

The Canadian Farm Resilience Agency (CFRA)

A new institution to lead agricultural emission reduction and climate adaptation

We are in a climate emergency. Canada needs to rapidly reduce emissions from all sectors. In agriculture, we need a rapid, coordinated, science-guided, and least-cost transition to financially secure, emission-minimizing farms and food systems.

This will be a challenge. Reducing greenhouse gas (GHG) emissions from agriculture is one of the most complex emissions-reduction tasks facing Canada. Most sectors can focus on one GHG, carbon dioxide, but agricultural emissions are split between three GHGs: carbon dioxide, nitrous oxide, and methane. In other sectors, there is often one main source of emissions (e.g., combustion in engines) but agricultural GHGs emerge via diverse pathways including animal digestion, fertilizer application, fuel use, and manure handling. In other sectors, emission reduction can be straightforward (e.g., replace conventional cars with electric vehicles) but on-farm actions are specific to farm types, scale, place, and time (e.g., solutions for a large Alberta grain farm will be different than those for a small New Brunswick dairy). Finally, in many sectors, changes can be made at just a few firms (e.g., steel companies) but Canada has 200,000 farming operations, each needing to understand their particular emissions and implement solutions. Farmers will not succeed if they face these difficulties alone.

The challenges, large today, will increase with each passing year. Canada has committed to reduce emissions by 40% by 2030 and reach net zero by 2050—just 28 years from now. Farmers and AAFC are at the *beginning* of a *multi-decade* undertaking during which pressure for ever-larger emissions cuts will *intensify*, with each round of reductions more difficult than the one before. **AAFC is at the beginning of decades of intensifying and expanding work and needs to build significant capacity.**

Farmers need extensive, long-term support in:

- understanding and quantifying emissions,
- using fertilizer with maximum efficiency and effectiveness,
- optimizing and reducing use of other inputs,
- optimizing livestock systems,
- managing water and improving soils, and
- accessing agronomic advice independent of agribusiness corporations.

Additional programs and government capacity are needed. **To create this capacity, coordinate these programs, and provide long-term leadership to the sector, a new institution is required. A Canadian Farm Resilience Agency (CFRA) is needed.**

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Built on the positive legacy of the Prairie Farm Rehabilitation Administration (PFRA) (see box, below) but updated for the 21st century, a CFRA would lead and coordinate emissions reduction, resilience building, climate adaptation, data collection, research, and outreach and education. **Just as the PFRA was the right response to the challenges of the 1930s, a CFRA is the right response as we move toward 2030.** A CFRA could be a “super PFRA,” with an expanded mandate and designed to operate across Canada. A CFRA could provide an important presence in the countryside and lead long-term, integrated thinking and research to help chart a path for agriculture as we move toward the near-zero-emission Canada of 2050.

A CFRA could:

1. Hire, train, and deploy public servant agrologists (independent of input sellers) to:
 - a. Help farmers complete and implement expanded Environmental Farm Plans, nutrient management plans, and emission reduction plans;
 - b. Advise on nitrogen fertilizer management, including 4R implementation;
 - c. Work with farmers to explore and adopt emission-minimizing approaches that optimize input use or find alternatives to purchased farm inputs; and
 - d. Help farmers connect with government programs and access incentives;
2. Provide comprehensive soil testing to support fertilizer rate optimization and reduction;
3. Facilitate research into input optimization/reduction and emissions reduction, including collaborative and participatory research with farmers;
4. Monitor and help maximize soil health, carbon sequestration, and soil organic matter gains, thus aiding water retention, flood mitigation, and drought resilience;
5. Collect data, assist in GHG measurement, verify model results, “ground truth” research results and emissions data, and document farmers’ adoptions of BMPs;
6. Create and staff a network of demonstration farms to assess, refine, and showcase low-emission production techniques and serve as regional hubs where researchers, farmers, Indigenous communities, and others meet to develop solutions;
7. Work with farmers to protect and restore wetlands, grasslands, and treed areas;
8. Provide tree seedlings to support afforestation, silvopastures, tree rows, and shelterbelts and provide seed for grassland restoration;
9. Manage land set-aside and permanent-cover programs; and
10. Re-establish community pastures and create strategic feed reserves.

What was the PFRA?

Canada has faced climatic challenges before. In the 1930s, drought and dust storms swept across parts of Canada. As a response, the Prairie Farm Rehabilitation Administration (PFRA) was established in 1935 to “provide for the rehabilitation of drought and soil drifting areas in the Provinces of Manitoba, Saskatchewan and Alberta.” Over its 77-year history, the PFRA brought together administrators, researchers, engineers, and extension staff to conserve soils, rehabilitate damaged land, spread new farming practices, develop water supplies and flood protection, provide trees for shelterbelts, establish and administer community pastures, and provide widely respected advice on farm resilience practices.