

case studies

Warwick & Kylie Mitchell

Acknowledgements

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Wilgavale, near Peak Hill, NSW

Warwick & Kylie Mitchell purchased 'Wilgavale' in 1996. It is 25 km west of Peak Hill in one of NSW's oldest wheat growing areas. Rainfall averages 600mm with no clear summer or winter influence.

The 1750 ha property is undulating with a clay loam top soil on the elevated country running to some self mulching clay on lower areas. Some of the heavier soils are sodic.

The Mitchells lease a further 909 ha. This gives them a total cropping area of 2040ha. They also run a contracting business.

Motivating factors

The sodic and crusting soil on the property is difficult to work with and appeared 'dead' when they began farming. Warwick saw the practices of other farmers and did a lot of research. When he was confident about applying conservation farming techniques they applied this system to their farm.

Benefits

They have seen their soils improve immensely and now see them alive with biological activity. These soils appear to have less compaction than they did prior to the introduction of no-till. As a direct result, and by using more accurate seeding machinery, they have cut seeding rates with out compromising plant density. This improvement supported the Mitchells move into controlled traffic five years ago. Now management operations can be done on time, there are more cropping options and they are able to respond better to market conditions. The improved retention of moisture in this erratic climate has been critical to their sustaining a profitable business.

Unforeseen problems

Obtaining yield maps during harvest, Warwick found he had areas with decreased yield even where paddocks were treated the same. With NSW DPI

assistance, Warwick found he had subsoil constraints on some parts of the property. They now manage these areas separately to other parts of the farm.

Warwick has an unusual problem resulting from the improvement in the soil. As it becomes looser and more friable, foxes are digging holes into the firmer soil of his tram lines. This has the potential to wreck machinery. In addition, their clay soils are causing the tramlines to become increasingly rough due to soil cracking, which is making drainage difficult.

Plans for the future

Future plans include having the harvester fitted to controlled traffic, modifying the seeder to allow opportunistic planting of summer crops and to trial a disc seeder for suitability and speed of operations.

Alternate crops and marketing are on the agenda for future research.



Warwick Mitchell has turned dead, difficult soils around using zero till.



Future plans include the modification of the seeder to allow more opportunistic planting.