



GLOBAL RESEARCH ALLIANCE

ON AGRICULTURAL GREENHOUSE GASES

Country report : CANADA



Representatives: Pamela Joosse (presenting)
Denis Angers

Presentation to IRG Annual Meeting
Cali, 5 February 2019

Specific contributions to IRG

- Canadian leadership – Pamela Joosse, IRG Co-Chair and Denis Anger, Soil Carbon Sequestration Network Co-lead
 - Network Participation – Ward Smith, Field Integration; Roland Kroebel, Farms to Regions
- \$190,000 in incremental funding provided to existing AAFC research projects to support collaboration with the GRA for 2017-20 through the International Funding Initiative.
- Agricultural Greenhouse Gases Program (AGGP2). A \$27 million, five-year (2016-2021) program supports non-government research projects aimed at enhancing the understanding and accessibility of agricultural technologies, beneficial management practices, and processes that can be adopted by farmers to mitigate agricultural GHG emission:
 - Total of 20 research projects, 14 related to the work of the IRG and its Research Networks or Flagships.

Projects, initiatives and contributions to IRG's topics (current)

New projects initiated in 2018-19 related to IRG:

- Integrated modelling approach for identifying efficient and resilient BMPs for diverse cropping systems across Canada (Ward Smith)
 - Related to AgMIP, Field integration network
- Resilient crop-livestock systems – unravelling C and N stabilization and restitution mechanisms in manured soils (Martin Chantigny/Xiying Hao)
 - Information for GHG inventories, Soil Carbon Sequestration and Nitrogen Flagships; related to Field Integration and Farm to Regions networks
 - Integrating soil C and N modelling in manured soils, leveraging field experiments in Canada, USA, Brazil, China, New Zealand and France
- Impacts of crop rotation and cover crops on agro-ecosystem resilience (Craig Drury/Lori Phillips)
 - Related to IRG soil carbon sequestration and field integration network, and Croplands RG Conservation Agriculture network
- Measuring and assessing Canadian rangeland and other agricultural best management practices with the enhanced whole-farm model HOLOS (Roland Kroebe)
 - Top up from international fund to participate in Farms to Regions network workshops

Opportunities, future actions and funding

Canada's NDC

- 30% reduction of GHG emissions from 2005 by 2030

Pan-Canadian Framework Plan

- Reductions in energy, industry, transportation sectors dominate
- Agriculture not important part of plan
 - Current estimated peak soil sink on agricultural lands of 13 Mt CO₂ eq reached in 2006
 - Biofuel from agriculturally derived feedstock is largest effective contribution from agriculture
 - Opportunities for reporting larger sink from increased C input to agricultural land

Working with Environment and Climate Change Canada to improve inventories for agriculture

- dairy is using Tier 3 approach

2019-2020 AAFC call for proposals identified GRA as priority group for international science collaboration – results: coming soon



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