

# Cross-Institute Programme for Sustainable Soil Function

## SoilCIP

Newsletter for June 2007



### Cross-Institute visits and links

#### *Visit to SCRI*

I visited SCRI on 28<sup>th</sup> and 29<sup>th</sup> June, last Thursday and Friday, and was very happy to have returned on Friday evening. The first day was for the annual summer meeting of the 'NPK Club' (no website for this, I'm afraid; the club links those in R&D with the fertiliser industry), but I spent some time on the second day talking to Peter Gregory, Tim Daniel and Paul Hallet from SCRI and Colin Campbell from Macaulay. The Directors of the Scottish MRPs have agreed with BBSRC that they can be Associate Members of Cross-Institute Programmes. This means that they will commit appropriate soils parts of their Science Plans and staff to SoilCIP (and MONOGRAM) but that I have no control over who or what is committed or of the finances. Peter Gregory, Director of SCRI, has promised a letter explaining this and the resources that he is prepared to commit to SoilCIP in a week or so; Colin Campbell hopes to do the same for Macaulay but needs his director's agreement. This represents a firm step forward for SoilCIP.

We noted four clear areas of scientific collaboration between the Scottish MRPs and SoilCIP: (1) existing work by Paul Hallet and our soil physicists examining the resilience of soil will be developed to study the impacts of plants and soil management on soil physical properties and how roots overcome restrictions on growth, and the impacts of heavy machinery on soil quality; (2) Phil Haygarth is developing a new initiative on the movement of organic P with Tim George at SCRI; (3) Tim Daniel will be talking to Penny Hirsch and Steve McGrath about mycorrhizal diversity on the Park Grass Experiment; (4) Colin Campbell will encourage Helaina Black and Lorna Dawson to talk to Phil Murray about food web modelling.

#### *Linda Dawson, Macaulay Land Use Research Institute*

Linda Dawson, Team Leader within the Soils Group at Macaulay visited Rothamsted on 4<sup>th</sup> and 5<sup>th</sup> June. She gave a seminar, describing her work on the impacts of land management on roots and root-soil interactions, and discussed areas of common interest with SoilCIP staff. As explained above, there are plenty of opportunities to collaborate with Lorna and her colleagues. Please let me know if you have ideas to develop links with her or others at Macaulay.

## **Barry Rawlins and Andy Tye, British Geological Survey**

Barry and Andy visited Rothamsted on 20<sup>th</sup> June and presented a seminar: 'Recent soil and regolith studies at the BGS' that summarised work from two projects in its 'Sustainable Soils Programme', details of which can be seen at:

<http://www.bgs.ac.uk/sustainablesoils/index.html>

## **Visit of Defra Soils Team**

On 7<sup>th</sup> June, Maya de Souza, team leader, Judith Stuart and Phil Goodliffe from Defra's Soils Team visited Rothamsted to hear about SoilCIP research. Sessions covered soil carbon and its management within Defra's Catchment Sensitive Farming programme, novel methods for measuring soil biological quality, the disposal of sewage sludge to land and micronutrients in soils and the food chain. We had a very useful day and have several leads to follow.

## **Phil Murray at BioRhiz**

Phil Murray gave an invited presentation on root herbivory at the 7th BioRhiz workshop in Hundested Denmark in early June. The workshop was held as part of an EU research training network, which is directed at integrating direct and indirect interactions in the rhizosphere. The objectives of the workshop were 1) to give an overview of the interactions existing in the surrounding of the roots, 2) to define consequences for the plant, and 3) how to model such interactions. The workshop was based around lectures given by the invited specialists with subsequent discussion groups. The specialists included a number of past collaborators including Phil, Lorna Dawson and Eric Patterson (Macaulay), Angela Hodge (York), Soren Christensen (Copenhagen), JB Cliquet (Caen) and Yakov Kusyakov (Bayreuth). In the discussions a number of interesting themes emerged which were relevant to the SoilCIP some of which we are already testing within the Highfield experiment. Plans were also tentatively made to work towards developing a further EU project which would involve the SoilCIP.

## **Gates Foundation**

The 'Bill and Melinda Gates Foundation' is described in Wikipedia as:

“ the largest transparently operated charitable foundation in the world, founded by Bill and Melinda Gates in 2000 and doubled in size by Warren Buffett in 2006. The primary aims of the foundation are, globally, to enhance healthcare and reduce extreme poverty, and, in the United States, to expand educational opportunities and access to information technology. The foundation, based in Seattle, Washington, is controlled by its three trustees: Bill Gates, Melinda Gates, and Warren Buffett. Other principal officers include Co-Chair William H. Gates, Sr. and Chief Executive Officer Patty Stonesifer. As of December 2006, it has an endowment of approximately US\$33 billion. “

More details can be found at:

<http://www.gatesfoundation.org/default.htm>

The Foundation is beginning a new initiative in Africa (AGRA – Alliance for Green Revolution in Africa) that will spend 100s of millions of dollars over 20 years and include a Soil Health programme. The first phase of this is a digital soil map of Africa being developed by the Earth Institute at Columbia University. Yvonne Pinto, who recently moved from the Gatsby Charitable Foundation into Gates, visited Rothamsted on 1<sup>st</sup> June to discuss our research, our long-term experiments, and current work on soil biology and soil health, and to consider whether this is relevant to the Foundations' plans for Africa. They are especially interested in legumes and soil biota.

In her e-mail following the meeting, Yvonne says:

“ Thank you very much for the time that you gave me on Friday, telling me more about your work at Rothamsted both in terms of soil microbial ecology and the Cross-institute Programme for sustainable Soil Function. It was extremely useful for me to run some of our ideas past you and to hear your thoughts and indeed to take on board the areas which you feel are critical and important within the African context....With your permission I hope to take another opportunity to come back to you with some more specific questions on some of these aspects. ...It is an exciting era for soils and I look forward to being more involved in a discipline which, at least in Africa, has been neglected for some time. “

I will keep you in touch with progress.

### **SoilCIP at 'Cereals'**

The SoilCIP project to review Defra's '*Fertiliser recommendations for agricultural and horticultural crops (RB209)*' was featured at the 'Cereals' agricultural show near Royston, Cambs, on 13<sup>th</sup> and 14<sup>th</sup> June:

<http://www.cerealsevent.org.uk/>

The focus was a questionnaire that gave users the chance to express their views on necessary changes. Questionnaires were available on the Home-Grown Cereals Authority, Kemira, Association of Independent Crop Consultants, Nutrient Management Centre and TAG (The Arable Group) stands as well as on the Rothamsted stand. Almost 300 questionnaires were completed and will be summarised over the next few weeks, with the results being posted on websites and possibly featured in 'Farmers Weekly'. Interviews and photocalls were given to 'Farmers Weekly' and 'Farmers Guardian' during the show, so watch out for articles.

Keith Goulding, 2<sup>nd</sup> July 2007