

**Alert No. 18 (8 November 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 papers, workshop reports and PowerPoint presentations are now available online at: [aciar.gov.au/WCCApapers](http://aciar.gov.au/WCCApapers) The 5<sup>th</sup> WCCA website is online at: <http://www.wcca2011.org/>

**2. The two wheel tractor ARC Gongli zero tillage seed drill.**

Small holder farmers world-wide who use two wheel tractors as their primary traction unit have until now been unable to locate or purchase a simple and affordable seed drill suitable for conservation agriculture and also traditional farming systems.

After some years of research and development a prototype of a new zero tillage seed drill was demonstrated at WCCA5 in Australia. The ARC Gongli zero tillage seed drill to suit two wheel tractor is the result of collaborative effort by ACIAR (Australian Centre for International Agricultural Research), BARI (Bangladesh Agricultural Research Institute), CIMMYT Bangladesh, Rogro Farm machinery of Australia, Murdoch University of Western Australia, China Agricultural University of Beijing, PR China, and R. Jeff Esdaile, an Australian Agricultural Consultant.

This seed drill is now being commercially produced by Shandong Yuncheng Gongli Farm Machinery Co. of PR China, and is available for under \$US500 each ex-factory Shandong province PR China. These seed drills fit both Chinese made (Dong Feng, Sifang) two wheel tractors as well as Thai made (Siam Kubota) units.

[The seed drill is described in the attached brochure.](#) It has already been extensively tested in Bangladesh and Cambodia. Contact details are on the last page of the brochure. However if you have difficulty contacting the Chinese manufacturer (there are no English speakers on staff there yet) please contact the co-ordinator of the project,

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### **3. Hand operated Li Seeder for direct no-till seeding**

[Li Seeder](#) is a hand operated direct seeder designed by Conservation Tillage Research Centre, College of Engineering, China Agricultural University, Beijing and Yunfan Machinery Manufacturing Co., LTD, Qingyuan County, Liaoning Province, China. It sows seeds (of cereals, legumes etc) and applies fertilizer simultaneously; it is easy to operate, and the process of sowing is visible and the quantity of sowing done is monitored.

### **4. Australia: Draft regulation on emissions registry for carbon scheme released.**

Australia is moving with the momentum of the recent yes vote for the Labour government's carbon legislation in parliament. The nation also saw the release of draft guidelines (<http://www.climate-connect.co.uk/Home/?q=node/1422>) for a registry that would track the country's domestically generated Australian Carbon Credit Units (ACCUs), along with other credits - including those generated under the Carbon Farming Initiative. Australia's voluntary market, coordinated by Low Carbon Australia, also released an updated, revamped version of its Carbon Offset Guide.

### **5. For Spanish Speakers (English translation planned): Manejo Forestal y Agricultura de Conservación Experiencias de pequeños productores en la Región Oriental de Paraguay Proyecto Manejo Sostenible de Recursos Naturales MAG – GIZ – KfW Enero 2011.**

[Documento elaborado](#) en el marco del Proyecto Manejo Sostenible de Recursos Naturales (PMRN) del Ministerio de Agricultura y Ganadería (MAG) con el apoyo de la Cooperación Técnica y Financiera de Alemania (GIZ, KfW): Manejo Forestal y Agricultura de Conservación, Experiencias de pequeños productores de la Región Oriental de Paraguay. Autores: Paul Borsy, Rafael Gadea, Esteban Vera Sosa, Técnicos y Coordinadores del Proyecto. Enero 2011

### **6. Tailoring conservation agriculture technologies to West Africa semi-arid zones: Building on traditional local practices for soil restoration by Rabah Lahmar, Babou André Bationo, Nomaou Dan Lamso, Yadjji Guéro, Pablo Tittonell. *Field Crops Research*, 2011. doi:10.1016/j.fcr.2011.09.013**

### **7. Enhancing Crop Productivity via Weed Suppression in Organic No-Till Cropping Systems in Santa Catarina, Brazil by Miguel A. Altieri, Marcos A. Lana, Henrique V. Bittencourt, André S. Kieling, Jucinei J. Comin, Paulo E. Lovato. *Journal of Sustainable Agriculture*, 35:1–15, 2011. DOI: 10.1080/10440046.2011.588998**

### **8. Conservation agriculture with trees in the West African Sahel – a review by Jules Bayala, Antoine Kalinganire, Zac Tchoundjeu, Fergus Sinclair, Dennis Garrity. *World Agroforestry Centre Occasional Paper 14*, 2011.**

### **9. Earthworms promote the reduction of Fusarium biomass and deoxynivalenol content in wheat straw under field conditions by Friederike Wolfarth, Stefan Schrader, Elisabeth Oldenburg, Joachim Weinert, Joachim Brunotte. *Soil Biology & Biochemistry* 43:1858-1865, 2011.**

10. **Conservation Agriculture Programmes in Malawi: Impacts and Lessons** by H. R. Mloza-Banda and S. J. Nanthambwe. National Conservation Agriculture Task Force Secretariat, Land Resources Conservation Department, P.O. Box 30291, Lilongwe 3, Malawi, 2010.
11. **Comparative performance of conservation agriculture and current smallholder farming practices in semi-arid Zimbabwe** by Frédéric Baudron, Pablo Tittone, Marc Corbeels, Philippe Letourmy, Ken E. Giller. *Field Crops Research*, 2011. doi:10.1016/j.fcr.2011.09.008
12. **The effect of tillage, crop rotation and residue management on maize and wheat growth and development evaluated with an optical sensor.** Verhulst, N., Govaerts, B., Nelissen, V., Sayre, K.D., Crossa, J., Raes, D., Deckers, J. *Field Crops Research* 120(1):58-67, 2011. doi:10.1016/j.fcr.2010.08.012
13. **The use of the marasha ard plough for conservation agriculture in Northern Ethiopia.** Nyssen, J., Govaerts, B., Tesfay Araya, Cornelis, W.M., Bauer, H., Mitiku Haile, Sayre, K., Deckers, J. *Agronomy for Sustainable Development* 31:287-297, 2011. <http://dx.doi.org/10.1051/agro/2010014>
14. **Effects of conservation agriculture on runoff, soil loss and crop yield under rain fed conditions in Tigray, Northern Ethiopia.** Tesfay Araya, Cornelis, W.M., Nyssen, J., Govaerts, B., Bauer, H., Tewodros Gebregziabher, Tigist Oicha, Raes, D., Sayre, K.D., Mitiku Haile, Deckers, J. *Soil use and management* 27(3):404-414, 2011. <http://onlinelibrary.wiley.com/doi/10.1111/j.1475-2743.2011.00347.x/full>
15. **Wheat yield and tillage-straw management system year interaction explained by climatic co-variables for an irrigated bed planting system in northwestern Mexico.** Verhulst, N., Sayre, K.D., Vargas, M., Crossa, J., Deckers, J., Raes, D. Govaerts, B. *Field Crops Research* 124(3):347-356, 2011. doi:10.1016/j.fcr.2011.07.002
16. **Long-term C-CO<sub>2</sub> emissions and carbon crop residue mineralization in an oxisol under different tillage and crop rotation systems** by Ben-Hur Costa de Campos, Telmo Jorge Carneiro Amado, Carlos Gustavo Tornquist, Rodrigo da Silveira Nicoloso, Jackson Ernani Fiorin. *R. Bras. Ci. Solo*, 35:819-832, 2011.
17. **Carbon stock and its compartments in a subtropical oxisol under long-term tillage and crop rotation systems** by Ben-Hur Costa de Campos, Telmo Jorge Carneiro Amado, Cimélio Bayer, Rodrigo da Silveira Nicoloso, Jackson Ernani Fiorin. *R. Bras. Ci. Solo*, 35:805-817, 2011.
18. **Up-dating CA Data Base in AquaStat, FAO.**

The CA land area data base has now been updated based on the feedback received from our regular sources of information and will be posted in AquaStat (<http://www.fao.org/ag/ca/6c.html>). However, updating of the data base is an ongoing process, and anyone who would like to provide information on the land area under CA systems at the national level is most welcome to do anytime. 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 of area under CA, 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:*** Rotations/associations 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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