



**Global Research Alliance
Cross-Cutting Activity soil C-N Cycles**

Led by FRANCE and AUSTRALIA

Summary report of the Orleans workshop (March 4 2011)

The first workshop of the cross cutting activity was held in Orleans (France) after the second senior officials meeting in Versailles (1-3 March 2011). At the senior officials meeting it was confirmed that the carbon and nitrogen (C&N) cycles will be an activity with specific objectives.

80 participants coming from 27 countries (out of 31 countries in the Alliance) attended the meeting in Orleans. This first workshop aimed at building a common set of objectives and work topics. The emphasis was on inter-comparison of models dedicated to quantifying greenhouse gases and evaluating agricultural mitigation options, and on sharing datasets in order to test and improve the models.

To do so, the meeting was prepared through (i) a stock-take, that was sent before the workshop to each participating country, to identify the C&N models and datasets that they are willing to share, and (ii) presentations by the three research groups (Cropland, Paddy soil, Livestock) defining their needs for the cross- cutting activity.

The workshop began with a presentation by Professor Pete Smith (Aberdeen University) on agro-ecosystems models and their use in modelling GHG emissions. Then results from the model and data stock take were reported by Dr. S. Recous and Dr S. Pellerin. Eleven countries sent their contribution before the workshop. During the discussion that followed, chaired by Dr JF Soussana, with inputs from the chairmen of the previous sessions and from participants, the objectives, methodologies and work plan for this activity were defined. Program and presentations are available on the official web site of the GRA (<http://som2011.globalresearchalliance.org/globalresearchalliance/Outcomes>).

In conclusion, the following short term and long term objectives were defined for the cross-cutting activity and linking research activities and stakeholders:

In the short term:

Broad stakeholder engagement: Input invited from all countries in order to define mitigation options that should be tested according to region. Mitigation outputs should be in the form of a note (or report?) written with the help of the three research groups. Communication with stakeholders could be through the ministries and agencies participating to the Alliance as well as the Alliance website.

Scientists: compare and combine models and data.

- Identify available data sets (on soil C, GHG emissions, soil-plant-atmosphere balance for N or C etc.) and models that could be shared.
- Define criteria and applicability, particularly how do models handle management options
- Identify missing data, particularly for some climatic/agricultural areas and set up appropriate collaborations to fill the gaps
- Decide of the preferred models and datasets that can be used by several countries (i) for inter-comparison of models, and (ii) for improvement of models.

This will be started by a “pilot” model-data inter-comparison workshop involving training, during the SOM2011 conference in Leuven (July 2011) (see below)

Representatives from several countries asked for additional time to fulfil the model and datasets stock-takes and they will be completed during the following weeks.

In the longer term:

The proposal is

- (i) to build a common modelling platform, accessible to all countries of the GRA, with a range of models that can be combined, with a common expertise in terms of applicability, uncertainty and range of mitigation options.
- (ii) To test mitigation options in different experimental contexts. The question is at what scale the mitigation options should be considered tested (farm or regional scales) ?

Two important objectives are also targeted:

- Capacity building at the Alliance level; cooperation between countries and scientific groups, for training on common models and data acquisition and methods.
- Clear definition of intellectual property (IP rights) within the GRA, necessary for sharing data and model parameters.

The next meeting of the C&N crosscutting group will be held on 13 & 14 July 2011, during the **SOM2011 conference** hosted by the KUL University of Leuven (Belgium) 11-14 July 2011 (see <http://ees.kuleuven.be/som2011/index.html>). The program of the 2nd GRA CN workshop will be soon online and sent to participants.