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ON AGRICULTURAL GREENHOUSE GASES

# CROPLANDS RESEARCH GROUP: Brazil Update



CRG representative: Ladislau Martin-  
Neto (Embrapa Instrumentação, São  
Carlos/SP, Brazil)

# Activities/Accomplishment since last meeting

- Closing of first period of **Brazilian Agricultural Low Carbon Plan 2010-2020 (ABC Plan)**, devoted to stimulate farmers' adoption of 6 eligible agricultural practices as: no-tillage, integrated crop-livestock-forest systems and agroforestry, biological nitrogen fixation, pasture recovery, planted forest and animal residues management. Financial stimulus is mainly lower loan interest rate (not subsidy).
- Mitigation of 170 Mi ton CO<sub>2eq</sub> (higher than goal proposed initially)

# Activities/Accomplishment since last meeting

- A new proposal of **Brazilian Agricultural Low Carbon Plan, period 2020-2030 (ABC+ Plan)**, was launched in 2021, by Ministry of Agriculture, Livestock and Food Supply (<https://www.gov.br/agricultura/pt-br>) with important enrolment of scientists of different institutions, including Embrapa and Agricultural Universities.
- The eligible 8 agricultural activities are: **no-tillage, integrated agricultural production systems (crop-livestock-forest systems and agroforestry), bioactive agricultural inputs, pasture recovery, planted forest, irrigated systems, intensive cattle production and animal residues management.**
- Mitigation Goal (2030) of **1.1 Bi ton CO<sub>2eq</sub> (72 Mi ha involved)**



# Activities/Accomplishment since last meeting

- **Portfolio of Climate Changes and Agriculture of Embrapa ([www.embrapa.br](http://www.embrapa.br)) :**
  - The general objective of the Climate Change Portfolio is to integrate RD&I actions by Embrapa and its partners in order to offer technical-scientific alternatives for the adaptation and sustainability of Brazilian agriculture in the face of the challenges imposed by climate change, contributing to national and global food security. and for the control of national emissions of greenhouse gases.
  - Current Status: **33 on-going projects** addressing subjects on mitigation, adaption and forecasting impacts in agriculture.
  - Realization of II World Congress on Integrated Crop-Livestock-Forest Systems, May 3-6, 2021 (was postponed from initial period of May, 2020). More than 500 participants with invited speakers, oral and poster presentations (220 posters were presented) (Embrapa Beef Cattle was the main Organizer of this Congress)

# Activities/Accomplishment since last meeting

- São Paulo State Research Support Foundation- FAPESP ([www.fapesp.br](http://www.fapesp.br)) – Funding Agency
- **Climate Change Program- Strategic Plan 2020-2030** was launched in 2021 with opportunities for international cooperation with many countries and international agencies, in themes of mutual interest.
- Main topics: **Energy Policy and Socio-economy, Climate and Environmental Modelling, Biodiversity and Ecosystems, Soil Land Use Changes and Agriculture, Urban Areas and Climate Change, Health and Climate Change, Social and Economical Aspects.**

# Activities/Accomplishment since last meeting

- **Approved Project by GRA**
- Project name: **Synergies in integrated systems: Improving carbon balance, resource use efficiency while mitigating greenhouse gas emissions through well-informed decisions about circularity (SENSE)**
- January 2022 – December 2024 (36 months)
- Project Coordinator and Institution: Dr. Jagadeesh Yeluripati, The James Hutton Institute, Scotland, UK),
- Name of individual and institution seeking GRA funds: **Dr. Beata Eموke Madari, Brazilian Agricultural Research Corporation – Embrapa (Rice and Bean Center), Brazil, (Seven research centers from Embrapa are joining the Project)**
- Total GRA funding: 71.500 (Seventy-one Thousand Five Hundred) Euros (fellowships, training, consumables and travel)

# Activities/Accomplishment since last meeting

- Growing interest of private corporations (companies, agricultural associations) regarding neutral carbon products and agricultural production systems
- Croplands, integrated systems (crop-livestock-forest), and livestock – current main interested
- Some current partners with project cooperation with Embrapa: Bayer (emphasis in crops production system), Brazilian Cotton Farmers Association, Nestle (milk), Marfrig (Brazilian meat industry), and others
- New partners interested in GHG mitigation and carbon market with support to soil carbon stocks, new analytical tools, life cycle assessment (LCA) and other topics

# Research and Capability Priorities

- *Research Opportunities: – identify research gaps or opportunities for the CRG and Networks to raise during the discussion session*
  1. Priority topic 1- Adaptation and resilience of agricultural production systems with higher economic impact and importance to food security using climate change scenarios.
  2. Priority topic 2- To establish a digital and integrated platform to large scale monitoring of C and N stocks and GHG emissions to relevant production agricultural systems
- *Capability Opportunities: – identify upcoming workshops and training or projects with potential for students*
  1. Priority 1- Digital Agriculture Opportunities Applied to Climate Change Context
  2. Priority 2- Challenges to Expand and Consolidate a Soil Carbon Credits Market



Thank you very much for your attention!  
Happy 2022!

[ladislau.martin@embrapa.br](mailto:ladislau.martin@embrapa.br)