

Pathways to more grain farming profit by CTF in WA

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Key Messages

1. Controlled Traffic Farming (CTF) improves the financial returns from investment in deep tillage.
2. CTF need not be compromised by increasing seeder width for improved seeding capacity.
3. Future risks of very deep compaction in sands from heavier axle loads can be reduced by CTF.

Background

CTF is a system of restricting soil compaction and crop damage to permanent tramlines or wheelways enabling improved crop yields and quality; commonly 10% more yield and less screenings in cereal and more oil in canola (Webb et al. 2004).

Results

Using the MIDAS mode, a farm of greater than 2,000 ha moving to CTF in 2012 was estimated to benefit \$36/ha if autosteer is already being used and \$45/ha if autosteer has yet to be adopted; based on 5% grain yield increase from CTF. Analysis of seeding capacity and evidence of very deep compaction are shown in the paper.

Conclusions

1. CTF can increase return on investment into deep ripping, spading or inversion ploughing. A \$200,000 cost of conversion may be paid off in at least 2 years if CTF provides yield increases of about 9%.
2. Improved seeding capacity is possible without compromising a CTF system. Seeding capacity of a 12m wide seeder can be increased to equivalent to an 18m seeder by increases in speed and air cart capacity.
3. Future risks of very deep compaction of sands can be minimised by conversion to CTF. Axle loads of about 15t on wet soil can induce root restricting cone resistance as deep as about 500mm. Such very deep compaction may be very expensive to rectify in deep sands which need easy crop root access to depth for conservation of their yield potential.