewal of ARIO's core research infrastructure, and to support the move away from aging infrastructure. ARIO's infrastructure strategy created operational efficiencies through consolidation and co-locations that reduce the overall footprint of the research stations. The MCP funding continues to support both the new and existing infrastructure at the stations.

Criteria for determining MCP needs on an annual basis are guided by priority areas such as human health and safety, animal health and welfare, code compliance, building integrity, life cycle replacement, efficiency and conservation, and program capacity (maintain or improve). These criteria affect building and program operations across the network of ARIO properties.

Annual minor capital plans are submitted to ARIO by the University of Guelph and VRIC and approved at the beginning of each fiscal year outlining the priority projects for each research station. These projects can be completed throughout the fiscal year or can cover multiple fiscal years depending on the size and scope of the project. The program is funded through an annual transfer payment agreement from OMAFA to ARIO.

Quarantine, isolation and recirculation (QIR) building upgrades: Alma

Upgrades to the QIR building to meet physical and operational requirements for Level One Aquatic Animal Pathogen Containment (federal code) were completed in 2023. Construction also included installation of new alarm and monitoring systems needed to support the new equipment. This investment will enable the Ontario Aquaculture Research Centre to bring in new fish species and strains from other jurisdictions to increase the capacity for:

- egg rearing
- brood stock development
- breeding
- genetics research

Meeting these federal requirements will allow for re-establishment of federal certifications and will expand the scope of research that can be conducted here. Total project cost was $4.5 million over 5 years.

General animal facility redevelopment: Ponsonby

This multi-year project, which began in January 2023, will address end of life cycle building systems and structures. Upgrades will include expansion of alternative and flexible housing space and construction of environmental monitoring chambers for livestock to accommodate a wider range of projects in the building. Upgrades will improve energy efficiency and support innovative dairy-beef calf research. Total project cost will be approximately $3.5 million over 6 years.

Solar energy: Elora research centres

Sustainable and renewable utility supply is required to manage the increasing station operating costs. Property managers and consultants have previously established project-specific solar panel standards for the procurement process.

The facilities at Elora are ready for installation of 170,000 square feet of solar array. Phase 1 will be the swine building and dairy building, while phase 2 will encompass the beef building and feed centre.

Phase 1 construction is scheduled to begin late spring 2024 with an anticipated completion date of November 2024. Total project cost over the 2 phases will be approximately $2 million over 5 years.

Building condition analysis – VRIC

This work was a continuation of the building condition analysis of Vineland campus which began in previous years. The condition report of the findings was shared with ARIO's secretariat in March 2024 to inform and prioritize necessary infrastructure repairs and replacement at the station. Total project cost will be approximately $125,000 proposed for the upcoming 2024–2025 fiscal year.

Modular Pathology Facility at VRIC

As a result of VRIC completing some minor capital work under budget, this project was able to be added to the 2023–2024 plan in quarter 3. This Modular Pathology Facility will be an external pathogen workspace to complement the growing chambers in the existing mushroom house. The modular building will be used for housing a molecular biology lab and associated spaces to process infected plant material. This additional space will allow for increased diversity of research at VRIC. The installation was completed in March with the first trials beginning in April 2024. Total project cost was approximately $100,000 in 2023–2024.

Freshwater irrigation improvements: VRIC

Pumphouse water is drawn from Lake Ontario to support farm and grounds irrigation. The equipment that accomplishes this is well beyond its expected lifecycle. The project of improvements on this infrastructure has entered phase 1, which includes mapping and

inspection of whole system to determine replacements and repairs. The goal of the project is the improved function of the pumphouse which can reduce use and costs of usage of municipal water. Total cost of the project is approximately $50,000 in the upcoming 2024–2025 fiscal year and $200,000 total over 4 years.

Buildings analysis and campus planning strategy at Ridgetown

An upcoming assessment of campus buildings to inform planning for updates in coming years (boiler plant, asbestos abatement, update common areas, HVAC, bathroom updates) is underway. This project has commenced with an assessment of the building residences and the analysis will continue and encompass the entire campus as the project continues. It will take into consideration recommendations, financial requirements and operational sustainability of the infrastructure. Total cost of the project is approximately $125,000 proposed for the 2024–2025 fiscal year and a total of $700,000 over 5 years.

Advice pillar

Overview

ARIO is committed to providing the best strategic advice to the minister and the ministry on agricultural research directions that are in line with government priorities and contribute to the prosperous, competitive, sustainable and resilient agri-food sectors and rural communities in Ontario.

In 2023–2024, the agency continued making significant progress in advancing its work on developing programs, priorities, plans and legislative changes to enable the agency to continue to provide bold and informed strategic advice to the minister.

Major highlights

ARIO Act modernization

To secure Ontario’s competitive advantage in today’s modern agri-food innovation and research environment, ARIO continued working towards modernizing the *ARIO Act*.

In 2022–2023 the agency held agri-food stakeholder consultations from which recommendations on proposed legislative changes were discussed.

OMAFA (then known as OMAFRA) followed with additional consultation by posting a discussion paper on the Regulatory Registry for 30 days (March 15 to April 14, 2023) to collect input on proposed changes to the *ARIO Act*. The discussion paper was also directly sent to agri-food stakeholders, academic institutions, industry and Indigenous communities, including First Nations communities and associations as well as the Métis Nation of Ontario, for comment.

The proposed amendments to the *ARIO Act* received first reading in the legislature on November 27, 2023, and second reading on February 20, 2024.

If the proposed amendments are to be approved, OMAFA and ARIO would amend the existing MOU in the upcoming 2024–2025 year to align with the proposed new legislation and to reflect its enhanced operational structure. Also, work would be undertaken to reflect the name change of the agency, to Agricultural Research and Innovation Ontario (same ARIO acronym), and update places where this change is required in other legislative, regulatory, and corporate documentation (official documents, forms, banking). Equally it has been tabled that the agency develops both a governance and a financial by-law for adoption along with the new MOU. Lastly, it is proposed that OMAFA undertake a mandatory mandate review by 2025–2026, or earlier, which would include a full governance assessment, to confirm that the governance structure aligns with agency governance best-practice.

The *ARIO Act* is an enabling piece of legislation, and the proposed amendments would enable the agency to be more responsive to current and future agri-food sector needs. The benefits to stakeholders include a greater focus on innovation and would help to ensure Ontario remains a leader in innovative agri-food best practices while increasing the sector’s competitiveness and sustainability.

ARIO governance: membership and chair succession plan

In 2023–2024, the agency prioritized the recruitment process for new member appointments. This included canvassing for prospective members with the following skills sets to complement and round out the current membership’s knowledge and skillset:

- property management/infrastructure
- IEDI concepts
- data and disruptive technology, robotics, generative AI and data analytics
- value added agriculture, bioproducts, horticulture and advanced manufacturing
- consumer trends and global markets
- government, public policy and/or environmental, social, corporate governance factors

ARIO's chair's appointment term is set to expire on January 17, 2025. Strong succession planning and transition will be required to reflect ARIO's elevated role and profile in the agri-food research and innovation environment following the proposed *ARIO Act* modernization. ARIO's secretariat continues to work on ARIO's chair succession plan that was endorsed by ARIO's board of directors.

ARIO's innovative breeding research program

The Ontario Agri-Food Innovation Alliance and ARIO have a long history of supporting breeding research to advance the agri-food sectors.

In 2022–2023, ARIO began analyzing the scope, focus and other design elements of a new potential breeding program to identify areas where breeding research can be focused. In November 2023, ARIO received minister approval to proceed with ARIO's new innovative breeding research program.

ARIO's innovative breeding research program aims to strengthen Ontario's agri-food sector and agri-food research capacity by creating new tailored plant varieties and livestock, apiculture or aquaculture breeds for Ontario's domestic food supply and export markets. The program also seeks to support economic development through potential new intellectual property.

The program invests in plant, livestock, apiculture and aquaculture breeding research projects and will fund:

- traditional and established breeding programs such as soybean, grains/oilseeds and wheat
- emerging niche sectors and up-and-coming breeding research in areas such rainbow trout, honeybees and horticulture as well as Indigenous crops.

ARIO receives a proportionate share (one third) of intellectual property revenues arising from research investments through the agreement, with the remaining funds retained by the University of Guelph. The program is funded using ARIO's share of revenues from licensed intellectual property enabled through the agreement.

The first intake (Phase 1) of the new innovative breeding research program was launched to University of Guelph researchers in January 2024. The program received 16 applications and 7 were subsequently funded.

Phase 2 will be launched in fall 2024. ARIO will continue to build out new programming supports in the Research Management System (RMS) – the system designed to administer programming, house records and information pertaining to research projects funded by OMAFA - and apply lessons learned from Phase 1. Ongoing administration of Phase 1 projects will occur over this time.

IEDI commitment

ARIO remained committed to continuous improvement on strengthening IEDI within ARIO by improving access to programs and developing supports that enable research and infrastructure within the agri-food sector. ARIO continued to engage with Indigenous Peoples, communities and organizations to strengthen meaningful relationships.

In 2023–2024, ARIO worked to build, strengthen and advance IEDI values and priorities within the agency:

- ARIO continued its support of the implementation of the agreement's IEDI action plans. The action plans cover the breadth of the agreement's programming, including the incorporation of IEDI values in the management and operations of ARIO's research infrastructure network.
- In 2022, ARIO made a commitment to advance the agency's knowledge and capacity on government-Indigenous relations and IEDI values through learning and discussion sessions at ARIO member meetings. These learning sessions (such as presentations, external speaker invitations and resource sharing) were conducted at all ARIO member meetings in 2023–2024 and ARIO's secretariat has since developed and organized

additional learning strategies and discussion materials for 2024–2025 and will implement these at member meetings in the upcoming fiscal year.

Research programs

OMAFA's open research programs, New Directions and Food Safety, previously administered by ARIO, were replaced in 2019–2020 by the Ontario Agri-Food Research Initiative (OAFRI), funded through the Canadian Agricultural Partnership (CAP). This initiative combines and builds on the success of the former New Directions and Food Safety research programs. OAFRI successfully completed its applied research, KTT and Commercialization pilots (a total of 66 projects funded across 49 Ontario organizations) through CAP funding. The ministry is currently delivering on OAFRI programming, leveraging funding from Sustainable CAP (2023–2028). OAFRI has been enhanced and streamlined under Sustainable CAP, 2023–2028.

The first Sustainable CAP intake (fall 2023) attracted many applications into the applied research (delivered by OMAFA), pilot and demonstration (delivered by OMAFA) and commercialization streams (delivered by Bioenterprise). These streams have awarded 78 projects (up to 3-year project duration) across Ontario's research and development organizations and the project activities started in 2024 fiscal. The agreement's Tier-1 research intake, which opened in August 2023, awarded 44 research projects at the University of Guelph. These projects are predominantly conducted leveraging ARIO's infrastructure network.

Research priority setting

OMAFA continues to deliver on the government's agenda contributing to jobs and investment, environment and climate change, and safe food and public assurance. To support delivery, the research agenda provides the overarching framework for the ministry's research priorities and targeted investments. The agenda aligns with OMAFA's core businesses to clearly link research priority areas to outcomes we are trying to achieve under each core-business and integrates advice from across the ministry and agri-food sectors.

As a foundational framework, the 11 research agenda priority areas are meant to remain static, however, research focus areas and research questions are reviewed for emerging needs as part of the annual research priority setting cycle. ARIO provides advice to the minister on strategic direction for research priority setting. This includes providing advice to the minister on emerging

research issues and opportunities to drive the development of Ontario as a globally competitive agri-food sector. OMAFA's research agenda informs a range of ministry programming that spans across the research and innovation continuum. Program levers allow engagement with a diverse range of expertise and are flexible to support varied degrees of intervention, directedness, and specificity of priorities. This is a long-term strategy that fosters and creates space for innovation and research to occur.

Research priorities	**Number of Alliance Agreement's T1 Proposals awarded 2023—2024**
Animal health and welfare	9
Competitive production systems	15
Food safety	1
Innovative products and product improvement	5
Plant health and protection	2
Soil health	2
Strong rural communities	1
Sustainable production systems	7
Trade, market and targeted sectors	2
Total	**44**

Knowledge translation and transfer (KTT)

ARIO's network of research centres enables research, discovery, innovation and knowledge mobilization among researchers, veterinarians, students and industry. This allows ARIO to play an important role in getting research into use faster, transferring knowledge and research to Ontario's agri-food sector through the:

- research centres
- KTT programs
- innovation showcasing
- knowledge mobilization

All these efforts yield real-life impacts and positively influencing business decisions.

The University of Guelph organized several KTT events and activities to showcase the research happening at ARIO's research centres and to enhance collaboration and application of knowledge from agreement-funded research. According to the University of Guelph, the following occurred in 2023–2024:

A data workshop called "Enhancing the agri-food data ecosystem: Updates from the Ontario Agri-Food Innovation Alliance and Agri-Food Data Canada (ADC)" was held on November 23, 2023. The event at the Ontario Dairy Research Centre brought together approximately 70 participants (in-person and online) from OMAFA and the University of Guelph to hear about the newest version of the Ontario Dairy Research Centre data portal and other tools designed by Agri-Food Data Canada (ADC) to help make agri-food data findable, accessible, interoperable and reusable.

A virtual tour of the Ontario Dairy Research Centre was delivered on May 25, 2023, with AgScape. Virtual reality headsets equipped with virtual tours of the Ontario Dairy Research Centre were available to visitors at College Royal in March 2023 and at the Canadian Dairy Xpo in April 2023.

The Ontario Swine Research Centre open house took place on August 24, 2023. To support the open house, communications and KTT products were designed to profile complete and ongoing swine research at University of Guelph.

Work was completed throughout the 2023–2024 year to continue to facilitate/support the creation of KTT videos at the Ontario Beef Research Centre for the Beef Cattle Research Council. Additionally, collaboration with Beef@Guelph and Dairy@Guelph project leads at the University of Guelph allowed for delivery/participation in important tours at the Ontario Beef Research Centre and Ontario Dairy Research Centre across the year.

KTT highlights

Both directly and indirectly, OMAFA and ARIO continue to deliver knowledge dissemination services both internally and externally through virtual, in-person and hybrid events and products. Flexibility in delivery has allowed the sustainability of strategically planned activities and

expanded the number of activities performed and the reach of these activities to broader audiences, reaching those we might have otherwise not been able to.

KTT efforts have a strong focus on ensuring research knowledge is mobilized to serve end users (agribusiness, processors, farmers, rural communities, industry, other researchers) and equip ministry staff with knowledge, tools and resources to inform their own work and engage clients.

This includes:

- a research-in-action webinar series to share key research updates in a timely, accessible, virtual approach (a total of 24 since beginning in 2020, averaging about a 100 participants per session, including OMAFA staff, other Ontario Public Service (OPS) and some external stakeholders)
- the Indigenous Research Symposium: Weaving Knowledge, World Views and Research Methods hosted by OMAFA's Indigenous Relations Community of Practice in conjunction with the Research and Innovation Branch (September 2023). The goal of this symposium was to create awareness of current Indigenous research, weaving Indigenous and western knowledge systems, and a discussion on the importance of relationships and relationship building. The OPS-wide event included presentations with Indigenous researchers. 624 attended this event.
- In 2023–2024 there were 4 graduate student symposiums held by the departments of Animal Biosciences, School of Environmental Science, Food, Agricultural and Resource Economics, and School of Environmental Design and Rural Development. Each saw 60–100 participants join.
- Helping coordinate and implement the second annual OMAFA Innovations Pavilion at the 2023 Canada's Outdoor Farm Show. This highlighted new innovations and technology driven solutions to Canada's agricultural and food producers created a platform to showcase several OAFRI funding recipients and other Ontario produced innovations. 24 start-ups and innovation organizations were profiled. All start-ups reported making connections with collaborators, clients and/or investors as well as increasing brand awareness. Support for showcasing innovation was expanded in the last year through additional presence at conferences and tradeshows such as the Ontario Fruit and

Vegetable Conference, the London Farm Show and the Ottawa Valley Farm Show. These events contributed to increased engagement for greater opportunities for linkages and innovations with collaborators.

Awareness of funded research was also enhanced through the launch of the Ontario Agri-Food Research and Innovation Portal (OAFRIP), which provides a database for the public to search for details about projects receiving support through the ministry's research and innovation funding programs.

Strategic relationships pillar

Overview

In line with the Grow Ontario strategy and the annual letter of direction, ARIO has taken steps to advance the agency's work on pursuing strategic relationships through increased collaborations with sector organizations, research institutions and industry organizations for the benefit of the province and agri-food sector.

Major highlights

Five-year transfer payment agreement (TPA) with Lakehead University

In April 2023, ARIO entered into a new five-year TPA with Lakehead University. The $1.65 million investment over 5 years from the province and ARIO, is funded through Sustainable CAP. The funding is for research programming, knowledge transfer and promotion, and research operations management to support science research and innovation activities at Lakehead University Agricultural Research Station (LUARS).

The research at LUARS is to focus on areas such as best management practices for Northern Ontario agriculture, soil health, northern environmental sustainability, greenhouse gas emissions, climate change and the circular economy, and research and knowledge co-developed with Indigenous researchers and communities.

Fiscal Year 2023–2024 highlights:

- Research Capacity Development Program launched. Five project proposals were approved for funding in spring 2024 to support research projects ranging from 1-3 years in priority areas including greenhouse gas emissions, climate change, farm viability, soil

health and agri-business. Through collaborative research, LUARS will work with the other agricultural research stations in Ontario to advance agricultural research and productivity in the province.

- Research, extension and outreach activities for the agri-food sector in Northern Ontario. LUARS has made a significant impact for the betterment of the agricultural industry through crop diversification and adoption of beneficial nutrient management practices. Through research and knowledge extension activities, area farmers continue to diversify their cropping systems, adding new crops and varieties. Eighty-two participants have attended LUARS' educational/and or training workshops, showcasing research results to farmers at local events, and total of 32 tours, farm consultations, meetings, events, education and training workshops were held. These extension and outreach activities focused on demonstrating and disseminating innovative crop production and soil and nutrient management technologies. A summary of the 2023–2024 research results is posted on the LUARS' website.

In the coming year, ARIO will continue to provide oversight of the TPA's activities and monitor the progress of the TPA's objectives.

ARIO strategic relationship framework

The initial ARIO strategic relationships evaluation framework (SREF) was developed and implemented to evaluate the feasibility and risk of unsolicited proposals with a current focus of enhancements to research infrastructure. This aligns to the vision and objectives of ARIO and OMAFA. In terms of strategic relationship activities, these were suggested to include those that are high impact in advancing ARIO's vision and enabling innovative and transformational research activities, including enhancing or maximizing resources in a way that ARIO could not accomplish alone.

ARIO's secretariat is still in the passive phase of strategic relationships pillar, with a view of one day moving to a more active state of pursuance of strategic relationships when the appropriate resources and funding support that active state within the agency and secretariat.

As part of ARIO's strategic plan 2023–2032, in February 2024, ARIO's board of directors endorsed transformational KPIs that would seek strategic relationships aligned with:

- enhancing research infrastructure and platforms
- working with universities, colleges and research institutions
- expanding innovation demonstration and technology deployment
- working with Indigenous-led organizations with a focus on supporting Indigenous knowledge and research

In the upcoming year of 2024–2025, the SREF will continue to be refined and matured as more proposals are evaluated. ARIO's secretariat will continue using the SREF and the established process of bringing potentially viable proposals to ARIO's board of directors as they emerge.

Communications pillar

Overview

The proposed *ARIO Act* modernization and Grow Ontario Strategy demonstrate the agency's expanded commitments in the agri-food research and innovation sphere. In light of the agency's intended and expected elevated role, in 2023–2024 ARIO has begun to take steps to advance ARIO's communication and branding strategy to increase the prominence of the agency and promote the agency's efforts to enable modern, relevant agri-food research and innovation for the agri-food value chain.

Major highlights

ARIO station signage

In 2023–2024 ARIO continued to work with the University of Guelph and VRIC to create updated and permanent ARIO station signage at each of the 14 centres to raise the profile of the agency and champion ARIO's infrastructure investments in research and innovation across the province. The design for new, permanent, station signage at all 14 ARIO-owned research stations was approved by the minister in April 2023.

Construction for permanent signs continues to be in progress and installation will begin in spring/summer of 2024–2025. There had been a delay in the start date which was due to a lack of available manufacturers. This timing is advantageous in aligning with the timing of *the ARIO Act* modernization and the proposed new name of ARIO.

Considering ARIO's communication and branding strategy and activities, including the potential development of a new logo and name for ARIO, the installed signage currently has been planned to include lettering on the signs using a temporary adhesive vinyl to allow for easy alterations after the fact. Once an ARIO logo has been developed and approved, the temporary logo will be removed and replaced with permanent, mechanically fastened letters.

In the interim, temporary station signage has been erected at stations that have had announcements (Elora-swine, Alma, New Liskeard). These temporary signs closely resemble the look and feel of the permanent station signage design.

ARIO communications and branding strategy

At the June 2023 meeting, ARIO's board of directors agreed to pursue an outreach and brand strategy for ARIO. In July 2023, ARIO initiated the first stage being facilitated sessions with key groups to outline the key factors for developing a communications strategy.

The objective of the first phase of engagement with key groups was the identification of key factors that would inform the development of a brand and strategic communications strategy for ARIO.

The findings of these sessions culminated in a final report summarizing the content, themes and details of those conversations, and from that, the recommendations on a path forward for the development of a fulsome communications and branding strategy for ARIO. Some key recommendations from this report were advising ARIO to focus on:

- **Resource optimization**: This included optimizing and dedicating adequate staff resources to branding and communications, investing in the basics such as logo, look, website and messaging, and not trying to cater to all audiences but being very focused and deliberate about the objectives and audience for each activity.
- **Audience management**: This included developing unique strategies for each audience and ensuring that audiences are also prioritized as primary or secondary.
- **Message development**: This included having the agency share their success stories and highlight the value of ARIO as a "connector" in agri-food, while also working to keep the messages grounded and in tangible, clear and plain language.

- **Strategic implementation**: This included developing predictable and consistent communications with each of the primary audiences, while also working to leverage industry communications to ensure duplication of communication. It also included recommendations on creating a presence and showcasing plan to give the agency the visibility it required, and also to ensure that a change management strategy was developed in tandem to the communications strategy for evolving messaging and materials.

The next phase of the development of ARIO's communications and branding strategy will continue into 2024–2025.

Pilot industry engagement session

On September 27, 2023, ARIO's board of directors engaged in piloting a successful half-day dialogue session with a small group of agri-food stakeholders from across the sector including expertise and professional experience in:

- agri-business
- agri-tech/innovation
- food processing
- academic researchers

At the stakeholder engagement session, ARIO's board of directors gained an understanding of the forthcoming issues and key trends the sector may face in the short, medium and long term. The session provided the agency with the insight that the agency is in fact well positioned to serve as a bridge builder and sector connector to bring stakeholders together to discuss cross sector opportunities and challenges. Over the long-term, ARIO's mandate and infrastructure strategy can be well positioned to enable innovative solutions to address the complex sector issues informed by ongoing stakeholder engagement sessions.

The dialogue session generated practical conversations concerning key challenges faced by sector that will inform OMAFA's research priorities. Key topics discussed:

- technology and genomics, including translation, adoption, training, and demonstration that capitalizes on Ontario's diversity in agricultural products

- building agri-food sector capacity including continued stewardship and availability of Ontario's farmland to support a growing and diverse population
- addressing climate change, continued stewardship of the environment, maintaining Ontario's fresh water supply and soil health as foundational to food security and the long-term success of the province's agri-food sector
- creating strong economic and social conditions through data informed business and policy decisions to enable growth, resiliency and responsiveness of agri-food businesses across the value chain
- opportunities to increase international and interprovincial market access for Ontario products
- enhancing food processing research and more sustainable production of existing sources of protein as an opportunity for Ontario and ARIO's research centre portfolio

The conversations with stakeholders validated the strength and direction of the Grow Ontario Strategy and ARIO's strategic plan.

Resources to meet objectives, mandate and strategic direction

In 2023–2024, ARIO operated within the agency's financial allocation with reasonable variance and used the following resources to meet the objectives, mandate and strategic direction:

- Ministry staff provided secretariat support to ARIO to effectively operate the agency. ARIO's secretariat is comprised of OMAFA employees within OMAFA's Research and Innovation Branch.
- ARIO received annual transfer payment funding from OMAFA for the MCP ($4.5 million) and payment in lieu (PILs) of taxes ($1.00 million).
- ARIO received nominal revenue from leasing land and buildings within its infrastructure portfolio. This revenue was and is used to offset and cover the full cost of the rising cost of PILs.
- ARIO received intellectual property revenues realized over time from research projects funded under the agreement.
- ARIO also leveraged the Sustainable CAP wherever possible to support infrastructure projects across the agency's research centre portfolio.

- ARIO major capital funding concluded on March 31, 2023, and the agency continued to highlight the need for stable sources of funding to support the continued implementation of the infrastructure strategy. Without some form of continued major capital funding, core infrastructure projects planned within the strategy will be deferred indefinitely pending the provision of available funding and end of life assets will be wound down.
- ARIO's MCP had not received a budget increase since its inception in 2008 and external factors such as increased inflation, construction and labour costs has reduced the buying power of the MCP budget.

Digital delivery and customer service

In 2022–2023, ARIO migrated to an online cloud-based accounting software which realized and continues to realize a great number of efficiencies, continues to mitigate risk and provide a heightened level of financial oversight to the agency's affairs.

Online banking and financial cloud-based accounting platforms have also allowed the yearly financial auditing and reporting to become more and more efficient each year by coordinating with the external auditor and collaborating through these online digital platforms. Reports and financials are delivered in real-time and on-demand through the cloud systems.

ARIO relies more and more heavily on the Transfer Payment Ontario (TPON) system for managing payees, payments and reporting. TPON is an enterprise-wide, web-based case management system for all of Ontario's transfer payment programs. The TPON platform comprises 2 components:

- a public-facing site to get information about transfer payment programs, submit for funding, and track the progress of submissions
- an internal system for ministry staff to manage all aspects of transfer payments, from submissions, contracting, payments and reporting

TPON also allows for synchronization with the RMS and allows for efficiencies through the sourcing of required information from ongoing research programs being funded and allowing for those timely transfer payments to be administered.

To ensure business continuity, ARIO research centres continue to maintain and update an emergency response plan and a business continuity plan that outlines how ARIO's research centres will continue operating during an unplanned disruption in services. These plans are updated annually based on feedback from the emergency simulation exercises at ARIO's research centres.

ARIO continues to maintain a hybrid approach to ARIO board meetings and stakeholder engagement for efficiency and accessibility purposes. This cost-effective approach offers ARIO's board of directors and stakeholders the flexibility to engage virtually from any region. ARIO continues to strengthen its digital approach in relation to its operations.

Risk management

ARIO continues to comply with the rules and accountability framework set out by the Agency Accountability Directives (AAD) to identify, assess and mitigate the agency's risks through the completion of ARIO's quarterly provincial agency risk reports. In 2023–2024, ARIO completed four risk reports to Treasury Board Secretariat (TBS) to properly identify the agency's risks, risk mitigation activities, and plans. Some of the high-level risks to the agency are directly tied to sustainable funding and include:

- Implementation of ARIO's infrastructure strategy will require significant funding over the next several years to ensure the renewal of core research platforms can be completed and operated in a manner that maintains the sustainability and competitiveness of the Ontario agri-food sector.
- ARIO faces significant budget constraints which present a high level of risk that the agency will not be able to meet its core mandate commitment to modernize Ontario's agri-food research infrastructure. The agency experienced a significant reduction to its capital budget of $20 million over 5 years starting in fiscal 2019–2020. This has greatly reduced the ability of the agency to complete or undertake capital projects approved within ARIO's infrastructure strategy and key objectives under ARIO's strategic plan.
- ARIO is experiencing the erosion of buying power related to capital build projects through rising inflation for materials and labour costs. This inflationary period will continue to

erode capital budgets as the economy recovers from COVID-19 and higher material costs are expected to continue as the construction sector begins to ramp up in the province.

- The ability to maintain financial commitments for the multi-year nature of capital infrastructure construction projects could be greatly impacted by changes in government priorities and changes in government funding, neither of which can be predicted with complete confidence.
- Without restored levels of investment in the coming years post pandemic, Ontario's agri-food research system risks falling into obsolescence resulting in the possible departure of specific sub-sectors of agri-food research capacity from the province and could impact the province's ability to attract leading researchers to conduct their work and develop or advance research, technology, and other forms of intellectual property for the sector.

ARIO will continue to execute on key strategies entering 2024–2025 in order to effectively attempt to mitigate as many priority risks as possible, most notably, using ARIO's funding strategy to prescribe solutions for long term viability for the agency in order to meet its mandate.

Audited financial statements

Read the financial statements for 2023–2024.

- ARIO's audited financial statements are prepared in accordance with Canadian generally accepted accounting principles.
- Management is responsible for the accuracy, integrity and objectivity of the information contained in the financial statements.
- ARIO's financial statements have been prepared within reasonable limits of materiality with information available up to and including information provided by year end (annually).
- In discharging its responsibility for the integrity of the financial statements, management maintains financial and management control systems and practices. These are designed to provide reasonable assurance that transactions are authorized, assets are safeguarded, and proper records are maintained.
- ARIO's financial statements are annually examined by an independent external auditor appointed by OMAFA, on behalf of ARIO. The external auditors' responsibility is to express an opinion on whether the financial statements are presented fairly in accordance

with generally accepted accounting principles. The auditors' report outlines the scope of their examination and opinion.

Conclusion

This past fiscal year had the ARIO achieve milestone accomplishments in the long-term objectives of ARIO's strategic plan:

- **Infrastructure**: Major capital builds (swine centre completion, poultry MOU) and minor capital improvements, asset management planning, new agreement with VRIC and ARIO's funding strategy development.
- **Advice**: *ARIO Act* modernization, board governance, the Innovative Breeding Research Program, IEDI agency commitment, research programming, research priority setting and KTT.
- **Strategic relationships**: New TPA with LUARS, and the strategic relationship framework development.
- **Communications**: ARIO station signage, ARIO's communications and branding strategy, and the pilot engagement strategy.

ARIO's mandate and the agency's forward looking 10-year strategic plan that encompasses the Grow Ontario strategy, will be integral to advancing Ontario's competitive advantage through state-of-the art provincial agri-food research platforms and enabling high-impact and transformation research and innovation for today and into the future.

We would like to acknowledge and thank all those who support agri-food research and innovation across the province – industry, academia and the various levels of government.