

## MERRILONG

### *Gordon Brownhill*

The Brownhill Family, trading as Merrilong Pastoral Company Pty Ltd

I have been asked to talk to you today on my experiences of “farming on the Liverpool plains and more particularly, the contribution control traffic and Zero Till has made to our farming operations.

The Brownhill family, which consists of my wife Anne, my brother Dai and his wife Liz, along with my parents, operates a farming enterprise of 4000 has, which is situated on the slopes of the Liverpool Plains. My parents came to Merrilong in 1959 and since then many changes have occurred.

The country in those days was mainly Plainsgrass with Lucerne being the first of the man made crops sown. That was used to fatten lambs. In the 60's wheat was the main crop, the 70's summer crops were introduced and in the late 70's stubble retention and strip cropping also came into the picture.

In my view this is when we made our biggest mistake. Because of Strip cropping which put you into stringent rotation and because of our stubble retention, we created a situation of immense stored moisture but not necessarily sowing moisture and coupled with what you could call invisible banks when rain events occurred unbelievable soil erosion were multiplied. This part of farming was also coupled with the notion of get big or get out, so we then had bigger tractors pulling bigger gear. And for what reason, to produce a seedbed and to also break down stubble so that we could get the combine that was designed for the last decade through the trash.

Agriculture in the farming sense changed the day they invented Roundup. Zero till had the trigger to start and we all learned along the way. The first crop to be Zero tilled successfully was Sorghum into wheat stubble with the combination of Roundup and atrazine. This system fell down after that though because we still farmed the country for a full 12 months back to a winter crop which was usually wheat.

Opportunity cropping was introduced, theoretically easy to say, practicality hard to manage. For example you would go to one of these talkfest's hear all these good ideas, go home, look at the array of machinery that was on offer in your back yard, you would then improvise and after leaving one of the main ingredients out or using up too much moisture you usually ended up with a stuff up.

Legumes were the main crops used to take advantage of increased moisture content. You could talk all day about Legumes but you would have to say that this crop has come a very poor 2<sup>nd</sup> to cereals in the amount of funding that has been allocated. Funding has to be stepped up in legumes so farmers can sow legumes that will be financially viable, not hit and miss like it is at the moment.

Fertiliser became an issue during this time as we had partly accomplished our goal of satisfactory crops. Our usage of nitrogen started at levels as low as 40 units and now we have come to a level of no less than 100 units with a more common rate of 120 units. Trace elements are being addressed with Zinc and Sulfur seemingly being the 2 that are being targeted.

We now have machinery to do these operations and also the mentality to sow a crop whenever we have a full profile of moisture. More work can be done in this area.

Tramlining, control traffic is now our next goal. We have set out our goal of having 40-ft tramlines i.e. 40ft planter 80ft boom spray. And a header with a 40-ft front. The last might be a little way off. I believe not. Some farmers of which there are a couple here today, have done the full thing 60ft booms 30ft planters 30ft headers and pickup bins to match.

There are massive savings in this common sense approach to zero till, and we must not discount them. For example in the spray operations on our farm to go from 60 ft to 80 ft and having an average spray of 5 weeks on any one block and with our total cropping of 3500 has. Trust my maths but on average we spray the place 10.4 times = 36400 has at 18 mtrs we do 2022kms at 24 mtrs we travel 1516 kms that is a difference of 506 kms. The big saving is in overlapping. Before tramlining let's say our overlapping was an average of 500mms.  $2022 * .5 = 1011\text{has} * \$15$  average spray cost = \$15165 that's a 60 ft boom. 80 ft boom is 758 has \* 15 = \$11370. In tramlining there is no overlap.

Compaction is another hidden saving that the more technical people might be able to put a cost on but in farmers terms where we see the biggest loss is the establishment of the crop we are about to grow. Most of the damage could be contributed to the previous harvest and more so if it is wet.

My brother and I have these meaningful conversations on harvesting operations in a Tramlining situation.

Costs can be saved in all the other operations that you do which will enable you to either mechanically put the tramlines in or go to the GPS method. What should be a major factor in your decision is the speed you want to do your sowing operation. How many acs are you sowing in the one operation. How many inputs are your putting into those acs i.e. what amount of fertiliser seed trace elements etc.

I believe this machine is the most important machine you should own - no good having a big header, truck or car if you haven't sown the crop!

If you were to start from scratch then some advice from the relevant experts wouldn't go astray so you could run your tramlines "downhill" in the most efficient and common sense way. It stands to reason that if you are to run your tracks across the slope that in a major rain event the runoff culminates in the tracks and after a few more combinations of water engineering you create your own erosion.

My belief is we need a whole farming system approach that entails Zero till response cropping tramlining and downhill farming.

We must no drop the ball with 20 mins to go and press on with new technology. This I believe comes in spray technology - electronic weed activator spray units.

Go back to the spray equation 36400 ha' average spray \$15. You come to a figure of \$546,000. Save 50% of this and it comes to \$270000. In some of the work we have done with the old technology which was developed by Warrick Felton some 10 years ago, we have had up to 70% savings in chemical. Attack the ball not the player i.e. the weeds not the paddock.

This will also enable us to use different families of chemicals to combat the resistance to some chemicals and possibly the development of more sustainable ways of fallow spraying. There has been discussion on Quality Assuring the Farms on which we produce products for the consumer. This could be the vehicle by which the farming community will incorporate the “whole package” of farming systems.

If we are to go to the consumers and educate, explain, show and work with the industry, then surely all of us starting with the worms in the ground to the food put on the plate will benefit.

At the end of all of this you have to ask yourself why has there been such a massive adoption of controlled traffic. And the answer is simple. It's common sense combined with a small outlay for a major financial gain. Ask yourself the same question on Zero till.