

A case for conservation farming

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Weeds, timing and better commodity prices: challenges to advancing conservation agriculture

The agronomists of the NSW cropping belt are in a unique position to observe and to be part of changes in cropping practices, none more so than those at the forefront of conservation agriculture - the District Agronomists within the NSW Department of Primary Industries.

District Agronomists (DA) are some of the few on-ground extension staff remaining in agriculture today with the ability to actively help farmers achieve more profitable and sustainable farming systems.

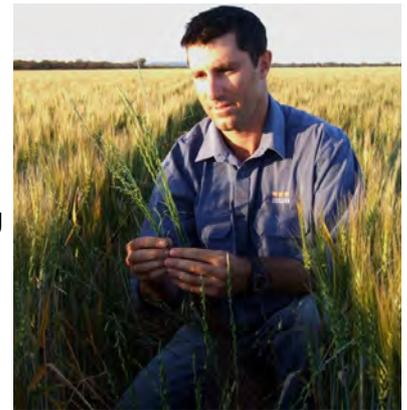
Three of the DAs with whom the Conservation Agriculture and No-till Farming Association have worked with over the years are Barry Haskins (Hillston), Greg Brooke (Wellington) and Rohan Brill (Coonamble). Between them, they have 30 years experience as DAs.

While all have had different interests shaped by the regions they serve, one issue on which they all agree is the industry's over-reliance on herbicides.

In Barry Haskins' (pictured right) part of the Riverina, he estimates about 80 percent of the current cropping area is sown using no-till practices.

"This varies from year to year, however, the change has occurred in a very short time," he says. "The other side of this, and another big change, has been our reliance on herbicides for weed control. Herbicide resistance is a limiting factor in no-till farming and our emphasis on herbicides for weed control is costly and unsustainable."

Rohan Brill (pictured left) says his four years as the Coonamble-based DA has coincided with some "reasonable" years when growers have had greater confidence in planting rotation crops, which has helped on a number of fronts.



"Planting rotation crops has improved soil nutrition, reduced disease levels such as crown rot and yellow leaf spot and helped weed control. However in continuous cropping systems there is still too much reliance on herbicides for weed control as well as declining soil nutrition and a build up of soil borne diseases such as nematodes," he says.

"There has been a slight shift in thinking to look at narrower row spacings of around 25 centimetres to improve competition with weeds and I think this will gather momentum. The other strategy has been to



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grow summer crops so selective herbicides aren't used in winter crops.”

Rohan adds, “Advancements in weed management are important for conservation agriculture to go forward. There is increasing technology in this area, such as microwave control, harvest weed seed management, *WeedSeeker*® technology and precise seed placement to improve competition; it just needs to be better adapted to our own systems.

“If we can send people to Mars to live, we can control weeds!”

Greg Brooke (pictured left) says while herbicide resistance is widely recognised as one of the single biggest threats to no-till farming, he also sees more farmers looking at conventional, non-chemical strategies. “Some have strategically cultivated or left paddocks out and summer cropped on suitable soils,” says Greg.



The idea of strategic cultivation is also taken up by Barry. “Let's face it, sometimes paddocks need levelling or we get problem weeds that aren't controlled with herbicides. We are then forced to cultivate, and in many cases this is the best short-term fix. What long term damage is done is however, still unclear.”

CANFA and many of the industry's leaders maintain the key to a successful conservation agriculture system is timing; which has become somewhat of an industry mantra. The DAs agree this is what tends to set leaders of farming practice apart.

“Timeliness of operations is probably the biggest determinant of profit that we can control and the most successful operators I know set themselves

up for it,” says Greg.

“How can one farmer manage to sow 8,000 hectares every single year by the first week in May and so many others don't get started until June?”

Greg maintains that good timing is more important than fertility, variety choice, product rate, sowing rate or any of the other agronomic factors often considered part of the bottom line.

However, Barry raises an interesting point on the issue of timing – labour shortages.

“While our research clearly shows small (<5%) yield advantages of no-till continuous cropping, the major advantage has been labour savings and the income that can be generated per labour unit.

“This is evident by the area of crop each farmer is now growing with reduced labour,” says Barry.

At the same time, rural industry is struggling to maintain a labour force in competition with the mining sector.

“Commodity prices and labour are limiting what farmers can do,” says Barry. “Labour shortages force things like spraying



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follows later than ideal, which then has many flow-on effects. People are trying to do as much as they can, but at the end of the day can only do their best.”

“We need to have better marketing arrangements so farmers can budget on growing crops and making money. If there were more reliable profits to be made I can see great advancements being made by adopting controlled traffic farming systems, better herbicide management plans, including some newer, more expensive chemistry. There would also be greater adoption of new technology,” says Barry.

While challenges to advancement are easy enough to identify, the need to continue the good work in conservation agriculture of the past two decades is still important, particularly given climate variability. Greg saw evidence of this at Nyngan in 2002.

“2002 was a drought year, an exceptionally dry and awful year, and there were only about four growers who delivered grain, but all of them were no-till growers.

“The no-till farming system has currently been pushed almost as far as we know how to take it. People who are really committed to it and don’t cut corners have been able to make it work well,” he says. “That said, some exceptionally good farmers have also gone back into livestock to diversify income streams and to value-add to low-value grain.

“Commodity prices, drought, mice and locusts have made conservation farming in this central region of NSW very difficult. However, most crops sown into stubble still out-yield those burnt, cultivated paddocks where farmers were trying to get rid of mice.”



Rohan Brill added farmers need to remain flexible in their approach to conservation farming. “They can’t be religious in their pursuit of a perfect no-till system. If ryegrass is a major issue, then burning windrows or a one-off cultivation will be better than letting these weeds set seed.”

As District Agronomists, these professionals are often trialling new techniques and strategies alongside the farmers they assist. Greg Brooke sums it up, saying, “One of the most rewarding aspects of the work is seeing farmers improve their yields and profitability and seeing this flow on to their family and communities.”

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