

TWO WHEEL TRACTOR NEWSLETTER OCTOBER 2011

As you may know the 5th World Congress on Conservation Agriculture (WCCA5) was held in Brisbane Australia, in late September. Over 500 delegates from over 50 countries attended. A mid week field day was also held on Wednesday of the conference at the Gatton Research Station – a large research and teaching facility of the University of Queensland, 90 km. west of Brisbane.

There were quite a few exhibitors of various items of conservation farming equipment, including seed drills, spraying equipment, controlled traffic gear, remote sensing etc. etc.

The ACIAR-Rogro two wheel tractor tined seed drill had several field demonstrations during the day and attracted a lot of interest. The modified 2BG-6A strip till drill was also on show, as a static display, along with various soil engaging tools that will fit the tined seed drill.

The demonstration field had a recent history of a flood over it in December 2010, partly submerging a growing grain sorghum crop, which was later harvested in April 2011. Wheat had been direct drilled into the sorghum in April 2011, and sprayed out in early September. The winter had been dry.



The pictures above show the conditions. The soil was dry and very hard on the top, with large clods. There was moist soil under the clods at about 8-10 cm below the surface. There were considerable residues of both sorghum and wheat on the field

The seed drill was initially tried with three tines, and the 2WT could handle the conditions, but with great difficulty, and some wheel slip. The residue conditions were also challenging. However the wheat and sorghum stubble was just clearing the seed drill. The press wheels were not doing a proper job due to the large dry clods.

After several passes, we decided to reduce the tine number to two, and also adjust the depth and levelling settings. The seed drill could then handle the conditions well, and when delegates dug into the soil behind the drill, we noted that the tines had been penetrating adequately into the moist soil, even though it was up to 10cm from the surface.



A section of 50mm round PVC tube was fitted to the right hand tine, (as shown in the pictures). This greatly improved the residue handling ability of the seed drill. There was little wrapping of residue around the modified tine compared to the normal tine, and the flow through the machine was greatly improved. This simple option could assist in the operation of tined drills with 2WT in conditions where residues are nearly too dense for the seed drill to operate.



I had many informative discussions with delegates from many countries. Prototypes of various disc openers that are in the process of development for the 2WT seed drill were also shown and discussed.

The seed drill demonstrated at WCCA5 is the initial prototype upon which the ARC Gongli two wheel tractor zero tillage seed drill is based. This Chinese manufactured seed drill is now in commercial production.



The ACIAR-Rogro modified 2BG-6A rotary strip tillage unit was also on display, but as a static display only. This unit is the basis of further research and development by Abdul Matin (currently with Jack Desbiolles at University of South Australia) and Enamul Haque if IDE. (an NGO in Bangladesh). Enam was until recently with CIMMYT Bangladesh on CA programs in that country.

The two wheel tractor project has recently received some more publicity – this time from the latest issue of ‘Partners’ magazine. This is a quarterly publication from the Australian Centre for International Agricultural Research
http://aciarc.gov.au/files/node/14028/lifelong_passion_fuels_productivity_lift_12322.pdf
ACIAR have been the main funding organisation for the two wheel tractor project.

There has been quite a deal of interest in the ARC Gongli zero tillage seed drill (see attachment in next email). Things are looking good for this implement. The CIRAD Group in Laos are keen to give the drill a good try out in cooperation with their Lao colleagues.

I have also had contact with a guy from Thailand who is also keen to set up a sales network for Thailand and Laos for the ARC Gongli. However he is initially importing one unit, and will try the drill out in a small farm situation in Thailand.

Gongli have submitted the seed drill to the Chinese Farm Implement Testing and Registration Authority. Once approval is received, the seed drill can then be sold locally as well.

The latest indicative price for the ARC Gongli zero tillage seed drill is under \$US400 each (ex factory). I would never have thought that this seed drill could be so affordable.

As soon as the various research papers from WCCA5 regarding conservation farming with 2WT are posted on their website, and are available on Internet, I will inform all on the mailing list.