

# Update

January - March 2015 (No 22)

## Work in Progress

### New project funded by Chinese Ministry of Agriculture

Agro-Environment Protection Institute (AEPI) of Chinese Academy of Agricultural Sciences (CAAS) in partnership with Rothmsted Research and Scotland's Rural College (SRUC) won a grant from Chinese Ministry of Agriculture to work on “*Monitoring and Calculation of the Carbon Sequestration in Agricultural Field under Different Management and Demonstration the BPMs*”. The team will develop and applicate carbon sequestration monitoring and calculation system to quantify stocks and fluxes of carbon within key agro-field in China; and to assess known and develop best practices to optimise field management and maximize carbon sequestration in agricultural field. The project lasts for two years, started in January 2015, ends in December 2016. The project forms part of SAIN.

For further details f the project, contact Mr Xin Lai at: [laixin@foxmail.com](mailto:laixin@foxmail.com).

### SAIN project made good progresses

In late March, the UK and Chinese members of SAIN project “Knowledge, policy and practice for sustainable nutrient management and water resources protection in UK and Chinese agro-ecosystems” visited project sites in Xiangcheng and Yixing, Jiangsu province. During the visit, the team also engaged with farmers and local officials, and demonstrated the project achievements.

On 26<sup>th</sup> March, the project team hold a workshop in Suzhou. At the workshop, the team reviewed the progress of the nutrient footprint and discussed the survey results of farmers' behaviors and attitude of fertilizer use and environmental protection. The UK researchers also gave suggestions on sustainable agricultural development in Suzhou.

The project team agreed to hold the final workshop at the end of this year.

This project is leaded by Prof Laurence Smith of SOAS in London, and Prof Ren Tianzhi of AEPI in Tianjin. The objective of the project is to develop the sustainable agriculture to reduce non-point resource pollution in UK and China based on the nutrient management, policies comparison and screening.



## UK-China Sustainable Agriculture Innovation Network (SAIN)

### Publications

A research paper has been recently published in an international journal by Xiangping Jia et al. This new publication forms part of the output of SAIN project “Improved Nutrient Management in Agriculture – a Key Contribution to the Low Carbon Economy”, funded by the UK’s Foreign and Commonwealth Office and China’s Ministry of Agriculture.

Xiangping Jia, Jikun Huang, Cheng Xiang, and David Powlson, **Reducing Excessive Nitrogen Use in Chinese Wheat Production Through Knowledge Training: What Are the Implications for the Public Extension System?** *Agroecology and Sustainable Food Systems*, 39:189–208, 2015. DOI: 10.1080/21683565.2014.967436

#### *Abstract*

Excessive use of nitrogen fertilizer in crop production in China leads to environmental problems, and farmers’ lack of knowledge is the primary constraint. The public extension system, however, lacks the accountability and capability to deliver ecoagricultural extension services to farmers. Previous studies show that extension staff had little incentive to deliver extension services because they were overwhelmed by assigned non-extension activities. By applying a combined incentive scheme of cash rewards and political motivation on extension agents from 2009 to 2010, we found that knowledge training effectively reduced nitrogen use by 7% with no impact on yields in wheat production in two locations in Shandong Province, a major grain production region in north China. As such, improving nitrogen management has a great potential for a low-carbon agriculture in China and should be included into the extension program. However, the effectiveness of the training depends largely on the institutional capacity of the local extension system, which varies by region. In counties where extension employees were overwhelmed by assisting township administrations, a pure economic incentive without a long-term commitment was not effective. In the future, China faces challenges with delivering low carbon technologies through the existing agricultural extension system.

### News from SAIN members

#### Prof Dave Chadwick won CAS Fellowship



Prof Dave Chadwick (Bangor University, and co-chair of the SAIN Working Group on Nutrient Management) has recently been awarded a Presidents’ International Fellowship Initiative (PIFI) with the Institute of Sub-Tropical Agriculture (ISA), Chinese Academy of Sciences, Changsha. He is working with the group of Professor Jinshui Wu and Prof Tida Ge on understanding the processes affecting emissions of greenhouse gases from agricultural soils, and testing strategies to reduce these.

Dave is also working with Prof Chen Qing (China Agriculture University, CAU) and VOTO Biotech Ltd. (Beijing), and two other European experts (Prof Sven Sommer [Denmark] and Prof Pilar Bernal [Spain]), to determine how nutrients can be better retained during the composting of biosolids.

*For more information about SAIN, please visit: <http://www.sainonline.org/English.html>*

*If you have any further enquiries, please contact Yuelai Lu at: [y.lu@uea.ac.uk](mailto:y.lu@uea.ac.uk)*