

focus on **WATER** research

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Cover crops and infiltration

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What are you researching?

Can cover crops increase infiltration and net water accumulation in pivot-irrigated cotton systems with low (less than 30 per cent) ground cover.

What have you found?

Winter cover crops can improve ground cover, increase plant available water and improve subsequent cotton yields in pivot-irrigated systems.

The early spray-out treatment was the best cover crop for storing water over the short fallow in this study where cover did not have to last very long. However, the extra cover in the mid-terminated cover treatment continued to boost infiltration in the cotton's early growth stages. All cover crop treatments improved the yields of cotton by approximately 3 bales/ha; well in excess of any gains expected from the increased fallow soil water storage.

Why is it important?

Approximately 60 per cent of rainfall in northern farming systems is lost to evaporation, with transpiration through plants typically only 20-40 per cent. Cover crops are good for protecting the soil from erosion, building soil organic matter and maintaining soil biological activity. However, not being harvested for grain or fibre, they are considered 'wasteful' of rainfall; widely seen to be our most limited resource in dryland farming systems.

Recent research now suggests that cover crops may provide these benefits with little or no loss of plant available water. Therefore, there is renewed interest in cover cropping to use some of this 'lost' water and help develop systems that are more productive, profitable and sustainable.

How can I apply the research/what should I do about it?

The research is only in early stages. The project results show that cover crops can indeed help increase net water storage across fallows that have limited ground cover. How often these soil water results will occur across different seasons will be explored with further experiments and simulation modelling.

Where do I go for more information?

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Figure 1: Koarlo cotton trial.

