

Seeking Profitability

Simon Tiller

Simon Tiller grain grower from east of Esperance WA, Total cropping enterprise consisting of wheat, barley, canola, lupins and field peas. Farming with wife Felicity and mum and dad. 25 years old, started farming in 1997 in South Australia at a time of low wool prices and in our particular area, low rainfall. Sold up in 1999 and moved to Esperance WA, put in our first crop in 2000.

Rain fall in our area is 429 mm annually of which 57% falls in the growing season. Thus leaving us with 185 mm falling out of season when our crop is not in the ground, bearing in mind that these are just averages. Faced with this in our first season we did the only thing we knew how, purchased an offset disc and chopped up what ever the seeder wouldn't go through, sprayed what we could and still considered our chemical bill to be too high. After a few more seasons in Esperance talking to a few of the locals we began to feel a little more comfortable with summer spraying and we moved to no till and sold the discs. This gave instant results as we began to reap the benefits of moisture conservation and no till chemical farming. Not only did we see improvements in yields but also in profitability.

As we began to know our soil better and improve our farming techniques, some of our constraints became more evident. These included non wetting sands, salinity, compaction and summer weeds. Non wetting needed to be tackled first, clay spreading was the obvious choice, and a lot had already been done in the area. This practice however was extremely costly and with the amount of area that was non wetting on our farm, we couldn't justify factoring in large areas in our budget. Even borrowing the money to clay spread large areas was still a long term option. Delving up clay from under the surface was trialed by a neighbor on a small scale. This was ironically noticed whilst checking a mob of sheep through the fence. After a bit more research it turned out that the delver would mean the end of the sheep on our property. On the majority of our non wetting problem areas our delver which we built ourselves, brought up more tones per hectare of clay for less dollars out laid. The job was quicker than clay spreading, could be done in varying conditions and cleaned up all of our compaction as an added bonus. Overall a quicker more effective way to tackle a big problem. Some areas still needed to be clay spread where the depth to clay exceeded 600mm. These areas only consisted of about 10% of the area of the total non wetting area.

Salinity was some of our own doing; we were unknowingly making this problem worse. Non wetting sand hills that were sprayed of during the summer would "shed" water after big summer rains and water would lie in the hollows, sometimes for a few months, sometimes up to a year. These areas eventually turned saline and could have threatened our livelihood had they been left to spread and get worse. To fix this problem we planted a mixture of saltbush and native trees to suck up the excess water that was hanging around. A combination of this and fixing the non wetting hills put a stop to any more of these areas spreading or reoccurring.

With these problems dealt with the summer weeds were next on the list. The paddocks were a more uniform soil type now and had a lot better moisture holding capacity, especially in the top 200mm. This meant now on an average we could receive three to four rain events during the summer months. If this rain fall pattern eventuated on our improved soils it would mean that some and not all of our top soil could have the ability to stay moist for the majority of the summer. Excellent for early seeding opportunities, not so good for the chemical budget. The yields were definitely there with this style of farming but the chemical imputes were a concern, as are all the inputs.

We began to look at ways to reduce inputs without cutting into our productivity, adjusting fertilizer rates, variable rate technology, etc. A base station gave us instant savings on chemical, fertilizer, fuel, labor, and generally made the whole farm more efficient. We had installed the base station in 2002 and it's paid for itself five times over by now. There were small gains to be made in VRT by shaving fertilizer costs, but this sometimes proved more trouble than it was worth. Banding flexi n was adopted, adding Impact[®], copper, and trying to mix just about anything we could with it to try and get a yield response. These were all good adoptions but the chemical usage was still high. We were on the hunt for the next big thing to save some money.

A Weedseeker had been mentioned to me by a friend in the area. It seemed too good to be true. A machine that could spot spray weeds at 20 km/ph, 120 ft wide. Little did we know that the technology had been around for 10 years. After more research I found that farmers in the eastern states had this technology up and running on a broad acre scale. We needed to know if it would work here. Not long after with a bit more enquiry from other people around the state a demo of a weedseeker was offered by crop optics. This was an impressive demo and very successful. All broadleaf weeds 8cm in diameter or more were not only controlled, but blown away. This was achieved by using a much higher rate of chemical than usual, with huge savings made on the demo area working out to be around 13% of the area sprayed, and total broad leaf control.

In the background to all this our farming business was still growing, thus making our figures on buying a weedseeker more attractive each year. It took two years to bite the bullet, and the decision has been nothing short of a success. This machine has halved our summer spraying costs, given us more available moisture to push yields and turned back the clock for resistance in many broad leaf weeds. Other useful things we have done with the weedseeker are product application maps, we have used these maps to log weeds. These areas come up on a map the same as a yield map, these maps can be ground truthed at a later date to see why the weeds are thicker in different areas. This will ultimately give us a better understanding of our weeds and the soil types that they inhabit. Product application maps can also be linked to EM survey maps to better understand relationships between weeds and soil types.

The weedseeker is not only a profitable investment but a reliable one, with over 25000ha sprayed on our farm in its first season, there wouldn't have been more than about 3 hours of down time, and maintenance wasn't an issue. In times of rising inputs the weedseeker is a tool that we definitely couldn't afford to overlook.

As for the next big thing we made the decision to go to control traffic 2 years ago and we are probably still 2 years away. Control traffic farming will improve on every thing we are already trying to do, I believe that will be the biggest improvement since no till was introduced. It will preserve our delved country, improve soil health, and once again improve our ability to retain the ever important h₂O. We believe that we can make the move to control traffic on a broad acre scale without compromising on efficiency, thus improving our productivity. All these things in a nut shell are trying to keep ahead of the rising costs of modern farming and remain profitable and sustainable for the future.