

THIS IS AGRICULTURE

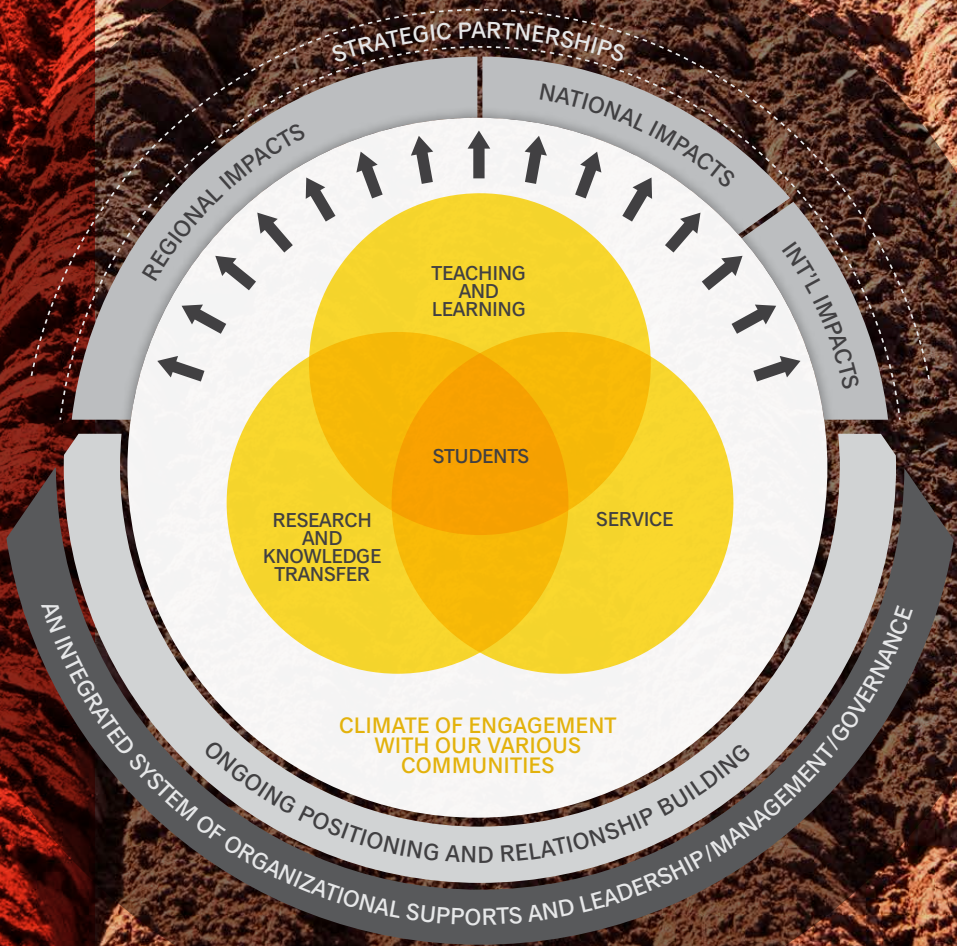
HIGHLIGHTS
2014–2019



**DALHOUSIE
UNIVERSITY**

FACULTY OF AGRICULTURE





HIGHLIGHTS OF THE PAST FIVE YEARS

2014–2019

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MESSAGE FROM THE DEAN



IT'S BEEN FIVE YEARS since the launch of our first Strategic Plan *This is Agriculture*, which had as its intention, to peel back the layers and show our community what agriculture was all about.

Never was this more evident than last year after the devastating fire in Cox Institute. Our community, both internally and externally, came together to support each other and work together to put our campus back on its feet. The resilience shown by our faculty, our researchers and our students has been amazing and makes me truly proud to be an Aggie.

This was the second of two fires on our beautiful campus in the span of five years, the other in the Feed Barn of the Ruminant Animal Centre in 2015.

While there is still much to do to put our campus back to rights, we must stop for a moment to reflect on all that has been accomplished over the past five years despite these difficulties.

This document is a compilation of some of these highlights from 2014 – 2019 including new faculty, new programs, new facilities and new initiatives. None of which could have been accomplished without you. You are at the core of what we do!

Sincerely,

A handwritten signature in black ink that reads "David Gray". The signature is written in a cursive style with a large, sweeping "D" and a long, horizontal flourish extending to the right.

David Gray
Dean, Faculty of Agriculture

TEACHING AND LEARNING



SHEEP MILK ICE-CREAM ANYONE?

Although the concept of sheep milk ice-cream sounds foreign to most of us, Faculty of Agriculture student Erica Sullivan and alumnus Meghan Spares spent their summer discovering an appetite for just such a treat.

Meghan (Class of '01) and her husband Aaron Spares are first generation farmers operating the only sheep dairy in Nova Scotia. Their farm, Bazel's Place, in Avondale, Hants Co., specializes in milking sheep- the largest flock of purebred British Milksheep in North America.

Erica, a Diploma in Business Management student spent 12 weeks at Bazel's Place this summer specifically looking at developing and marketing sheep milk ice-cream. Erica's placement is thanks to the RBC Agricultural Internship Program which aims to empower Canadian youth with the job experience, networking opportunities and skills development to enhance their chance of career success after graduation.

"I've been working on developing the flock and flock management," explained Erica. "I have been doing research on sheep nutrition and looking into breeding for better udder confirmation and a higher milk average."

Erica, from Newport, Nova Scotia has also been preparing by ordering ingredients and learning what is required of food labels.

"I think sheep milk ice-cream will be a great option, it's very unique and so many people have an interest in being very healthy," she added. "People who are actively going to Farmers Markets are looking for fresh food and healthy local options. Sheep ice-cream is something new and exciting people haven't tried."



TEACHING AND LEARNING

To develop a dynamic portfolio of programs, courses, support systems and continuing professional development activities that anticipate and meet the needs of the agricultural and food industries, inform and implement government priorities, and engage our learners in a distinctive experience that exceeds expectations.

HIGHLIGHTS:

2014–15

- Faculty of Agriculture launches new program in Landscape Architecture, the only one of its kind in Atlantic Canada.
- A Bioveterinary Science program was launched providing students with an opportunity to spend three weeks in a tented camp in The Amakhala Game Reserve in South Africa through the African Wildlife Ecology Course

2015–16

- A new Bachelor of Technology in Small Business Management degree links the Faculty of Agriculture with graduates of Technology diplomas from community colleges across the region and country.
- An honors program was initiated
- Thirteen students engaged in hands-on learning in game management and conservation in the Eastern Cape of South Africa through the pilot of the Dalhousie Faculty of Agriculture African Wildlife Ecology course in June 2016.

2016–17

- A manager was hired for co-op internships and cooperative education development. A new internship course was approved and made available as an elective to all degree students.
- Development of an innovative pathway proposal for Indigenous students.
- The Faculty of Agriculture established an External Indigenous Advisory Committee

2017–18

- A new doctoral degree in Agricultural Sciences was established
- Nine new undergraduate awards established by donors including three supporting graduate students
- An outdoor classroom was constructed to acknowledge the 200th anniversary of the University. The Outdoor Classroom is a tiered, outdoor teaching space for students from all disciplines, carved into the centre of campus. The Outdoor Classroom will include the

construction of an alpine house, which will provide a specific and unique environment for the study of rare plants.

- The Indigenous Student Access Pathway was designed and delivered as a one-year program exclusively for First Nations, Métis and Inuit students who would not otherwise be eligible for admissions under Dalhousie's current minimum high school prerequisites and who would benefit from dedicated supports while transitioning to a university environment.
- Awtiget Summer Camps, meaning 'clearing a path' in the language of the Indigenous Mi'kmaq community, were offered to Indigenous students in grades 8 to 11 over a weekend to immerse them in university life.
- The Faculty of Agriculture established an External Indigenous Advisory Committee

2018–19

- A satellite campus was established in the Truro Mall after a fire in Cox Institute in June. This location enabled continued teaching and learning for the intake of students in September.
- RBC announced an investment of \$250,000 as part of RBC's Future Launch Program which aims to empower Canadian youth with the job experience, networking opportunities and skills development to enhance their chance of career success after graduation.
- A group of 18 undergraduate students participated in the first-ever International Summer Institute. These 18 students have travelled to the Agricultural Campus from partner universities in the Netherlands to South Africa and many countries in between. The Institute provided exposure to the range of programs, community life and agricultural community associated with the Dalhousie University Faculty of Agriculture.
- Renovations were completed to Trueman House to enable faculty, staff and students to remain on campus for the 2019-2020 academic year.
- The third contingent of students from Dalhousie University began their journey to the Eastern Cape of South Africa to participate in the highly anticipated African Wildlife Ecology (AWE) course



RESEARCH AND KNOWLEDGE



UP CLOSE WITH THE LARGEST ANIMAL ON EARTH

IT'S CERTAINLY SAD to learn of a whale's death, given they are some of the ocean's most majestic mammals. While no doubt tragic, researchers on Dalhousie's Agricultural Campus are looking for the silver lining.

Over a year after a 63-foot female blue whale — the largest animal species on Earth — was sighted floating off the coast of Nova Scotia, Dal's Gordon Price, Chris Harvey-Clark, Christopher Nelson and a team of volunteers are working to turn the loss into a learning opportunity.

With the help of a small army of eager volunteers, Dr. Price (associate professor) and Prof. Nelson (senior lecturer, Department of Engineering) of Dal's Faculty of Agriculture have been working tirelessly to preserve and degrease the bones of the blue whale to create a mounted display that will be mounted at the university in a location to be determined.

Not only will the bones act as a public education piece, but the ultimate goal of the project is to develop a better understanding of the pathology of these creatures. The team is looking to better understand the conditions that may have led to the whale's death.



RESEARCH AND KNOWLEDGE

To undertake innovative research, to implement the Faculty of Agriculture's Strategic Research Plan and provide counsel that sustains communities.

HIGHLIGHTS:

2014–15

- Total research funding; \$9,424,489—up 27 per cent from last year
- Launch of the Organic Science Cluster II
- Dr. Zaman, a pioneer in the field of Precision Agriculture, has invented cost-effective Variable Rate (VR) technology for spot application of agrochemicals receiving a US Patent and Canadian Patent for the invention of his VR Sprayer System.

2015–16

- Total research funding; \$9,529,469 — up 1.1 per cent from last year
- First Killam Chair awarded to Dr. Vasantha Rupasinghe.

2016-17

- MSc (Agr) program expanded to include specialization in Agribusiness, Agricultural Economics and Rural Studies.
- Acadian Seaplants Limited (ASL) partnered with the Faculty of Agriculture for a 36-month research project with a total project cost of \$1.4 million.
- Dr. Qamar Zaman, in partnership with Doug Bragg Enterprises, received \$1.53 million from NSERC for his research on the automation of blueberry harvesters to improve yield and minimize operator stress through precision agriculture technologies

2017–18

- The National Christmas Tree Research Centre, under the leadership of Dr. Raj Lada, celebrated the first successful development and licensing of SMART Balsam Fir Technologies. These innovative technologies will benefit the \$100 million Christmas tree industry in Atlantic Canada by increasing the marketability of real Christmas trees while contributing to the health of the local agricultural economy.
- Dr. Gordon Price led a large-scale project to compost the bones of a 63-foot female blue whale. The researchers are composting the whale bones to remove the grease, tissue and oils that are deeply embedded in the whale's skeletal structure so the bones can then be properly mounted and displayed. In addition to the thorough cleanse, the bones are being weighed, catalogued and archived digitally. The process

- of composting the whale bones is expected to take anywhere from two to three years.
- The Agricultural Green Shoots program was established to offset losses to research programs by the Cox Fire. These funds provided \$630,000 to impacted researchers. Additional support of up to \$150,000 from the President's Office is supporting MSc and PhD students whose programs have been delayed by the fire.
 - Dr. Sean Myles was elected to the Royal Society of Canada College of New Scholars, Artists and Scientists and Dr. David Burton was appointed University Research Professor at Dalhousie.

2018–19

- The Wild Blueberry Harvester Efficiency Program helps producers to offset the high costs of harvesting their berries. With the additional funding, producers will be able to adopt new harvester technology to help increase their harvest and field handling efficiency. As a result, wild blueberry producers could see an increase in berry yield and quality. The support provided by this program will also allow growers to increase their competitive advantage.
- Dr. Ahmad Al-Mallahi was welcomed in October as the McCain Research Chair and Assistant Professor in the Department of Engineering. He is working to continue to further develop sustainable methods of farming to produce the food that we eat through smart agriculture, sensing and automation in the fields.
- Deborah Adewole was named Assistant Professor and Industry Research Chair, Poultry. She works in collaboration with industry associations and Dal AC to conduct applied and industry-related research.



COMMUNITY ENGAGEMENT

CIBC MULTICULTURAL CENTRE FOCAL POINT OF NEW STUDENT LEARNING COMMONS

A GENEROUS GIFT OF \$250,000 from CIBC has established the CIBC Multicultural Centre in the Student Learning Commons on the Dalhousie Agricultural Campus.

Located in the heart of campus, the new Student Learning Commons was conceived with the idea to bring campus together, building community among students, faculty and staff - a space where everyone truly belongs.

The CIBC Multicultural Centre encompasses a hub of the National Truth and Reconciliation Centre, a prayer room and quiet space for meditation. In the washroom adjacent to the Multicultural Centre there is an ablution station for ritual purification before prayer, a space like no other on campus.

"At CIBC, embracing inclusion and diversity is part of our DNA so we are proud to support the new Multi-Cultural Centre at Dalhousie's Faculty of Agriculture," said Mike Bagnall, Vice President & Region Head, Commercial Bank, CIBC. "We have been a long-time supporter of Dalhousie University and value our partnership in helping youth reach their full potential."

CIBC joins Dalhousie University in recognizing that providing multicultural space establishes an environment of inclusion and is a critical part of building community and fostering relationships.

To engage actively and responsively with our local community and the agricultural communities of the Atlantic Provinces, Canada and beyond.

HIGHLIGHTS:

2014–15

- First Community Education officer hired to raise the profile of the science of agriculture in schools and communities.
- Developed partnerships with 4-H Nova Scotia
- Extended Learning developed a Green Diamond Ag Training series

2015–16

- A Manager, Aboriginal Students was hired to help foster Aboriginal student success through specialized advising and support.
- The Faculty of Agriculture was named the official Post-Secondary Education Partner of The Royal Agricultural Winter Fair in Ontario
- Our first Community Calendar was distributed to members of the Bible Hill community by the Rams Varsity soccer team to nearly 600 homes.
- The Seed Lending Library had 125 registered users and introduced over 3000 seeds into the community.

2016–17

- Launch of Aggies in the Community — events aimed at engaging in a fun way with our community while learning more about agriculture.
- The Faculty of Agriculture re-named River Road on the Agricultural Campus to Sipu Awti — reflecting the language of the indigenous Mi'kmaq community.
- 104 agricultural diploma graduate students were provided with start-up grants to start their own agricultural business, promoting entrepreneurship and contributing to developing the commercial sector in Ethiopia.

2017–18

- In celebration of Dal's 200th anniversary, the Agriculture Alumni Association installed a Barley arch at the entrance to the Alumni Gardens, symbolizing excellence in academics, leadership, research and innovation.
- Dr. Temple Grandin spoke on campus as part of the 200th anniversary Belong Forums.
- The Bicentennial Botanical Garden was launched as part of Dalhousie's 200th anniversary. The Gardens comprise 11 hectares of unique and diverse features that beautify the campus and act as its largest classroom.

2018–19

- A generous gift of \$250,000 from CIBC established the CIBC Multicultural Centre in the Student Learning Commons. The CIBC Multicultural Centre encompasses a hub of the National Truth and Reconciliation Centre, a prayer room and quiet space for meditation. In the washroom adjacent to the Multicultural Centre there is an ablution station for ritual purification before prayer, a space like no other on campus.
- Dalhousie Libraries launched the hub of the National Truth and Reconciliation Centre in the MacRae Library. This service will bring greater access to the NCTR archives and its programs to Atlantic Canada.

REGIONAL LEADERSHIP AND IMPACT



RABOBANK TO SUPPORT DISCOVERY AND INNOVATION ON THE DALHOUSIE AGRICULTURAL CAMPUS

STUDENTS ENROLLED AT DALHOUSIE UNIVERSITY'S Faculty of Agriculture now have access to a new program to better prepare them for the jobs of tomorrow thanks to a \$100,000 donation from Rabobank, a premier global food and agribusiness bank.

The Cultiv8 Sandbox Discover program provides students with opportunities to explore the entrepreneurial mindset, creative problem solving and innovation and aims to address a serious gap in the innovation pipeline through the building of foundational skills crucial to cost-efficient, sustainable, economic growth. The sponsorship is part of Rabobank's commitment to strengthening and contributing to the food and agribusiness industry of the future.

Cultiv8 focuses on teaching students the skills to become more competitive and innovative, whether that's within their studies, their work, or as business owners and provides students with tools which they can use for a lifetime.

"In our supportive environment, we build confidence in testing ideas through creativity, exploration and collaboration, so that our students can become more competitive in the 21st-century workforce," explained Cultiv8 Manager Jason Grant.



REGIONAL LEADERSHIP AND IMPACT

Through education, training and research, be recognized and valued by key agricultural communities across the Atlantic Provinces as the leading provider of world-class education, training and research in the field of agriculture.

HIGHLIGHTS:

2014–15

- CASE IH and the Faculty of Agriculture entered a nine-year agreement which will provide the Agricultural Campus with new advanced farm machinery, each year.
- One of the largest international development projects ever awarded to a Canadian university, the \$18 million Agricultural Transformation through Stronger Vocational Education program will focus on enhancing current Ethiopian agricultural education programs available at agricultural colleges.
- Cultiv8, the Agricultural Sandbox in partnership with Acadia University is launched at the Faculty of Agriculture

2015–16

- A new partnership was developed with the Nova Scotia Federation of Agriculture to acquire funding for the skills and training gaps identified in previous years' needs assessments
- David Gray was elected secretary of the Association of Public and Land-Grant Universities (APLU) International Agriculture Section.
- The Faculty of Agriculture completed two \$400,000 projects in St. Kitts & Nevis with Clarence Fitzroy Bryant College and in Dominica with Dominica State College establishing two new certificate programs in Agri-Business and Entrepreneurship

2016–17

- The first international Aim to Grow conference was held on campus
- An Industry Liaison and Innovation officer was hired for the Agricultural Campus with a focus on Agriculture and Aquaculture.
- The \$3+Million Uganda Skills for Development Project (USDP) funded through the World Bank was contracted with the Ministry of Education and Sports twinning Dalhousie University with Bukalasa Agricultural College to establish the leading ATVET as a Centre of Excellence in Agricultural Competency Based Education & Training in Uganda.

2017–18

- The Faculty of Agriculture is proud of its 10-year partnership with the Correctional Service of Canada whereby the Faculty offers a horticulture skills training program to women at Nova Institution.
- The PEI Farm Technician celebrated its 10- year anniversary. Thanks to the only farm technician apprenticeship program in Canada there are now 25 certified journeypersons on PEI.

2018–19

- A \$100,000 donation from Rabobank, a premier global food and agribusiness bank supported the Cultiv8 Sandbox Discover program which provides students with opportunities to explore the entrepreneurial mindset, creative problem solving and innovation and aims to address a serious gap in the innovation pipeline through the



MANAGEMENT AND GOVERNANCE



AGRICULTURAL CAMPUS TURNS FOCUS TO RESTORATION AND REBUILD PHASE AFTER COX FIRE

A **FULL-SCALE RECOVERY** was mobilized after a devastating fire in Cox Institute in June 2018. Contamination, humidity and water damage throughout the section known as “Old Cox” means that it now requires a complete interior rebuild.

“Cox Institute is one of the main buildings on our campus — and the loss of the Old Cox portion shook us all,” says Agricultural Campus Dean and Principal David Gray. “Not only did we lose teaching and work spaces, but personal belongings were destroyed. Research was lost as well. It was devastating for our entire campus.

A steering committee formed to initiate a logistics plan to restore the campus to normal operations as quickly as possible. The summer months were dedicated to relocating faculty and staff along with research programs and graduate students. Specialized contractors recovered and cleaned essential equipment and personal items from Old Cox.

By utilizing space in an Athletic Centre classroom, the Alumni Theatre and the recently opened Student Learning Commons, it was possible to keep almost all classes on the main campus. For extra space for offices, research and classrooms as needed, the university leased space in the nearby Truro Mall. A free shuttle bus now carries faculty, staff and students between the mall and main campus. Staff in Jenkins Hall (the campus dining hall) made space available for a full-scale bookstore, and a new greenhouse was set up in the Demonstration Garden area to prepare for fall planting.



As well, several additional resources were dedicated to helping the campus get back on its feet. Dalhousie appointed a Fire Response Coordinator, a full-time senior resource to manage procurement and ongoing efforts to recover lab contents and equipment. A new full-time storekeeper was hired to help catalogue contents in the storage facility. A new administrative assistant was brought on to process information requests and roll out new process for equipment calibration. Additional teaching assistants, lab demonstrators and markers were put in place to support instructors. And representatives from Employee Family Assistance Program (EFAP) have been on site for support and counselling. Staff and faculty can also register for a new program offering intended to boost resilience.

“A dedicated team effort was undertaken to ensure campus was ready for the fall intake of students. New-to-Dal and returning students expect and deserve educational excellence. And I’m overwhelmed by the response, and the commitment people made to ensure that staff and faculty had the essential supplies and resources they needed to kick things off on the right foot.”

MANAGEMENT AND GOVERNANCE

Ensure best practices are in place by enabling the achievement of strategic aims, value for money, sustainability and operational efficiency within the Faculty.

HIGHLIGHTS:

2014–15

- Master campus planning process to lead and inform the growth of the Faculty and campus over the next 10 years
- Faculty of Agriculture Dean's Advisory Council established
- Farm Advisory Committee established.

2015–16

- Dalhousie's Board of Governors approved a \$24.2 million biomass co-generation project to replace the campus's aging steam lines with hot water lines, replace the wood boiler add appropriate and required air quality controls and add a turbine to create electricity
- The Faculty of Agriculture completed the early stages of the Campaign for Agriculture.
- The University Senate Planning and Governance Committee approved a Department restructure within the Faculty.

2016–17

- Negotiated with the Provincial Government in relation to a three-year funding agreement for the Faculty along with an accountability framework
- Creation of a campus health and wellness committee following campus consultation session and review of Quality Work Life survey results
- The Faculty of Agriculture undertook a Campus Master Planning process gaining approval from the Board of Governors in the spring of 2017.

2017–18

- The Campaign for Agriculture continues to gain momentum. One of the key campaign priorities, The Student Learning Commons (SLC), opened in August 2018, providing students and the campus community with much needed collaborative space, program rooms, meeting and boardrooms, a café, multi-cultural centre, and study space.

- Dr. David Gray was reappointed for a second term as Campus Principal and Dean of the Faculty of Agriculture, effective July 1, 2018 to June 30, 2023.
- A new Landscape Studio, featuring a drafting studio, gallery, main studio and faculty offices opened this fall providing students with an opportunity to design projects and collaborate with others.
- A new Biomass plant officially opened in November. The renewed plant and district energy system, a \$26.5-million project that began operation this past summer, burns biomass fuel in a thermal oil heater. This heat moves a new 1 MW turbine to create electricity — an organic rankine cycle (ORC) system that's the first of its kind on a North American university campus.

2018–19

- Operational efficiencies allowed those displaced by the fire to move back to campus using the Alumni Theatre, converting the first floor of Trueman House to offices and making more effective use of many spaces around campus.
- Work continues with Facilities Management space planners to develop more shared spaces on campus, particularly shared lab spaces
- Resilience training was offered
- The Wellness Committee received a \$10,000 grant to develop programming for campus
- Launch of the Green Shoots program - a Dalhousie initiative to address research lost in the fire at Cox Institute. The university has funded the Program with \$650,000, with \$300,000 of that provided by the Faculty of Agriculture.





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