

Confidence key to no-till adoption

The Munro family has farmed land near Ouyen for more than a century.

Their forebears were part of the 'land rush' attracted to the region by the opening of the Ouyen-Murrayville railway line, government incentives, good rain and high wheat prices.

They cleared the Mallee scrub by hand and worked hard to make a living from cattle, sheep and grain crops in the hottest, driest part of Victoria.

But widespread clearing, grazing, and a four-year rotation that included repeated

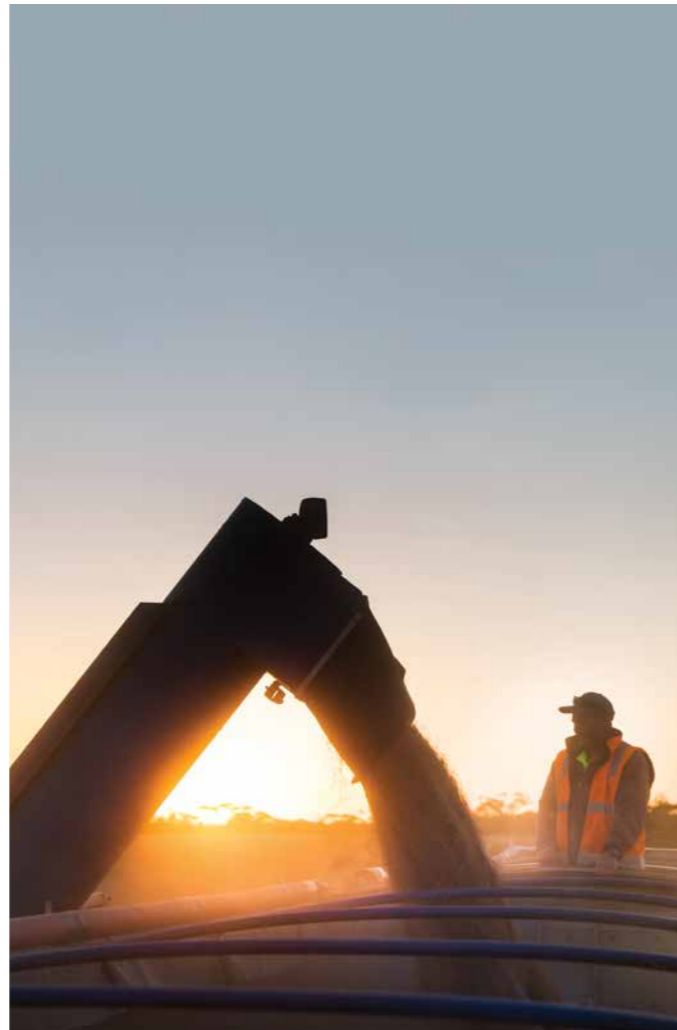
cultivation and years of bare fallow, had left the land in a fragile state. It was prone to wind erosion, which often displaced seed and young crops as well as the shallow top soil.

By the time Walter and Lindsay Munro finished high school and began working on the family farm in the 1960s with their father, Allen, and uncles William 'Gus' and Peter 'Mac', soil erosion had been recognised as the number one enemy of Mallee farmers.

The Victorian Government established numerous committees, and the Mallee Research Station at Walpeup in 1935,

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to develop and demonstrate ways of improving farming methods to reduce the severity of soil drift.

Teams of researchers and farmers scoured the globe for techniques that could be modified to suit the region's low rainfall environment and highly variable soils.

The answer was no-till systems, also known as conservation agriculture, observed in the US and Canada and adapted for conditions in Western Australia and South Australia.

Key components included minimum or zero cultivation, partial or full stubble retention to maintain soil cover and retain moisture, and the rotation of cereals, oilseeds and legume crops over time.

Walter and Lindsay first attempted no-till using discs in 1983. Unfortunately, the previous year's record low rainfall of 110mm was followed by 448mm and the crops dramatically failed in the wet conditions.

'That frightened us – especially Lindsay and me – off a little bit,' Walter said.

Twenty years later, once Walter's sons Deane and Jarrod had joined the partnership, they were ready to try again.

Jarrod said they were encouraged by Dodgshun Medlin agronomist Danny Conlan who was running discussion groups for farmers in the area.

'It hit home when we went on a bus trip to a few different areas and looked at farms where (no-till) had been adopted,' he said. 'We were convinced by the excitement we could see in those farmers and the basic principles of how it made sense to conserve moisture and nutrients in the soil.'

Farmer-to-farmer learning played a crucial role in the adoption of no-till across the Mallee. The willingness of pioneering farmers to share how they achieved better results was important for giving neighbours the confidence to change.

Long-time supporters of Mallee Sustainable Farming, the Munros have hosted numerous on-farm trials. Deane said the trials – especially those focussing on canola, legumes and carbon – had helped them further explore what was possible on a variety of soil types.

For two years the Munros used identical seeder bars with different configurations to sow part of their farm conventionally and part by direct drilling. By 2008, they had converted the conventional bar and the enterprise was completely no-till.

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‘We could see the benefits almost straight away,’ Jarrod said. ‘The difference was especially noticeable in dry years, like 2008, we were getting better yields than we would have from conventional.’

It wasn’t massive, but it was something compared to the below average returns – sometimes we were only getting seed back - in the real dry years. Had it been conventional sown we wouldn’t have stripped those paddocks at all.’

Lindsay, who now looks after most of the spraying, said no-till had been a game changer for their farm.

‘We don’t get the ground blowing, which is better for the environment,’ he said. ‘And we’re also getting better results, even in drier seasons, because chemical control of weeds in summer holds the moisture better and we are getting better yields.’

Lindsay said dry season wheat yields had increased from 1.3t/ha to 1.7t/ha, a gain of 30%.

Deane said rolling 20-year average yields were at least 15% better than for the previous two decades.

The Munros have more than 10,700ha under crop, with about 45% dedicated to legumes for grain and hay.

The 2018 cropping program includes Kord and Scepter wheat, Spartacus barley, Bolt and Hurricane lentils, Genesis 090 chickpeas, Mandelup lupins, Brusher and Yallara oats for hay, and Rasina, Morava and Timok vetch.

Deane said the biggest impact from direct drilling and more pulse crops in the past five years has been on the heavier soils.

‘It’s really transformed our ordinary country - that’s probably where the stark difference for me is,’ he said. ‘The ordinary country has picked up a lot more in comparison to the sand and the better country. It’s taken the heavy country from just about a loss every time, to being quite profitable. I’m pretty excited about how it’s worked for our farm.’ 🌱

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