

TWO WHEEL TRACTOR NEWSLETTER – DECEMBER 2014.

Rick Brendon of Ndume Farm Machinery, Kenya, has sent me a copy of his new single row planter.

Ndume Push-Pull Planter



“The Push-Pull Planter is designed to be used with one person pushing and another pulling, or to be pulled by a donkey or ox.

This machine has two tines one behind the other and they are adjustable for depth. The fertilizer tine at the front is set slightly deeper than the seeding tine so that your fertilizer is under the seed. Fertilizer is applied from a chain driven fluted roller which is rate adjustable. Seed is applied from a precision metering unit. Drive for the metering unit is taken from the press wheel at the rear. To change the seed spacing simply change gear on the gearbox. To stop seeding simply lift the machine out of work. The machine is fitted with a marker across the front so that you get the correct row spacing.”

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The planter weighs 80 Kg. I also have been told that leading Kenyan CA commercial farmer Laurie Sessions, has modified one of these planters for use with 2WT.

Note that this Ndume planter is fitted with a Chinese vertical spoon feed maize seed meter. Picture at right shows an emerging maize crop planted a unit fitted with these seed meters.

A section of Mr Joshua Katoni’s farm in Kathekani. Date planted 30/10/14. Planting depth 5 inches. First rain 2/11/14. First date of germination 6/11/14. Pic taken when maize is 6 days old.

Email sales@ndumekenya.com or www.ndumekenya.com

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AFRICAN AGRICULTURALISTS INSPECT 'GONGLI AFRICA' PROTOTYPE.

A group of African agricultural scientists led by local soils expert Dr. Gunnar Kirchof of the University of Queensland visited Tamworth Agricultural Research Station on 25 November. The group was on a study tour of Southern Queensland and NW New South Wales to check out the farming systems and soils in this part of the cropping zone of Australia.

The group of 16 came from 11 different African nations including Ghana, Comoros, Cameroon, South Africa, Ivory Coast, Lesotho, Kenya, Malawi, Zambia, Mozambique, and Mauritius.



The group was given an introduction to the tractor/seed drill in the machinery shed, followed by a field demonstration.



After some initial instruction, one of the visitors had a trial run for himself! At least six of the visitors made a positive enquiry asking where this seed drill could be purchased.

I am indebted to Senior Technical Officer with NSW Agriculture, Paul Nash, who ably explained and demonstrated the seed drill to the visitors. I was unable to attend, as I was in East Africa as part of the FACASI project. (see next story) Paul is a co-designer of the 'Gongli Africa' seed drill.

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The Gongli Africa seed drill is now on Youtube. Check on the link below to view this video.

<https://www.youtube.com/watch?v=m3eEqIBDXjg>

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**VISIT TO EAST AFRICA – FACASI PROJECT
DR. JOSEPH MUTUA & R J. ESDAILE**

From 10 to 30 November, I visited East Africa, accompanied by Dr. Joseph Mutua (KENDAT Kenya) to conduct two training schools in the maintenance and operation of two wheel tractors, along with the set-up, calibration, and operation of various two wheel tractor seed drills which are potential implements for use for small area farmer CA in East Africa.

In the Zimbabwe module which was held at the Hatfield campus of the University of Zimbabwe there were 10 students, and the seeder units evaluated were:

- Fitarelli two row trailing disc planter
- Fitarelli single row coulter/tine mounted planter.
- Chinese 2BFG-100 rotary strip tillage mounted planter
- Bangladeshi VMP rotary strip tillage mounted planter.



Static calibration of the 2 row Fitarelli seed drill



Measured calibration of the 2BFG-100 along the test distance



Field testing of the Fitarelli single row planter (left) and the Fitarelli two row planter (right)

There was one day of instruction in the class room on the principles of CA and the use of 2WT, followed by 5 days of calibration and field testing
All students were enthusiastic and participated in all activities.

The second module was held at the Mekassa Research Station in Ethiopia, near the city of Adama, around 90 Km from Addis Ababa. On this occasion Joseph and I had 20 students who were all professional agricultural scientists who specialised in CA and small farm mechanisation. A similar format was followed with one day in the classroom, followed by several days of machine calibration and field testing.

Here there was a bigger range of seeders available including:

Fitarelli two row trailing disc planter

Fitarelli single row coulter/tine mounted planter.

Chinese 2BFG-100 rotary strip tillage mounted planter

Bangladeshi VMP rotary strip tillage mounted planter

Indian National Agro rotary strip tillage mounted planter.

USA Morrison single row coulter/tine mounted planter.

CIMMYT Mexico tined mounted bed planter.

All were discussed, and most were calibrated and given limited field testing (an unseasonal rain event hampered operations for the final two days).



Doing adjustments to the National Agro seed drill (left) and making a test calibration of the Morrison seeder (right)



A calibration run of the 2BFG-100 (left) and field adjustments of the CIMMYT Mexico bed planter (right)

On the final day of the Ethiopian workshop, all delegates visited a field trial at an outstation of the Mekassa Institute. A set of field plots had been planted some months previously with six of the seven seed drills available at the time. Due to delays in delivery of some of the seeders, the plots were planted two months later than normal. However despite the delay Ethiopian research workers planted the trial in order to make a start on the field testing of the seeders. A wheat crop (close drilled) was planted as the test species



There was some variation in potential yield between seed drill plantings showing in the trial. However the main significant result that showed out to me was the fact that all machine planted plots were significantly better than the traditional (animal traction/ploughing/seeding) plots. This can be seen in the photo above with the traditional plot on the left, and the machine planted plot on the right.

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Seasons Greetings for a happy and joyous Christmas and New Year to all of the subscribers. Let us hope for significant progress with the R. & D. of 2WT and their associated CA implements in 2015
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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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