



Resilient Cropping

Precision Irrigation - Wakanui Case study

Precision irrigation helps Eric and Maxine Watson make their limited water supply go further.

Their investment also helps to solve the problems of overlaps and watering over different soil types and crops. Installation came at a price, but they know water is a vital resource and they are pleased with the investment.

Eric and Maxine are committed to using all their resources well. They have adopted precision agriculture with self-steering tractors, variable rate fertilising and reduced tillage underpinning their system. Their commitment to technology for better use of resources was a factor in winning the 2011 Ballance Farm Environment Supreme Award in Canterbury.



The Watsons farm at Wakanui in the irrigation red zone near Ashburton. The farm is subject to strict water take limits and no more water is available. Optimising water application is essential.

The farm has been surveyed with an EM38 soil sensor, and zones with different water holding capacities identified. "We have many diverse soil types, especially on the river terraces. An optimal match of water application depth and timing on each soil type and crop is critical for best returns in our system," says Eric.

The Watsons use Lindsay variable rate irrigation to control six linear move irrigators. Integrated machine management controls nozzles and machine speeds. This means they can sometimes operate an extra small machine when part of another is turned off.

Each nozzle is turned on and off according to an irrigation prescription map uploaded to the irrigator's control computer. Overlaps are eliminated, reducing waste of water and pumping energy. Nothing is under

or over-watered, and multiple crops can be managed optimally under each irrigator. Precision irrigation applies water in a more targeted fashion, letting them use their limited water to irrigate more hectares than under a conventional system.



Investment in precision technologies has given the Watsons efficiencies to maximise profit today. It is future-proofing their farm too. "We focus our effort on the wise use of soil, water and energy so we can farm efficiently into the future," says Eric.

This article extracted from Bloomer and Powrie, 2011 "A Guide to Smart Farming" published by LandWISE

