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The Canadian Farm Resilience Agency (CFRA)

A new institution to lead agricultural emission-reduction and climate adaptation *2nd ed'n*

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

This is a challenge. Reducing greenhouse gas (GHG) emissions from agriculture is one of the most complex emissions-reduction tasks facing our nation. Most other sectors can focus on just one GHG or one main source of emissions. But agriculture produces three GHGs: carbon dioxide, nitrous oxide, and methane. And agricultural GHGs emerge via diverse pathways including animal digestion, fertilizer application, and fuel use. Rather than one big change, on-farm emissions reduction requires many. And agriculture is diverse: solutions for a large Alberta grain farm will be different than those for a small New Brunswick dairy.

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. And the work will continue beyond the end of this century. Farmers and governments 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. **Governments are at the beginning of decades of intensifying and expanding work and need to build significant capacity.**

Farmers need extensive, long-term support in:

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

Additional programs and government capacity are needed. **To create this capacity, coordinate these programs, and provide leadership, a <u>new institution</u> is required. A Canadian Farm Resilience Agency (CFRA) is needed.**

Built on the positive legacy of the Prairie Farm Rehabilitation Administration (PFRA) (see box, next page) but updated for the 21st century, a CFRA would coordinate emissions reduction, resilience building, climate adaptation, education, and data collection. **The PFRA was the right response to the challenges of the 1930s; and a CFRA is the right response as we move toward 2030, and beyond.** A CFRA would be a "super PFRA," with an expanded mandate, operating across Canada. A CFRA would provide a presence in the countryside and support farmers as we move toward Canada's net-zero future.

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Continued from previous page

More specifically, a CFRA could:

1. Hire, train, and deploy public servant agrologists (independent of input sellers) to:
   a. Advise on nitrogen fertilizer management, including 4R implementation;
   b. Work with farmers to explore and adopt emission-minimizing approaches that optimize input use or find alternatives to purchased farm inputs; and
   c. Help farmers draft and implement expanded Environmental Farm Plans, nutrient management plans, or emission reduction plans and access gov't programs or incentives;
2. Provide comprehensive soil testing to support fertilizer rate optimization and reduction;
3. Help maximize soil health, carbon sequestration, and soil organic matter—aiding water retention, flood mitigation, and drought resilience;
4. Work with farmers to facilitate research into input optimization and emissions reduction;
5. Collect data, assist in GHG measurement, and document farmers' adoptions of BMPs;
6. Create demonstration farms to assess, refine, and showcase low-emission techniques;
7. Assist farmers to protect and restore wetlands, grasslands, and treed areas, including providing tree seedlings and native seeds;
8. Manage land set-aside and permanent-cover programs; re-establish community pastures; and create strategic feed reserves; and
9. Prioritize supports equally to all farmers, including Indigenous farmers; farms of all sizes, from the largest to the smallest; and farms employing innovative or non-standard production methods.

Cost, staffing levels, and structure

We suggest that one CFRA extension agrologist could advise farmers across an area covering 100,000 acres (this will vary by region). Canada's 150 million acres of farmland thus implies 1,500 CFRA agrologists. With managers, support staff, and others, a CFRA might need 2,500 employees, maximum, though a staffing level of 1,500 is more probable, as not all farmers will utilize CFRA services. This compares to a current AAFC staff of 5,000. (PFRA staff totalled 805 in 1996.)

A staff of 1,500 might require $338 million per year (based on $225,000 per employee for salaries, office rent, transport, etc.). Though $338 million seems high, in context it is modest. First, this is just $3 per acre. Second, this investment—about 0.4% of farm revenue—will help safeguard, from climate impacts, a far larger amount: nearly $100 billion in farm receipts. Third, taxpayers are transferring to farmers an average of $3.4 *billion* per year via Crop Insurance and other programs to compensate for weather and climate impacts. A 10% saving—a result of enhanced resilience and adaptation—would offset CFRA costs.

Structurally, the CFRA should be decentralized, with regional offices and managers located in towns and small cities. This will aid alignment with local farming practices. Long-term tenure of agrologists and managers in communities and significant time actually spent in farm fields will strengthen ties and trust. Crucially, a CFRA must be a service provider only, with no regulatory powers. It is important that when a CFRA staff-person comes onto a farmyard they are there to help, not enforce. Finally, a CFRA should have some autonomy from Agriculture and Agri-Food Canada—working alongside AAFC, but reporting to the Minister of Agriculture.

What was the PFRA?

Canada has faced climatic challenges before. In the 1930s, drought and dust storms swept across parts of Canada. In response, the Prairie Farm Rehabilitation Administration (PFRA) was established in 1935 to "provide for the rehabilitation of drought and soil drifting areas in the [Prairie] Provinces." 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 prevent flooding, provide trees for shelterbelts, establish and administer community pastures, and provide respected advice on resilient farm practices. Read more here: https://www.nfu.ca/wp-content/uploads/2022/12/PFRA-History-Final-EN.pdf