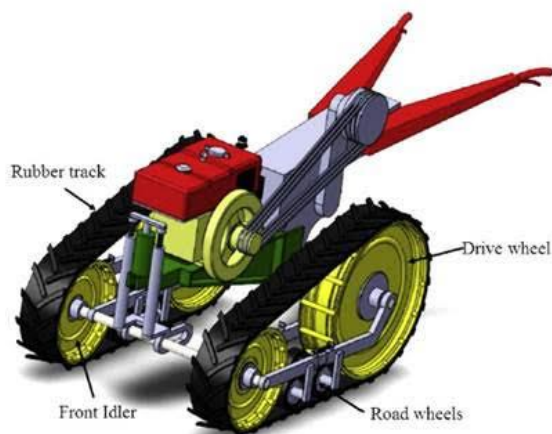


## TWO WHEEL TRACTOR NEWSLETTER MAY 2018

### Tracked 2WT-a viable alternative?

In recent issues of 2WT newsletter, mention has been made of the possible alternative of rubber track fitment to 2WT. Dr. Jack Desbiolles Research Ag. Engineer with University of South Australia has alerted me to an interesting study from West Bengal, India. It involved the relative tractive ability of a 2WT fitted with rubber tracks compared to a similar unit fitted with rubber tyres.

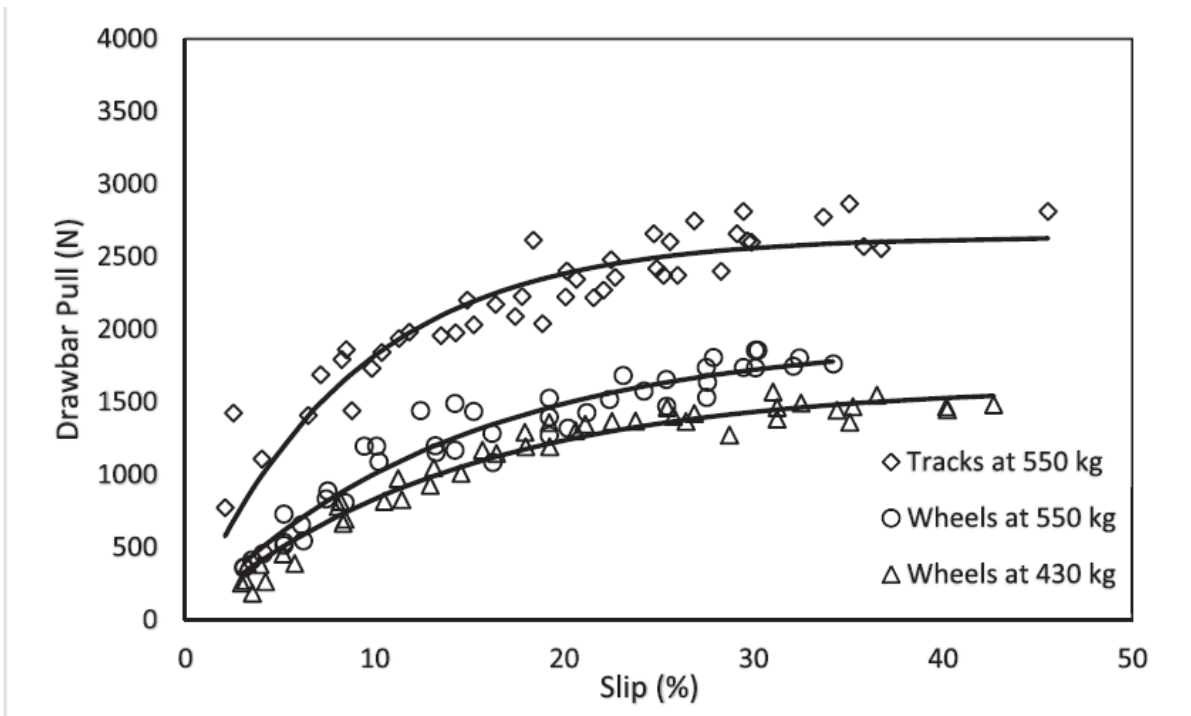


In recent years, many higher horsepower 4WT have moved to rubber tracks from the conventional lugged rubber tyres. Advantages include improved traction, as well as lower ground pressure of the tracks on the soil.

This research paper by Showcat Rasool and Hifjur Raheman indicates that a considerable increase in tractive efficiency and drawbar pull can be achieved by the use of rubber tracks. The authors used a standard 12HP Indian made 2WT in both modes. The tractors were ballasted as required to be of exactly the same weight. Tests were made on a clay loam soil with varying soil strength indexes. Comprehensive results are shown in the paper, showing that rubber tracks can increase drawbar pull by between 62% and 115% - depending on conditions.



Fig. 5 – Instrumented walking tractor.



The upper picture shows the set-up of the unit for the research, whilst the lower graph outlines some of the results of the research. For further details please check the link below. The abstract is free. However some subscribers may have to pay for the full report. For further information, please let me know.

<https://www.sciencedirect.com/science/article/pii/S153751101730822X>

### Can we easily convert a 2WT to a small 4WT?

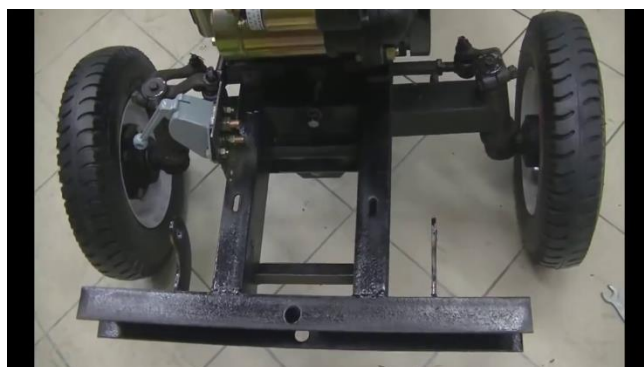
Mike Cottam (UK) has alerted me to a YouTube video showing a conversion kit that is available to transform a 2WT to a small 4WT unit. See:

<https://www.youtube.com/watch?v=aeAC0Jai0Yo&feature=youtu.be>.

Here are some snapshots of sections of the 6 minute video.



The kit consists of a pair of chassis rails, front wheels and axle, bodywork, steering, transmission modifications, and all parts to successfully transform a 2WT into a small 4WT.



The transmission and drive wheels are now located at the rear of the tractor, behind the operator seat. The motor and front wheels are at the front of the unit, with long vee belts to transmit power from the motor to the transmission. An apparatus is provided to enable gear changing from the operator seat. Apparently all components are supplied for a complete conversion.

Unfortunately, all of the titles and the commentary are in Russian, however others may have some understanding by viewing the video only.

The only query I have is the method used for steering and turning. As you may be aware, normal 2WT do not have a differential, and turn via steering clutches in the transmission. How they have overcome this dilemma with a steering wheel I do not know.

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### **Progress with direct seeding of rice in Laos**

I have recently received a copy of a progress report from the Crawford Fund an Australian NGO. This fund, as well as conducting agricultural R. & D., sponsors and assists Ag. Scientists from the developing world in training and education.

In cooperation with Australian Centre for International Agricultural research (ACIAR) , there has been a research effort to develop and promote various 2WT seed drills for the direct planting of rice in Laos.

One of the ACIAR-Rogro 2WT seeders was sent there a few years ago, and there has also been input from Thailand as well. Prototype Thai built 2WT seeders have also been trialled in Laos in recent years. This has been reported in recent newsletters, along with a summary of research results. An Aussie Ag. scientist and rice farmer, Leigh Vial (ex IRRI) is coordinating the ongoing work.



Initially ten National Agro 2WT seeders were imported from India. These were supplied to ten villages, who were asked to critically evaluate the rigs and report back on progress. Both good points and deficiencies in the designs were noted. Following this, Lao farm implement manufacturers have been encouraged to participate, and new locally made units are being developed.



A locally made 2WT seeder for rice is shown above. Further work will involve the adaptability of these seeders to the planting of other crops (pulses, maize etc.). Also there is potential to adapt these seeders to use as an inter-row cultivator for weed control in row crops.

Well done to all of those involved in the project.

Further information available at: <https://mailchi.mp/crawfordfund/the-crawford-fund-april-2018-update?e=5e90242838#LOAS>

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## Progress with small four wheel tool carrier tractors.

Although discussion on these rigs is a little 'off topic' there is further development. Maurice Clemmons of Oggun Tractor Company in USA reports that to date around 80 of these units have been sold in various US States, as well as some overseas sales. There is also interest in overseas manufacture.

The Oggun tractor was extensively discussed in recent issues of the newsletter.

Another small tool carrier tractor- along the lines of the old Allis-Chalmers Model G is due for release in 2019. It is called the Tilmor.



The Tilmor tractor is powered by a 23HP motor (either petrol or diesel), has a conventional transmission with an 8 speed gearbox (4 gears plus hi/low range), rear wheel drive, and an adjustable track of 1.27m to 1.98m.

Expected price around \$US15, 000 to \$US20, 000.

Further details at : <https://www.tilmor.com/en-us/products/33/tilmor-tractor>

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If you have any comment on this newsletter, please let me 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)

Facebook 2WT discussions: (Mike Cottam UK)

<https://www.facebook.com/groups/1609120186059164/>

*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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