

Controlled Traffic Farming A Grower's Perspective

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Until last year I was farming with my parents, Michael and Barbara, and older brother, David, and his wife, Clare. I left the family operation to start sharefarming in my own right. I have however been involved with the evolution of our family's farming operation for many years. The two operations farm approximately 11 000 acres under a controlled traffic system. The land we farm is quite variable from gentle slopes to flood plain. Although we do not have to deal with contour banks, erosion is an issue on some of our lighter country.

The beginning of our shift to controlled traffic farming came when we started to farm up and down our paddocks instead of round and round. We made our boomspray match the planter width and left out marker rows at planting to give the ground rig lines to follow both in the crop and through the subsequent zero-till fallow. We struggled on for some time with this system which I liken to the farming system in the UK. This is a semi controlled traffic system, where all the traffic for each crop is on one set of wheel tracks which are laid down at planting and are then lost when the field is ploughed. The next time the field is planted there is a new set of wheel tracks.

There were several things we began to notice in this system. We could spray wet paddocks if we stayed on existing tracks. We could also clearly see the effects of compaction from the previous year's tracks in our crops. We could identify the problems associated with compaction and saw a need to get our tracks to line up year after year. The system still caused us several other problems. The main problem was that our lapping errors were only as good as the planter lap lines. The next problem arose when we worked country and then wanted to spray, usually herbicides at night during summer to improve efficacy. What we needed was a way of guiding our machinery without a physical mark.

This is when we began looking at GPS guidance equipment. We were unimpressed with the accuracy and reliability, or lack thereof, of the systems that were available. At this point we decided to develop our own system. Fortunately I have a brother called Robert who is an electrical engineer. So after a lot of time, research and trial work we come up with the Beeline GPS Navigator, which is the first and currently only commercial agricultural GPS guidance system to guide and steer tractors to sub 10cm accuracy. This breakthrough eliminated all the mechanical problems with moving to a true controlled traffic system. We are able to lay out our paddocks accurately while spraying, ploughing or planting and return to the same wheel tracks without any visible marks, day or night if need be. The accuracy of the system meant that we have also minimised our overlap, saving approximately 10% of our variable input costs.

The only dilemma facing us now is the same problem faced by nearly all farmers looking at controlled traffic. What configuration should we set our farms up on? I don't believe there is a correct answer to this question at this stage and this poses a new problem. If I set up a system for the time being what happens if and when I have to change?

I have elected to set up on an eight metre base width with two metre centres on my tractor. I plant and plough on an eight metre width and spray with a tractor mounted 24 metre boom. There are a few reasons for this configuration:

1. Allows maximum utilisation of the tractor through all operations
2. Allows reduced size, weight and cost of the tractor as it suits FWA models
3. Stays in line with the current cotton industry standard used by so many contractors
4. Allows flexibility in summer and winter cropping rotations and row crop options
5. Allows trucks into the paddock on traffic lines at harvest if necessary
6. Through rotations and controlled traffic one unit should be able to cover 4000 acres per year comfortably.

The only major drawback is that the header tracks do not suit the system, but I am playing the odds here in that eight out of ten harvests are dry in my region. The problem I see with trying to incorporate the headers in the system is the wide variation of tyre gauges within and between all the makes and models. Until there is some standardisation of headers I can't see a safe way to incorporate them in the long term. I am often amused and annoyed by the catch cry of three metre centres when a large proportion of headers are not on three metres anyway.

In conclusion the results of the shift to controlled traffic have been dramatic, with an amazing increase in infiltration rates and reduction in run off. This season the improvement in soil structure has enabled our crops to cope far better than we could have hoped. While these benefits are hard to quantify, I feel it is essential to encourage farmers to do what they can to adapt the way they farm as quickly as possible. It is mind numbing to think of what it has cost us to date by not adopting the principles of controlled traffic sooner. If you can only reduce compaction by 10 % it will bring its own reward. I am frequently asked questions about how to get into controlled traffic and what it costs. I believe the real question is, "What is it costing to not get into it?". We must make some decisions about which configuration is most suitable and or adaptable down the track. I strongly believe that it would be a serious error to sit on the fence and not commit to controlled traffic in the hope of a universal answer to configuration problems being just around the corner.