

## CTF in Western Canada: issues and impacts

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*Steve is an independent crop adviser based out of Three Hills, Alberta. As owner of Beyond Agronomy, he manages over 30,000 acres of cropland and publishes Beyond Agronomy News, a weekly crop production and grain market newsletter with his wife Vanessa. He is also a first generation grain farmer and runs a no-till, controlled traffic farming and inter-row seeding system sowing canola, wheat, barley and peas in rotation. Steve is 2007 Canadian Nuffield Scholar and studied controlled traffic farming. He has been known to go skiing in -57C weather and lives to tell the tale.*

**ABSTRACT:** Steve farms 100km NE of Calgary, Alberta, Canada in a 400 mm rainfall zone with an average of 300 mm in-season rainfall. The elevation is 1000 M and situated at 52 degrees latitude and 113 degrees longitude. The frost-free growing season is 110 days with planting occurring in late April-May and harvest in late August-September. He grows spring wheat, barley, canola and peas in rotation on cracking clay soil.

Steve began CTF and inter-row sowing in 2010 after completing his Canadian Nuffield Scholarship on CTF in 2009 and was the first to fully implement CTF in Western Canada. His research examined the use of tramlines and CTF in the UK, New Zealand and Australia, which gave him the confidence to go home and convert his equipment and begin CTF. His Nuffield report on CTF can be found at <http://beyondagronomy.com/news-article/Controlled-Traffic-Farming-Nuffield-Final-Report>

There were a number of modifications made to convert existing equipment widths and wheel spacing. A 12M wide Concord air drill with 230-bushel tow behind air cart was brought down to 9M wide by removing the outside wings. The 230 bu tow-behind air cart had front axles on 3M centers but the back axels had to be cut down 355 mm on each side to equal 3M.

The 4WD Steiger PTA 325 was modified to run on singles and was no easy task with an outboard planetary system. The spacers and wheel bolts were cut down by 178 mm and then each pair of rims were welded together. The 587 mm bias-ply tyres are situated on the outside rims and have a width of 3.08 M. The current sprayer is an 18.29M 3640 Spray Coupe with 3M wheel spacing. The harvester is a Gleaner R7 and runs on 3.04M spacing with a 9.08M cutting width on the front.

### **Advantages with CTF**

- Timeliness of applications has improved with two day faster turn-arounds after heavy rainfall events compared to neighbouring random traffic fields.
- With CTF, tall stubble and inter-row sowing, the harvestability of pulse crops has dramatically improved. Lodged pulse crops lay on top of last year's stubble rows and allow for easier harvestability as they no longer fall on the ground.

- Fuel consumption has dropped 5% on average.
- Water infiltration rates are incredible. Water finding its way down below 1M in less than 24 hrs. No longer have water ponding after heavy rains.
- Germination and emergence is improving as soil mellows out in top 100mm allowing tine openers to place seed more accurately.
- Yield is hard to measure without a proper check but yields in 2012 were similar to the area average, even after 50-70% hail damage.

### **Challenges**

- Residue management needs improvement. Spreading residue out to 9M is a challenge.
- Delayed maturity in crops grown after canola due to heavy residue behind the header. Difficult to spread 3 T/ha canola chaff out to 9M