CA-CoP CONSERVATION AGRICULTURE COMMUNITY OF PRACTICE

for sustainable production intensification

Alert No. 17 (12 August 2011)

1. 5th World Congress of Conservation Agriculture *incorporating* 3rd Farming Systems Design Conference, 26-29th September 2011 Brisbane Australia

The 5th WCCA website is online at http://www.wcca2011.org/ Australia, host for the 5th WCCA and 3rd FSD, welcomes scientists and practitioners to Brisbane to discuss current and future developments of sustainable agriculture next year. Conference program options and tours will cater for different interest groups, and take advantage of Brisbane's proximity to intensive, extensive and sub-tropical farming, as well as to world leading research groups and facilities. All inquiries regarding condensed papers for 5th World Congress on Conservation Agriculture *incorporating* 3rd Farming System Design Conference should be emailed to infowcca5@icmsaust.com.au.

2. 11th Cerrado No-Till Meeting on Low Carbon Agriculture, and 2nd International Symposium on No-Till and the Environment: Environmental Services of the No-Till System, 23 to 25 August 2011, Uberlandia, Brazil

According to the brochure, the first of the twin events is the 11th Cerrado No-Till Meeting, combining the creativity of our farmers with the science of researchers and technicians, added to the entrepreneurship of agro-industry, to continually improve No-Till related technology. The meeting will be discussing sustainable alternatives in this complex environment, the Cerrado (Brazil's tropical savanna region), which is most important agricultural frontier. Land use intensification in this region, which is a necessity to reduce the demand for new land clearing, means harmonizing the different technical potentials to achieve viable alternatives for the farmers. The meeting is also considered a preparatory event for the 5th WCCA in Brisbane.

3. Agriculture 2050 Starts Here and Now. Produced by Institute for Sustainable Agriculture (IAD), France

This document written by IAD (Institute for Sustainable Agriculture) forms a working and discussion basis on the potential of agriculture to produce ecological services and provide its goods for society. The innovations, models and results presented are taken from the indicator scorecard developed by IAD and tested on over 160 farms with a wide variety of productions. The document can be downloaded here.

4. Kassam et al. (2011). Production Systems for Sustainable Intensification, Integrating Productivity with Ecosystem Services; Technikfolgenabschätzung – Theorie und Praxis vol. 20, no. 2, July 2011

At present, the predominant form of agriculture is based on the *interventionist* approach, in which most aspects of the production system are controlled by technological interventions (such as soil tilling, curative pest and weed control with agrochemicals) and the application of

synthetic mineral fertilisers for plant nutrition. However, there are now many production systems with a predominantly *ecosystem* approach, underpinned by healthy soils, and characterised as "Conservation Agriculture", that are not only effective in producing food and other raw materials economically, but also more sustainable in terms of environmental impacts. Their further development and spread merit deeper support with the development of suitable policies, funding, research, technologies, knowledge-diffusion, and institutional arrangements. For the **full journal** volume click here, for the specific paper on Sustainable Intensification click here.

5. CIMMYT (2011). Practicing conservation agriculture in South Asia. Informa No. 1755, July 2011

The diversity and progress of Conservation Agriculture (CA) was emphasized during a regional training course at Punjab Agricultural University (PAU), Ludhiana, India during 28 June–11 July 2011, which was organized in partnership with the Cereal Systems Initiative for South Asia (CSISA) and PAU. Read more details here.

6. Wang et al. (2011) Why is China's Blue Revolution so "Blue"? The determinants of conservation tillage in China. Journal of Soil and Water Conservation, 65(2):113-129 (doi:10.2489/jswc.65.2.113)

In response to problems associated with traditional tillage, over the past two decades, Conservation Agriculture (CA) has gradually emerged, and its adoption is becoming so widespread and benefits so great that it is being called the technology behind a new Blue Revolution. Please note that in this paper the definition used for CA is not in line with the official FAO definition, which in China has specific historic reasons; but the general understanding in the paper does reflect CA. The full paper can be downloaded here.

7. Rusinamhodzi et al. (2011). A meta-analysis of long-term effects of conservation agriculture on maize grain yield under rain-fed conditions. Agronomy for Sustainable Development. pp. 1-17. (http://dx.doi.org/10.1007/s13593-011-0040-2)

Please note that despite the title, this paper is not strictly on CA. Already in the first sentence it uses an own definition of Conservation Agriculture (CA). With regards to the no-tillage component of CA, it includes reduced tillage. It defines no-tillage/reduced tillage as NT and describes it as: "practice of minimizing soil disturbance, ranges from reducing the number of tillage passes, tillage depth or stopping tillage completely. Weed control is accomplished primarily with herbicides." The paper is circulated to the CA-CoP listserv to alert the members of the wrong use of the term Conservation Agriculture and the confusing messages which this can produce in scientific literature. The paper can be downloaded here.

8. Green Manure/Cover Crops and Crop Rotation in Conservation Agriculture on Small Farms by Miguel Angel Florentin, Marcos Penalva, Ademir Calegari and Rolf Derpsch. Integrated Crop Management Vol. 12 2010. FAO, Rome

The objective of this publication is to offer a reference material on the topic. The publication strives to facilitate the adoption and diffusion of no-tillage, the use of green manures and the practice of crop rotation on small farms. The publication describes the principles of species of green manures and, at the same time, informs in detail how to insert green manures into small

farm production systems according to soil fertility and major crops. It also deals with residual effect of green manures on main crops and analyses the economic implications of these practices. The document can be downloaded here.

9. An international consultation on integrated crop-livestock systems for development. Integrated Crop Management Vol. 13 2010. FAO, Rome

This publication is the proceedings of a consultation held at EMBRAPA, Brazil in March 2010. It was sponsored by FAO, IFAD, IICA and EMBRAPA and organised in collaboration with international stakeholders including CGIAR Centres. A new kind of sustainable intensified agriculture based on CA is emerging and new production systems often also include trees grown as hedge rows to control grazing and provide habitats and fuel, or include trees as strip crops with annual crops rotated in adjacent strips. Trees in crop-livestock systems often add significant synergistic values. Innovations that can strengthen the multi-dimensional role of integrated crop-livestock-trees systems and their resilience are taking place and there is a need to share this knowledge more efficiently and to build jointly owned research and development programmes to achieve critical mass of expertise and financial resources focused on helping farmers in major agro-ecologies. Report is available here.

10. FAO presents new book "Save and Grow" to Conference delegations

Released on 13 June, "**Save and Grow**" describes the challenges facing farmers in the decades ahead, including climate change, declining productivity of cropland and growing competition for land, water and energy. It offers a practical toolkit of farming systems, technologies and practices – such as conservation agriculture, integrated pest management, and deficit irrigation – that conserve natural resources while increasing productivity. It also explores the policies and institutions needed to achieve sustainable intensification. For more on "**Save and Grow**", see: http://www.fao.org/ag/save-and-grow/

11. No-Till Farming Systems Book can be Translated into any Language

The No-Till Farming Systems that WASWAC had published in 2008. If any country wants to translate to any other language, just let WASWAC know and they will cooperate by granting permission without any fee and will furnish original photographs in addition too. The book contains no-tillage experience from about 20 countries. Contact: Dr. Samran Sombatpanit at: sombatpanit@yahoo.com or samran_sombatpanit@yahoo.com

12. Updating CA Data Base in AquaStat, FAO

We are updating the CA land area data base displayed in AquaStat (www.fao.org/ag/ca), and we have been contacting our regular sources of information. However, anyone who would like to provide information on the land area under CA systems at the national level would be most welcome. Ideally, we would appreciate receiving the CA area information at the sub-national level, together with any relevant historical information on adoption, cropping pattern, farm size, agro-ecology, constraints, etc.

For the recording please adhere to the quantification of the CA definition on the FAO-CA website: http://www.fao.org/ag/ca/6c.html

1. Minimum Soil Disturbance: Minimum soil disturbance refers to low disturbance no-tillage and direct seeding. The disturbed area must be less than 15 cm wide or less than 25% of the cropped area (whichever is lower). There should be no periodic tillage that disturbs a greater area than the aforementioned limits. Strip tillage is allowed if the disturbed area is less than the set limits.
2. Organic soil cover: Three categories are distinguished: 30-60%, >60-90% and >90% ground cover, measured immediately after the direct seeding operation. Area with less than 30% cover is not considered as CA.
3. Crop rotation/association: Rotation/association should involve at least 3 different crops. However, repetitive wheat or maize cropping is not an exclusion factor for the purpose of this data collection, but rotation/association is recorded where practiced.

We would further like to stress that the database counts actual land area under annual crops with CA (permanent no-till). Area under perennial crops will be recorded separately. No-till area by crop will not be recorded to avoid double recording of the same land area.

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Save and Grow
Sustainable Crop Production Intensification