# Two Wheel Tractor newsletter January/February 2012

Welcome to all for what we hope will be another year of significant progress with the progress of conservation farming implements to suit 2WT as well as the continuing development of the associated farming systems.

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As some of you may know, Peter Hobbs of Cornell University in USA operates a conservation agriculture website, giving all of the basics for CA as well as latest developments.
It is at:
http://conservationagriculture.mannlib.cornell.edu/

Peter spent many years in South Asia, and is familiar with smallholder agriculture and two wheel tractors.

Some of the recent discussions on seed drills for 2WT have been quite interesting and informative. Peter and some of his students are now picking up some of the items in these discussions, and will be posting them on the website. Some back issues of the 2WT newsletter are also on this website

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The paper by Professor Rashad Hegasy of the Ag. Eng. Dept. of KFS University, Egypt on the use of a 'power driven residue manager' in no tillage has now been published, and the text is at:
http://www.cigrjournal.org/index.php/Ejounral/article/viewFile/1641/1432
This interesting concept was mentioned in the discussions after the December 2011 2WT newsletter.
Prof. Hegasy is at rashad.hegazy@agr.kfs.edu.eg

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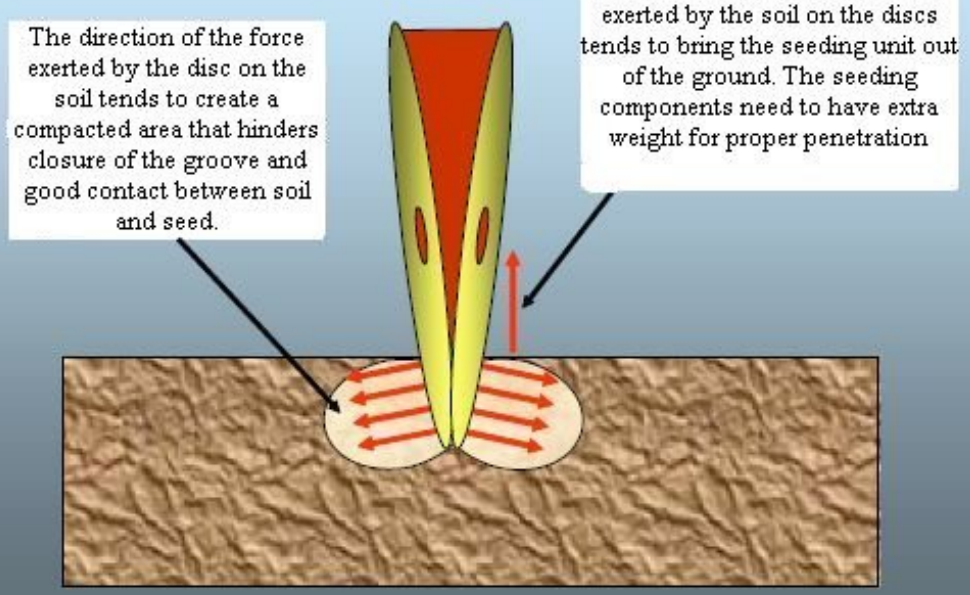
Others have told me of an excellent article entitled 'A no-till planter for small innovative mechanization and animal traction' by
B. Vadon,(FERT) M. Raguin (AFDI) and A.Marionneau (CEMAGREF)

These French Research workers have been working on no till planters for animal traction in West Africa. (Mali). They are principally investigating angled single disc openers, which are 'pushed' rather than 'pulled'.

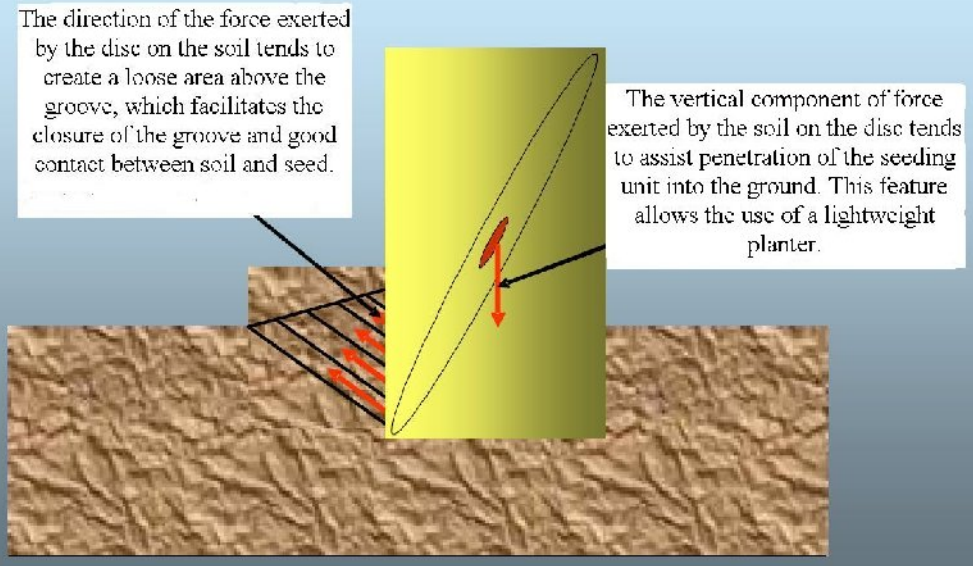
Have a look at:
http://ressources.ciheam.org/om/pdf/a96/00801437.pdf
The article is written in French. However 'Google Translate' will do a fair job of translation for you.
In the translated version, the diagrams do not show very well, so I have shown them again below, with the captions in English.

I have had some contact with Bruno Vadon, the principal author, who is at b.vadon@fert.fr
Bruno is now a member of the forum. Contact him direct for more details.

## Operation of a device with no-till double disc




## Operation of a system with a no-till inclined single disc *(pushed)*



Harvester for 2WT.
This machine recently turned up on the Made-in-China trade website. I think various Chinese companies manufacture harvesting equipment similar to this. It sits on a 15HP 2WT fitted with 24 x 10 – 10 wheels. Cutting width is 1.3 m.  I think a 2WT with an external PTO (power take off) is required to fit this harvester. Price is $US3342 FOB PR China.



http://mingsintractor.en.made-in-china.com/product/ZMpJRYwlnbTF/China-Combined-Harvester-4L-130-With-the-chassis-of-MX-151-power-tiller-.html

This is another 2WT from the same company, fitted with a front mounted disc mower.
A Vee belt drives the mower from the main flywheel pulley of the tractor. Width of cut is 81 cm and cost is $US142 FOB PR China. A sickle bar mower of similar design is also available for the same price.



http://mingsintractor.en.made-in-china.com/product/SormpkOEaeAu/China-Hand-Tractor-MX-101B-.html

Would this front mounted mower be one alternative for pulverising or conditioning of old crop residues, when mounted in front of a tool bar planter, or maybe a rotary tillage unit?
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Some more thoughts on inexpensive seed metering units for seed drills fitted to 2WT.

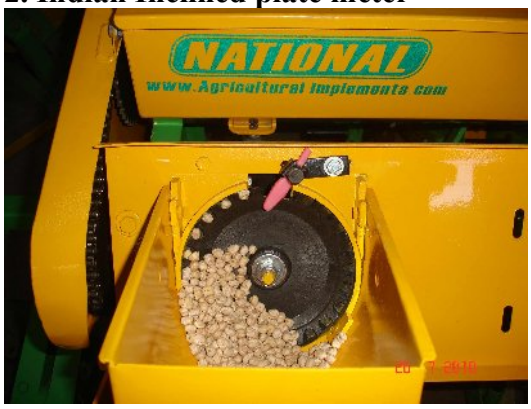
Quite a range of different types of seed meters are now available, or in the process of development.

**1. Chinese made fluted roller system**.




This is the latest fluted roller seed metering system, now being fitted to many seed drills (both 2WT and 4WT) in PR China. The large flutes are for large grains such as maize and beans, and the small flutes for cereals and other small grain. The operator changes from large to small by moving the covering strip from one side to the other. Seed rate adjustment is by moving the whole flute assembly across in the housing, when fitted to the common axle. No changing of securing lugs on the axle is necessary.
Approx. cost $US10 each.

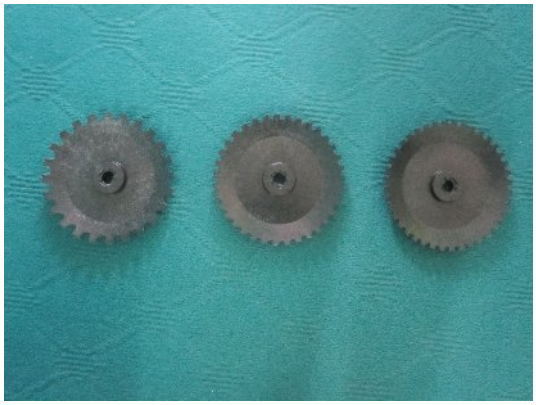
**2. Indian Inclined plate meter**





National Agro. Industries of Ludhiana India makes these units, which are suitable for many types of grains. Different plates are available for various sized seeds. Seed rate change is by changing the rotation speed (different gears on drive axle) or alternative plates, which have a different number of holes around the perimeter of the plate. Complete units are $US65 each (Dec. 2010 price)

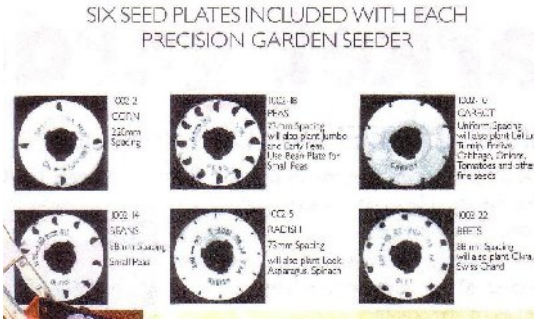
**3. BARI Bangladesh made inclined plate seed meter.**

Israil Hossain and colleagues at the BARI research station in Rajshahi, Bangladesh are now developing this inclined plate meter. A local factory has produced dies and seed plates, which are available in both aluminium and plastic. This metering system is being evaluated for use in planting maize and direct seeded rice. Indicative prices are $US63 for each set-up with three plates and bevel gears manufactured from aluminium, and $US42 for a complete unit made from plastic.

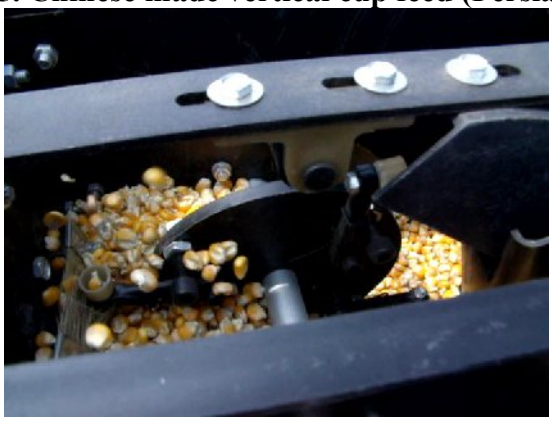
**4. Bangladesh VMP Style vertical plate metering.**



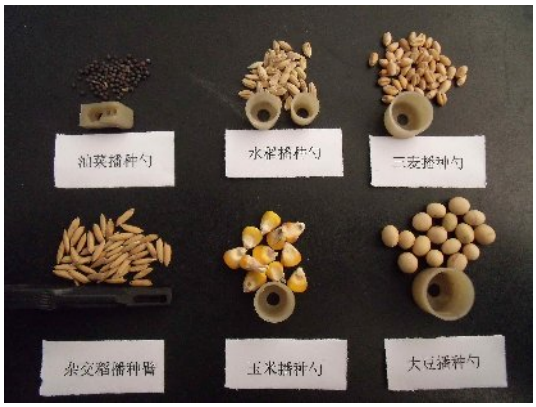



This metering system (based on the Earthway garden seeder) is now being produced by Enamul Haque and fitted to the VMP (Versatile Multi Planter) rotary seed drill. Various plates are available for different seeds. Enam is using this system as he perceives that it is superior to some others in the metering of pre-germinated rice seeds, and also does a good job with maize plantings.

**5. Chinese made vertical cup feed (Persian wheel) seed meter.**








Mr. Sun Lianjun of Dong Feng Ag Machinery Co. supplied details of this metering system.
A Chinese manufacturer is evaluating it for fitting to 2WT rotary tillage seed drills. Various cups are available for different crops. Altering the speed of rotation of the vertical plate changes seed spacing.
Indicative price is $US95 for each complete unit, or a complete 2WT rotary tillage seed drill with four of these meters for $US550.

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Two versatile multi planters have recently been sent to Vietnam, and Enamul Haque of I.D.E Bangladesh visited Vietnam to set up the seed drills, and instruct operators.
Training sessions were conducted showing use of VMP in strip tillage, bed planting, and other planting options.
Instruction in calibration and maintenance was also given.
Unfortunately there was no opportunity for a great deal of field demonstration, due to continuous rain and wet fields.
The Vietnamese have expressed interest in local manufacture of VMP.

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Enam also saw this 2WT in Vietnam. Perhaps it is a re-badged Chinese 2WT (Dong Feng or similar) or maybe the Vietnamese are into local manufacture of 'clones' of Chinese models. Can any of the readers give any more information?



MY Home Town Copperbelt chairperson Clever Mwampe checks a hand-held tractor in Ndola yesterday.

This picture is of an Eastern European (Belarus) made 2WT that is one of several that have been imported into Zambia by a local NGO. No other details available.

Until next issue.

Kind regards,

Jeff Esdale

*Note: This newsletter is in low-resolution pdf. form. If you would like any of the pictures in a higher resolution please let me know.*