

CTF delivers efficiency, effectiveness, opportunities and performance for the farmer and the farm – the journey so far and a look into the future

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CTF is a holistic farming systems approach to farm management, developed in the 1990's and has been continuously improved since then. The basic practices are - all machinery on permanent wheel tracks for machine efficiency and soil compaction; layouts to provide positive drainage to manage runoff, erosion and waterlogging; and zero till to increase infiltration and soil health, and reduce erosion. "Just do it, but do it right".

Tractor guidance with GPS was developed so growers could do CTF better, and this led to a spatial technology revolution – incredible equipment accuracy (no overlap, no misses), row and inter-row applications (effective operations, cost savings, residue management) and remote sensing (yield monitors and imagery), and could relate measurements to farmer actions (the spatial footprint). Two way communications were added – automation and also live feedback of operations (connection to the internet and the farm computer).

Measure to manage became achievable – automated, accurate, digital, timely; availability of satellite, aerial and very high resolution (UAV)imagery; weed and N seekers.

The triple bottom line value proposition:

- The efficiency and effectiveness of CTF led to large cost savings, e.g. growers report over 50% less fuel and chemical use. The opportunity is to use the improved soil quality and management of soil constraints to increase yields. The adoption of raised beds in SW Victoria has been very successful with widespread uptake. My research showed more than a doubling of production. Similar increases were found in Central Queensland, associated with double cropping based on the access and timeliness from CTF. We need new approaches to crop agronomy to achieve these benefits and this challenges the applicability of past R&D in conventional systems. Growers are now doing their own research, and CTF supports this.
- Environmental benefits are massive – erosion control, less pollution, healthy soils.
- And the social benefits of increased safety and "less time to farm" are significant.

The proof of the value proposition is that we know of only one grower who has "gone back" financial returns. A recent survey of grain farms in Eastern Australia found that only 13% used 3m CTF, 66% used none and 21% used 2m and 3m "CTF". Low adoption is a major issue and the barriers identified included poor understanding of CTF by growers and advisers; advisers generally have "core business" and little interest or skills in holistic systems; and lack of standards and compatibility across machinery, technology and software.

The future will be: a culture of cooperation among CTF growers from all industries to present a unified claim for major industry and government funding to address the knowledge and applications gaps; continuous improvement in annual productivity and sustainability at the farm scale with new practices, higher value crops, higher yields; on-going applications of new technologies; and training and education at all levels increasing the knowledge and capabilities of our communities to provide research activity, widespread adoption, and upgraded services delivery to achieve our potential.