Australian Government
Cotton Research and Development Corporation

MAJOR CAPITAL ITEM REPORT 2014

Part 1 - Summary Details

Please use your TAB key to complete Parts 1 & 2.

CRDC Project Number: **DAQ1604**

Project Title: Capital Item: Wheel Weighing Scales

Project Commencement Date: **Project Completion Date:** 30 March 2017

CRDC Research Program: 1 Farmers

Part 2 – Contact Details

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Date Submitted: 26/4/17

Part 2 – Capital Item Final Report

1. Background
The advent of round module picking, has created the opportunity to conduct 'large plot' replicated experiments at a field scale. However, accurate assessment of plot yield requires the ability to weigh the odd-sized round modules that are produced. Drive-on load cells offered a way of weighing these round modules as they are carried by 3 point linkage grab devices used on most farms. The tractor can simply drive over the scales carrying the module to accurately define its weight. Drive-on load cells would also be useful for weighing grain chaser bins and conventional basket pickers or boll buggies.
This capital item purchase would enable the weighing of cotton and grain yields from various cotton research projects conducted by DAF and their collaborators.

2. Objectives
Seek and purchase drive-on load cells that are suitable for weighing tractors and various other harvest equipment. The load cells needed to be accurate, able to handle large tonnages, portable, and suitable for use on a variety of ground surfaces found on-farm.

3. Methods
After conducting some market research, a tender was conducted by DAF for the supply of wheel weighing load cells, that were of a sufficient size and calibre to handle a large range of harvest equipment tyre footprints. The requirements were to supply four load cells with a total capacity of 40 t (10 t per pad) complete with digital readout and recording.

4. Results.
Acuweigh Brisbane were able to supply four load cells complete with a remotely-located digital readout (negating the need for cords, which typically get damaged). These load cells can be used in a range of configurations and have a capacity of 10 t each with an accuracy of +/-10 kg per cell. These cells have a robust metal construction with inbuilt ramps and high clearance (70 mm) well suited to agricultural equipment tyres. They are portable and weigh 27 kg each. The digital readout sits within its own protective hard case. A preliminary test with a vehicle at the supplier's agency during delivery demonstrated their use. These scales will be used to weigh tractors, DAF's 2-row trial basket picker, and grain chaser bins to assess trial plot yield results. They also have utility for weighing agricultural equipment for other purposes such as fertiliser application etc.

5. Conclusion
These load cells offer a reliable, portable and effective solution for weighing a wide range of farm equipment, and will be invaluable for conducting and assessing on-farm experiment results.

6. Staff
N/A

7. Extension opportunities
N/A

8. Publications
N/A

Part 3 – Capital Item Final Report Executive Summary

A set of four load cells complete with remote digital readout were purchased for the purpose of weighing a wide range of agricultural equipment (tractors, basket pickers, grain bins) on-farm on a range of ground surfaces. These load cells enable the quick and efficient assessment of crop yield whether it be in the form of round modules carried by tractors, basket pickers or boll buggies for conventional equipment and grain chaser bins.

Accurate yield assessment is essential for large scale on-farm research experiments, and these scales have the capacity to weigh equipment up to 40T with accuracy of +/- 40 kg. They also have a remotely-located digital readout, which avoids the need for cables that could easily be damaged during usage or transport, and the load cells are portable with inbuilt ramps, a carry handle and a weight of 27 kg each.

(Please email to research@crdc.com.au with a completed financial statement within 40 Business days from purchase of Capital Item.)