

**Alert No. 16 (25 June 2011)**

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

The 5<sup>th</sup> WCCA website is online at <http://www.wcca2011.org/> Australia, host for the 5<sup>th</sup> WCCA and 3<sup>rd</sup> 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](mailto:infowcca5@icmsaust.com.au).

**2. State and Trends of the Carbon Market 2011 by Nicholas Lincre, Alexandre Kossoy and Philippe Ambrosi (2011). Environment Department, World Bank, Washington D.C.**

With the goal of providing a comprehensive discussion of the issues that most affected the carbon market in 2010, the authors of last year's report have restructured *State and Trends of the Carbon Market* for 2011. The report still provides an overview of the size and reach of the carbon markets, as well as the evolution of the Kyoto flexibility mechanisms, and offers potential supply/demand scenarios for coming years. However, it no longer includes a detailed breakdown of carbon transactions, as in previous years. Instead, the report provides a more in-depth analytical discussion of the regulation and policy issues that will guide future carbon market development. [Click here for full report.](#)

**3. Challenging Balance between Productivity and Environmental Quality: Tillage Impacts, by D.C. Reicosky, T.J. Sauer and J.L. Hatfield. In: Soil Management: Building a Stable Base for Agriculture (2011). Chapter 2. American Society of Agronomy.**

The increasing pressure to provide food security, enhance environmental quality, and address societal problems creates challenges for agriculture and requires changing current agriculture practices to become more sustainable. The need to change agriculture is outlined in the above paper which is Chapter 2 of a new book from the American Society of Agronomy, *Soil Management: Building a Stable Base for Agriculture*. The concluding sections states: "There is compelling evidence that intensive tillage of our agricultural landscapes is responsible for environmental degradation in our agricultural ecosystems. To conserve resources for future generations, we need alternatives to conventional farming practices. No-till systems simultaneously reduce the erosive force of runoff and increase the ability to hold soil in place,

making these methods remarkably effective at curbing erosion. Although the effect of no-till on erosion rates depends on a number of site-specific factors, such as the soil type and crop, less intensive tillage can decrease soil erosion rates close to soil formation rates. There's a definite need for improved best management practices that lead to decreased tillage intensity and improved plant management techniques for capturing solar energy in the form of photosynthesis and for returning nutrients and carbon to the soil. While our society has a tremendous need for bioenergy from biomass, caution is suggested until the long-term research implications of biomass and carbon removal on our food security are understood.” [Click here for the article.](#)

#### **4. 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/>

#### **5. Foresight. The Future of Food and Farming (2011). The Government Office for Science, London.**

This publication is intended for policy makers and a wide range of professionals and researchers whose interests relate to all aspects of the global food system: including governance at all scales, food production and processing, the supply chain, and also consumer attitudes and demand. It is also relevant to policy makers and others with an interest in areas that interact with the food system, for example: climate change mitigation, energy and water competition, and land use. Full report available at: <http://www.bis.gov.uk/assets/bispartners/foresight/docs/food-and-farming/11-546-future-of-food-and-farming-report.pdf>

#### **6. 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. Report will soon be placed at: <http://www.fao.org/ag/ca/8.html>

#### **7. No-till, rotation can limit greenhouse gas emissions from farm fields**

WEST LAFAYETTE, Ind. - Using no-till and corn-soybean rotation practices in farm fields can significantly reduce field emissions of the greenhouse gas nitrous oxide, according to a Purdue University study. Tony Vyn, a professor of agronomy, found that no-till reduces nitrous oxide emissions by 57 percent over chisel tilling, which mixes crop residue into surface soil, and 40 percent over moldboard tilling, which completely inverts soil as well as the majority of surface residue. More at:

<http://www.purdue.edu/newsroom/research/2010/101220VynNitrous.html>

**8. A Research Agenda to Explore the Role of Conservation Agriculture in African Smallholder Farming Systems, by K. Giller *et al.* *Field Crops Research* (2011), pp. 1-5. [Full article.](#)**

**9. Aqua-Till-Seeding without Soil Engagement by Greg Butler, SANTFA R&D. *The No-Till Journal* Vo 18 No 2. Autumn Edition - April 2011**

Ultra High Pressure (UHP) water jets are one of the world's fastest growing categories of industrial tools and are now used by a vast number of industry sectors to cut everything from pavlova to titanium. In agriculture we are almost constantly cutting something, whether it's slashing weeds, slicing stubbles, opening soils, cutting hay, reaping crops or chopping straw. SANTFA has been investigating the potential for use of UHP tools in sustainable farming systems and there are some very interesting and potentially advantageous applications on the horizon. [Click here for more on Aqua-Till-Seeding.](#)

**10. Understanding and improving African farming- Conservation Agriculture in Africa by Marc Corbeels and Tom Apina. *International Innovation* (2011). [Click here for the article.](#)**

**11. FFS Facilitator's Guide for Conservation Agriculture for use in Southern and East Africa by CARE International**

CARE International is developing a FFS facilitator's guide for Conservation Agriculture for use in Southern and East Africa and is asking CA practitioners for examples of current CA training manuals. The FFS Facilitator's guide will likely be based on major crops (maize, sorghum, cassava) and be freely available to the public. Please send all correspondence to either Peter Tilley ([PTilley@ecarmu.care.org](mailto:PTilley@ecarmu.care.org)) and/or Kevin Kamp ([KKamp@care.org](mailto:KKamp@care.org)).

**12. 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](mailto:sombatpanit@yahoo.com) or [samran\\_sombatpanit@yahoo.com](mailto:samran_sombatpanit@yahoo.com)

## 10. Updating CA Data Base in AquaStat, FAO

We are updating the CA land area data base displayed in AquaStat ([www.fao.org/ag/ca](http://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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