

Soil Carbon & Nitrogen Cycling Cross-Cutting Group Workshop

INRA, Paris, France

19-21 March 2014

Overview & Workshop Summary

The first collaborative workshop on *“Agricultural GHG emissions: model benchmarking and intercomparison”* took place from 19-21 March 2014 at INRA Paris, France. The event was organized by the Soil Carbon and Nitrogen Cycling (Soil CN) Cross-Cutting Group. It brought together the CN-MIP, Models4Pastures, COMET-Global and MAGGNET projects which have recently been funded by a multi-partner call (including FACCE JPI, Canada, New-Zealand and USA) and other modelling groups involved in projects like AgMIP, and the FACCE JPI network MACSUR. The event followed a workshop organized by the Cropland Research Group on N₂O emissions (*“Experimental databases and models of N₂O emissions from croplands: do we have what is needed to explore mitigation options?”*).

This GRA workshop was attended by 65 participants from 15 Alliance member countries (Australia, Brazil, Canada, China, Denmark, France, Germany, Ireland, Italy, Japan, New Zealand, Spain, Switzerland, UK, USA) and 2 non-member countries (India and Poland). It gathered scientists from various GRA Research groups (Croplands, Livestock & Paddy Rice groups), projects and initiatives related to the common topic of agricultural GHG modeling. The workshop was chaired by France (Dr Jean-François Soussana, INRA, France) as Co-Chair of the Soil CN group, and co-chaired by the representatives of the international projects participating.

The main objective of the workshop was to launch a coordinated activity across projects and within the GRA, in order to benchmark and inter-compare simulation models aiming at simulating GHG emissions and removals from arable crops and from grasslands. Prior to the workshop, a pilot blind test was organized and coordinated by the Soil CN group, involving international modelers and experimental sites and mainly designed for presenting first results at the workshop and thus, feeding the discussions.

MEETING OUTCOMES

The workshop achieved the following outcomes:

- Updates on the Research Groups of the Alliance and overview of the Alliance.
- Presentation of various contributing projects and initiatives related to agricultural GHG emissions (CN-MIP, Models4Pastures, MAGGNET, COMET-Global), MACSUR (FACCE-JPI), AgMIP (Grasslands & Livestock group ; Soil & Crop rotation group).
- Discussions and workplan on collaborative activities (added value, intellectual properties, interactions, next steps and meetings)

- Kick-off sessions for international projects (CN-MIP, Models4Pastures, MAGNET, COMET-Global)
- Results presentation from the Pilot Blind Test (preliminary exercise of the model inter-comparison and benchmarking activity). This test included 17 crop and pasture models which were tested on 3 grassland and 3 arable crop (wheat) sites from five countries (Canada, France, India, New-Zealand, USA). Results concerned yield and dry-matter production, N₂O emissions, soil carbon stocks and net CO₂ ecosystem exchange.
- Working group sessions on Model Inter-comparison & Benchmarking activity (protocol improvement, discussion on adding experimental sites and models)
- Presentation of 3 modelling platforms (RECORD, GRAMP and MDE).
- Discussion with the Paddy Rice Research Group to integrate CH₄ emitting systems in the model inter-comparison exercise
- Presentations from invited speakers including introduction on Model Benchmarking & Inter-comparison (Pete Smith, University of Aberdeen, Scotland), on modelling platforms (RECORD : Helene Raynal, INRA, France; GRAMP : Jagadeesh Yeluripati, James Hutton Institute, Scotland; MDE : Mark Easter, Colorado State University, USA), and on illustrative model inter-comparison results from MACSUR (Gianni Bellocchi, INRA, France)

The next Annual Meeting of the Soil C&N Group is planned in Wageningen (Netherlands) on the 14th June 2014, prior to the Council Meeting of the GRA.

For more information or to find out who your in-country Alliance 'Soil C&N cycling cross-cutting Group' representative is, please contact the Alliance Secretariat (secretariat@globalresearchalliance.org) or visit www.globalresearchalliance.org.