

TWO WHEEL TRACTOR NEWSLETTER _ AUGUST 2015.

ARC Gongli seed drill now being assessed in Myanmar (Burma)

Craig Birchall, a lecturer at University of New England, Armidale, Australia, is associated with a project involving small farm mechanisation in Myanmar. This is mainly concentrated on two wheel tractors as the traction unit.

A Yangon based NGO, Welthungerhilfe Htain Tabin, introduced the first ARC Gongli seed drill into Myanmar in February 2015, to be used to sow post monsoon mung bean directly into rice stubble. Unfortunately, the unit did not arrive in time for the mung bean planting, but the farmer was keen to use it to sow rice into paddy conditions in May.

Modifications carried out for sowing rice into flooded paddy (see picture)

The 2WT rubber wheels were replaced by steel cage wheels to get traction in the mud. Spacers were fitted to shift the wheels outside of the Gongli frame to avoid contact with the frame. A single jockey wheel replaced the press wheels to keep frame level, and allow the operator to be seated. The tynes were removed as the sowing boots blocked with mud and seed. The plastic sowing tubes were tied to the frame, and the seed was allowed to drop from 30cm above soil level.



ARC Gongli planter showing cage wheels on 2WT, single depth control wheel and seat, and seed drop tubes tied 30cm above ground level on left side of planter.

Some of the problems included:

- Pre-germinated rice seed (2 days) was used which had 1-2cm long primary roots. These seeds did not flow easily, and blocked the seed metering rollers, and also the sowing boots (before tynes were removed). We suggested soaking the seed for a shorter period (one day or less) so the primary roots were much shorter.

- The diesel engine vibration and high drop height meant that the seed was scattered widely, and the plant rows were poorly defined. We suggested that the farmer attach lengths of metal angle iron, or plastic tube, to the front bar of the frame, and allow the other end drag in the mud. The sowing tubes could then be attached to the down tubes/pipes, allowing the seed to be sown in neat rows. It may need to have a rope attached to lift the pipes while turning the machine. We also suggested using the fertiliser boxes as extra seed boxes, so that up to 8 rows could be sown at once. (also note picture of band seeder following)

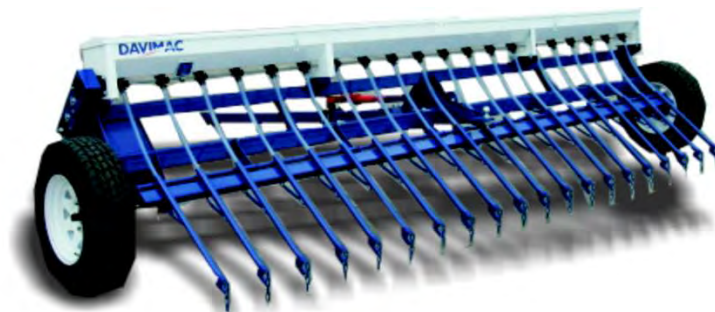


Rice crop sown with Gongli planter. The farmer would like closer rows, and less seed scatter.

What comes next?

The farmer is keen to continue using the ARC Gongli planter, and will be sowing more rice during the monsoon season. He will also change back to the tyne and press wheel arrangement, and do a trial sowing of mung bean directly into rice stubble.

Four more Gongli planters are being imported in August/September as part of an ACIAR funded development project. They will be used in the sandy soils of the central dry zone, for use in dryland cropping of peanuts, mung beans, chickpeas and sesame. An update will be provided later in the year.



This is an example of an Australian band seeder used for sowing pasture, showing the seed delivery pipes used to create shallow furrows and guide the seed into the soil. A similar idea may work well for rice planting in wet paddy soils.

For further information please contact Craig Birchall at University of New England, Armidale, NSW Australia. Email cbirchal@une.edu.au

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Some Interesting Optional Extras and attachments now Available for Chinese Two wheel tractor. (Pictures taken by CIMMYT staff on recent study tour of Chinese farm implement factories)



Two views of a hydraulic pump assembly, fitted to the transmission of a DF-12 2WT. This can be used to power a hydraulically operated tip trailer, or other hydraulic implement.



What about this?
CIMMYT small farm mechanisation specialist Scott Justice seemed intrigued by this 2WT powered transport vehicle. Is it a new type of Tuk-Tuk'?



This appears to be a two row maize planter which has a set-up with wavy coulters, followed by tine openers for fertiliser, and double disc openers for the seed. A vertical spoon seed meter is used. Finally press wheels are attached at the rear. *(My guess is that lots of extra weight will be necessary – Ed.)*



This is a similar unit – this time in a single row configuration.



One is at a loss to explain this one. Is it some sort of powered one way disc plow? In my opinion it is certainly not suited to conservation farming applications.

If you have any comment on this newsletter, please let us know.

Back issues of the 2WT Newsletter can be found at

[:http://conservationagriculture.mannlib.cornell.edu/pages/resources/twowheel.html](http://conservationagriculture.mannlib.cornell.edu/pages/resources/twowheel.html)

Note: This newsletter has been sent in a low resolution pdf. format for those on slow internet connections. If you require the newsletter or parts of it in higher resolution please let me know.

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