AGRICULTURAL CLIMATE SOLUTIONS

Living Labs at Agriculture and Agri-Food Canada

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ALL-Ready Pilot Network Meeting
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What is AAFC?

Agriculture and Agri-Food Canada (AAFC) is the Government of Canada department responsible for supporting the agriculture and agri-food sector in Canada, including through research and innovation.

Agriculture and Agri-Food Canada

Agriculture et Agroalimentaire Canada

Building a Nationwide Living Labs Network

AAFC recognized that urgent action is needed to accelerate our response to climate change and other agri-environmental challenges.

Starting 2018, AAFC launched a nationwide network of living labs to help accelerate the development and adoption of sustainable practices and technologies by Canadian farmers.

Why Living Labs?

The living lab approach to agricultural innovation:

- brings together farmers, scientists and other partners to co-develop solutions
- helps refine these solutions so that they are more likely to be adopted.

3 Core Principles

User-centred innovation

Activities focus on the users' needs and users are involved throughout the development process

Working in partnership

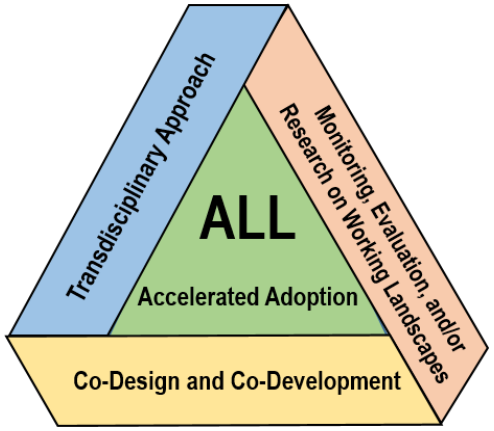
Experts from various disciplines and backgrounds tackle a common issue

Real-life context

Testing takes place where the users would actually use the technology or practice

Agroecosystem Living Labs: G20

In 2018, at the G20 Meeting of Chief Agricultural Scientists, Canada presented the “agroecosystem living lab” as a promising approach to fostering more widespread and rapid adoption of innovation in the agri-food sector.



→ Increased attention from governments and policy makers

→ International working group’s Executive Report

→ Knowledge exchange

G20 MACS. 2019. *Agroecosystem Living Laboratories: Executive Report.* G20 Meeting of Agricultural Chief Scientists (MACS) International Agroecosystems Living Laboratories (ALL) Working Group.

Agroecosystem Living Labs: Canada & France

In collaboration with our counterparts in France (INRAE), we have explored what makes agroecosystem living labs unique, such as:

- Aimed at sustainability and resilience
- Place-based: embedded in and studied at an agroecosystem scale
- Prominent role of science and evaluation
- High diversity and number of partners involved

The Defining Characteristics of Agroecosystem Living Labs

McPhee, C.; Bancerz, M.; Mambrini-Doudet, M.; Chrétien, F.; Huyghe, C.; Gracia-Garza, J. 2021. *Sustainability*, 13, 1718. https://doi.org/10.3390/su13041718

Living Laboratories Initiative

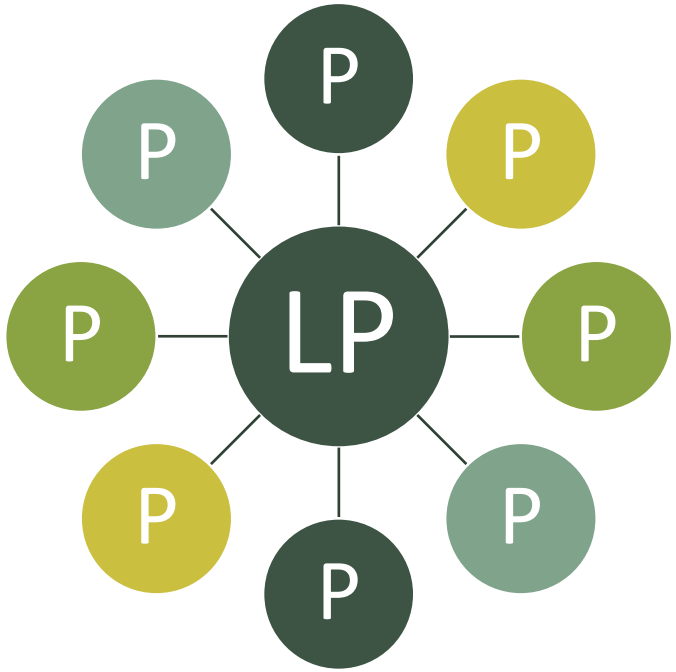
Starting in 2018, this initiative has been building a nation-wide network of living labs to help the sector:

- Adjust to climate change
- Reduce water contamination
- Improve soil and water conservation
- Maximize habitat capacity and biodiversity

agriculture.canada.ca/living-lab

How AAFC's Living Labs Are Structured

Consortium of Partners



Users (Producers)

Federal Scientists

Other AAFC Support

Natural Climate Solutions Fund

Agricultural Climate Solutions

Agriculture and Agri-Food Canada

2 Billion Trees

Natural Resources Canada

Nature Smart Climate Solutions

Environment and Climate Change Canada

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Living Labs

- Starts this year and runs until 2031
- $185 million for living lab projects
- Co-development, experimentation and accelerated adoption of BMPs that store carbon and reduce greenhouse gases

On-Farm Climate Action Fund

- Starts this year and runs until 2024
- $200 million for direct support to farmers to adopt BMPs that store carbon and reduce greenhouse gases
- Three target areas: cover cropping, nitrogen management, and rotational grazing practices

agriculture.canada.ca/agricultural-climate-solutions

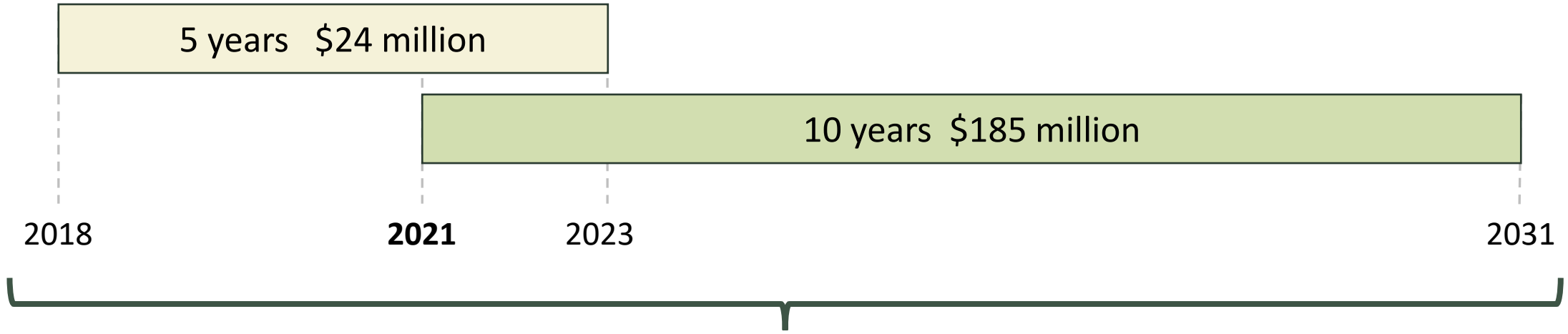
Two Programs: One Living Lab Approach

Living Laboratories Initiative

- Living labs in 4 regions (PEI, MB, ON, QC)
- Focused on agro-environmental issues

Agricultural Climate Solutions

- Living labs in each of the 10 provinces
- Focused on carbon sequestration, reducing GHG emissions, and providing other environmental co-benefits



Both programs follow the same living lab approach

Canadian Agroecosystem Living Lab Network

CALL-Net: A network of working groups to identify, share, and promote collaborative research and partnerships across our living labs and beyond.

Agri-environmental Working Groups

1. Soil health
2. Water quality and management
3. Climate change
4. Biodiversity
5. Crop health and productivity

Cross-Cutting Working Groups

1. Modelling
2. Digital agriculture
3. Agricultural socio-economics
4. Innovation and knowledge

AAFC's International Collaborations

European Commission:

- ALL-Ready project to lay the groundwork for the future partnership and network of agroecology living labs and research infrastructures
- Sharing our experiences in discussions, webinars, and workshops about the proposed partnership

ALL Ready

all-ready-project.eu

G20: Co-led G20 MACS working group on agroecosystem living labs

France: Ongoing collaborations with INRAE about our respective living lab programs

United States: Ongoing collaborations with the USDA's Long-Term Agroecosystem Research (LTAR) Network

ISPIM: Co-lead of Special Interest Group on Living Labs

ENoLL: Core member of Working Group on Agriculture and Agri-Food Living Labs

Collaboration at Three Levels

Macro	**Network**	• Supporting infrastructure • CALL-Net • International collaborations
Meso	**Projects**	• Living Lab – Atlantic • Living Lab – Eastern Prairies • Living Lab – Quebec • Living Lab – Ontario • New ASC living labs (2022)
Micro	**Activities**	• On-farm testing • Research studies • Co-development • Knowledge creation and exchange

Example Videos

Living Lab – Ontario

Agricultural Climate Solutions

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