

GPS journey leads to big gains

For Manangatang brothers Tim and Stuart Plant, the integration of GPS technology into their 3500 hectare Victorian Mallee cropping enterprise has been something of a journey.

Like many farmers they started with light bar guidance largely for boom spraying. It was easier and more accurate than using a foam marker, and served them well for two or three years. But it still required fairly intense concentration.

GPS steering offered to solve that problem and they stepped up to an EZ Steer unit that operated directly on the tractor's steering wheel. Tim refers to it as the 'shirt tearer' for its tendency to catch and chew up the driver's sleeve.

By this stage they had moved to continuous cropping and saw the advantages that 2 cm precision could provide, especially for inter-row sowing. This led to the purchase of a Farm Pro RTK system utilising two base stations to cover the 20 km north south spread of their various holdings.

In 2008 they upgraded yet again coupling a Farm Pro 2 cm unit to a new three bin Simplicity air seeder with linear actuators and variable rate technology.

Huge fertiliser savings

The results have been truly astounding. Fertiliser savings alone will pay for the new

air seeder in two seasons. The Farm Pro both steers the tractor and continuously adjusts the seed and fertiliser application rates using a prescription map derived from their 2007 harvest yield map.

"We'd bought a Case IH 2388 header that came with yield monitoring as standard. It was a pretty basic way of coming up with a prescription map. In an ideal world we would've put the GPS unit on the ute and driven the paddocks, but we didn't want to get bogged down in the process – you could spend 12 months on it.

"And I reckon the yield monitor picked up stuff we wouldn't have seen anyway," Tim added.

The prescription program was set to provide a 20 per cent variation in seeding rate while fertiliser varied from zero to 70 kg per hectare.

"That's where the big savings came from," Stuart said. "There are places in paddocks that haven't grown a crop for years in these dry conditions – we didn't think there was any point putting any fertiliser there. That allowed us to increase the rate where we know we can always get a decent crop.

"In this country you can go from the worst to the best in just 50 metres. It mightn't be the same where you have uni-

form soil types, but in the Mallee there's the opportunity for massive savings."

Tim said the brothers now realise how much fertiliser they have wasted over the years. "Even with the dry year and especially the spring, we still averaged two tonnes per hectare. Putting out more fertiliser wouldn't have made any difference."

Transferable

A major advantage of the Farm Pro is the single monitor and roof array that is transferred between their Ford New Holland 9882 cropping tractor, Case IH Magnum MX 215 spray tractor and the header. "I didn't want a cabin cluttered with screens and beeping controllers. We just wanted one monitor that can talk to everything – and it had to be reliable and capable of being upgraded," Tim said.

"The next step will probably be auto boom control on the GoldAcres sprayer and it will do that."

The Plant brothers have travelled their whole journey from light bar to variable rate technology with GPS-Ag.

"Mainly we've dealt directly with Brendan Williams in Bendigo but we find they all know what they're talking about. This system had a few bugs because it was released here at the same time as in the US. I think we were both going through the same problems at the same time.

"We've been looked after with software upgrades along the way and never had to stop – they've always been able to talk us through a solution, which is pretty amazing sometimes when they're on the road and don't have any reference in front of them," Tim said.

The Plants typically grow 70 per cent wheat and 30 per cent barley, but also try to introduce a small area of legumes as a disease break and to build up fertility. This year they used vetch and "got back a bit more than seed on the better country" according to Stuart.

"A few hot days in September knocked it about. Legumes struggle here unfortunately but they do have the potential to grow well. We just need an average year with a mild finish."

Big difference with minimum till

Minimum till has made a huge difference. "We wouldn't be growing the crops we are on this sort of rainfall without the technol-

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Tim Plant in the cabin of his spray tractor with the single monitor and control panel. He didn't want 'a cabin with multiple screens and controllers beeping at you all the time'.

Granular inoculant mixes well



Tim Plant (left) with his brother Stuart. The Farm Pro system is transferred between their spray tractor, seeding tractor and header.

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ogy advances of the past 10 years. It's cost a lot of money getting there though."

The brothers use a 17 metre Flexicoil bar with knife points aiming for about 120 mm penetration. They spent three or four years dabbling with minimum till but have now been using it across the whole farm for five years.

Saltbush on degraded land

The last of the livestock left the property in February but they are trying to establish saltbush cover on 200 hectares of degraded land, and if successful, lambs might make a comeback.

Apart from the dollar savings provided by Farm Pro through elimination of overlap and reduced fertiliser usage, both Tim and Stuart are very enthusiastic about how it reduces stress. "We do a lot spraying at night to beat the heat and that's where you really notice it. Driving is nowhere near as hard and I reckon that we can do maybe 10 per cent more each day.

"And I really like it on the header," Tim added. "You don't realise how much strain there is constantly watching the edge of the front, especially in dust."

More information about guidance systems is available from GPS-Ag on 03 5447 1777 or by email at info@gps-ag.com.au

An advanced granular rhizobium inoculant may well save southwest WA farmer, Mike Introvigne, a hefty nitrogen bill this season. Mike used Nodulator inoculant on his property last year and says it helped him grow some high quality ryegrass-legume pastures that yielded up to eight tonnes per hectare.

The Introvigne farming enterprise covers seven properties totalling about 1450 hectares – all in the western part of Boyup Brook shire.

Including a Simmental stud they run about 750 breeding cows, grow pasture hay for their own use and also sell up to 3500 tonnes of hay annually to dairy farmers.

Part of the program is ongoing pasture re-seeding. Last year the pasture mix was annual ryegrass, Riverina sub-clover and Paradana balansa clover.

"We're trying to push our production all the time with a high input, high return philosophy," Mike said. "Unfortunately the price of inputs, particularly fertilisers, have gone through the roof and we can see we have to get smarter with the way we do things.

Mistaken impression

"In years past we haven't inoculated the legume seed we've planted because we've been under the impression that if you've already got clover there, there's no need.

"Last year we inoculated on the recommendation of our agronomist Paul Omedi. He recommended Nodulator granules as they would go through the air seeder without causing any problems.

"Nodulator is a very fine granule that didn't attract moisture and mixed really well with the seed. When you're sowing the amount of seed that we are, to put everything in a cement mixer and inoculate it with a normal slurry mix is just too time consuming.

"The advice we got was that other granulated products attract moisture so they are a bit of a nightmare to put in the air seeder. And to be honest, if we hadn't used Nodulator we probably wouldn't have used anything.

"The best part with the Nodulator granules was that we could mix them with the seed in the air seeder. It was a pretty simple process.

"We definitely saw the results in the paddock with boosted clover growth.

"There were very few nodules on untreated plants in the neighbouring paddocks, whereas treated sub-clover and balansa had huge amounts of nodules.

"The difference was more vigorous early growth, particularly from the balansa which tends to be a slow early mover. But with the extra growth it handled the competition from ryegrass very well, even through we had a dry finish.

"We expect to see an additional benefit of increased nitrogen fixation in this year's pasture growth.

"At a cost of \$16 per hectare to apply the Nodulator, it's not a cost to be sneezed at. But when you compare that to a nitrogen application this year, \$16 looks pretty cheap."



Mike Introvigne, pictured here with Becker Underwood WA State Manager David Clegg and David Nield of Boyup Brook Farm Supplies. Mike said Nodulator mixes well with small pasture seed, and being a more evenly sized granule, is excellent for accurate metering out. Mike now plans to inoculate all his sown legume pasture.