

case studies

Graham, Helen & Garry Day

Bellevue, near Molong, NSW

Acknowledgements

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Graham and Helen Day, and their son Garry, are 3rd and 4th generation on their 700ha property 'Bellevue' 15km north of Molong. They share farm another 400ha. 'Bellevue' has basalt soils and an average annual rainfall of 700mm.

The Days have a three year crop rotation (wheat/wheat/canola). This rotation is run on more than 95% of the combined 1100ha. They generally avoid livestock as they see them as a source of compaction, but during drought periods they use livestock for cash flow and weed control.

Motivating factors

The Days could see the conventional farming system was having an impact on soil structure. They evaluated various conservation farming systems by attending field-days, workshops and speaking with other conservation farmers.

In 2005 they purchased a Horwood Bagshaw Precision Seeding System (PSS) airseeder. This machine has a parallelogram and tine configuration on a 30cm row spacing for improved stubble flow and reduced soil disturbance.

Using assistance from the Central West CMA machinery incentive fund, they have recently moved to controlled traffic using an AutoFarm 2 cm RTK autosteer system to help reduce soil compaction. The Days are now operating a controlled traffic/inter-row cropping system.

Benefits

The Days have seen enormous benefits, even in recent dry seasons, including:

- the ability to harvest and maintain soil moisture
- increased germination through accurate sowing depth and seed/soil contact with press wheels
- improved soil texture/structure with increased organic matter and reduced soil disturbance

- nearly halved input costs associated with time, labour and fuel
- more precise timing of sowing, given the right conditions.

Now entering their second season with their controlled traffic/inter-row operation, the Days can see the potential benefits of combining this technology with no-till.

Unforeseen problems

The Days have had difficulty achieving suitable stubble residue levels during recent dry seasons. They are concerned with the effectiveness and reliance on chemicals for weed control in standing stubbles and the likelihood of chemical resistance developing under a no-till operation.

Plans for the future

The Day family hope to investigate variable rate technology to regulate fertiliser application. In preparation, they have mapped harvest yields since 2003 to help identify high and low producing areas. Their vision is to combine this information with ongoing soil testing and EM maps so they can divide the property into zones of high and low production and use variable rate sowing.



Increasing organic and microbial levels in the soil are long term goals of the Day family's operation. They intend to put back a little of what the land has given them over the years.