

Farming at “Llanthro”

Ryan Millgate, “Llanthro”, South Australia

“Llanthro” is a 3600ha property situated 5km North of Apsley in Western Victoria on the Vic/SA border. Apsley is a traditional grazing area with a rainfall average of 540mm over the last 10 years. Cropping was originally started on “Llanthro” as a way of controlling onion grass and yarloop clover in a pasture improvement program. Since 1997 cropping has been undertaken in earnest, due largely to the downturn in wool prices and the run of drier seasons. Today around 1720ha is cropped, with 15000 sheep and 100 cattle also run on the farm. Cropping is now of significant financial importance, contributing more than 65% of the income for the property while only using 47% of the total land area.

The 2006 cropping program consists of 275ha of Canola, 90ha of Monola, 385ha of Wheat, 261ha of Barley, 203ha of Oats (hay and grain), 190ha of Lupins, 55ha of Peas, 110ha of Clovers and 52ha of Ryegrass for seed production. The cropping rotation is generally Canola, Wheat, Barley, Legume, Canola although there is a large degree of flexibility in the system to deal with issues such as weed numbers. The soils are very mixed, ranging from non wetting sands to very heavy cracking clays. The pH ranges from 5 to 6.5 (in water), and the main limiting factor to the cropping enterprise is without a doubt compaction.

The original system for sowing was based on minimum tillage, although some paddocks were worked with sweeps prior to sowing, stubbles were mainly burned, and the prickle chain got a fair work out. No type of guidance or auto steer was used and paddocks were worked and sprayed in the traditional round and round pattern. In this type of system the general program at sowing was to apply a knockdown, sow using full cut points, trifluralin was sprayed post sowing, incorporated by prickle chain then dual gold was applied post prickle churning.

In the first few years of cropping at Llanthro, paddock yields were very good. After 4 years of cropping the paddocks were running out of structure, becoming wet in winter and concrete hard in the summer. This meant that crop yields started to decline rapidly. When I came to manage the property in mid 2004, I realized that there was something wrong with the soil - it was rock hard in late October, while only a month earlier it could have bogged a duck!

After a lot of research, it was decided that if we were to successfully crop at “Llanthro” some major changes needed to be made. To break the hardpan created by 150yrs of sheep, a horwood bagshaw parallelogram seeder was purchased enabling us to rip to 150mm and place the seed at 20mm. We also made a decision that stubble had to be retained to help with organic matter and moisture retention. A KEE ZYNX 2cm auto steer unit was also purchased to allow inter row sowing into the heavier stubbles that are produced in our rainfall zone. At this stage controlled traffic was not used, the seeder was 9.6m, the boom 24m and contractors were used for harvesting.

Towards harvest we had the opportunity to purchase an excellent second hand header at a very attractive price, so it was added to the “big toy” collection and we fitted it with yield mapping to collect yield data. At the completion of harvest we realized that our average wheat yields had jumped 1.2t/ha on the previous year and we had received 57mm less growing season rainfall. This massive jump could only be attributed to the deep ripping into the hardpan which increased our WUE from 9kg/mm/GSR to 14kg/mm/GSR, a 55% increase.

This large increase had really excited me as to the potential of cropping in our area and more research was done into how to make the system more efficient and realize more of our potential. I decided that Controlled Traffic Farming was the next step because it could reduce compaction, and make operations more efficient and most importantly we would be utilizing our auto steer to it full potential.

9m was chosen to be the base width, which suited the header and the 3m tracks. Adapting machinery was not going to be a great concern, but a great learning experience.

Autumn 2006 was very busy getting the cropping machinery standardized. Although the airseeder bar had 3m wheel tracks, the tine spacing had to be changed to be able to leave bare wheel tracks. After much measuring and head scratching, 320mm was the final spacing that worked with our system. The airseeder is now at 9m with 26 tines. Also added to the airseeder was a boom to apply trifluralin using direct injection to increase the efficiency of the product and how we apply it. The air seeder cart was a simple job to space out to 3m also. The next job was to replace the boomspray axle and extend from 24 to 27m. The wheels on the 8520 John Deere were wound out at the back and front spacers ordered from Queensland. With an engineer moving in next door, we had an extra set of capable hands to be able to achieve the changes needed at home.

Sowing came and the 3m spacing worked well, especially with the boomspray with no foam marker needed. Inter-row sowing worked very well into 5t/ha wheat and barley stubbles with no blockages or clumping experienced, even with the change from 300mm in 2005 to 320mm spacing this year. Crops sown into stubble in the dry winter have far out performed other crops in the district sown on similar dates and the deep ripping and press wheels have again proved their worth. The trifluralin boom worked very well and we have had excellent ryegrass control. The pressure was taken off the boomspray during sowing, which helped efficiency on the farm.

Next on the list is to extend the auger on the header by 1m to allow the chaser bin to stay on the tramlines and the wheels on the chaser bin will be extended to a 3m wheel base. This will complete the conversion to controlled traffic.

Total cost for all the wheel track conversions is less than \$10,000 with a lot of the work being done on farm. The trifluralin boom costed in the vicinity of \$10,000.

Looking to the future changes that will be made are a boom on the rear of the airseeder to apply post emergent chemicals in one pass, and possibly refinements in paddock layout etc. Using disc seeders to sow legumes into thick residue on wider rows (640mm) is also something I am keen to investigate along with deep ripping paddocks coming in to crop from pasture, to fast track the improvements in soil health.

On reflection on our conversion from minimum tillage to no till and controlled traffic, we have seen some instant gains in production and reductions in costs with many more to be realized as we get further into the cycle. With the very dry winter we have just experienced there has been increasing interest in our system with the crops still looking very good.