



IRRIGATION RESEARCH & EXTENSION COMMITTEE

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FOR IRRIGATION CROPPERS

CRCIF - toolkits to improve irrigation performance

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The Irrigation Toolkits program is one of the two programs in the CRC for Irrigation Futures that is tasked with delivering research and education that gives confidence to growers, industry, governments and the communities to invest in better irrigation, a better environment and a better future. The program aims to deliver innovation to the on-farm irrigation sector to improve production, profitability and sustainability of irrigation enterprises. The three focused research and development areas of evaporation mitigation, solute signatures and tools for longevity and profitability are brought together in this program in a way that will make a difference to on-farm irrigation performance in Australia.

Dam Evaporation Mitigation addresses the substantial evaporation losses of water from dams. Because of its high rainfall variability, Australia has greater storage capacity than other countries. Water stored in dams, particularly shallow on-farm dams, is subjected to high evaporative losses. In small dams this can be reduced through physical dam covers, but on large dams chemical monolayer techniques are potentially more feasible. This project will improve the reliability of evaporation mitigation technology by developing new monolayer detection and application systems and a better understanding on factors affecting monolayer performance.

Solute Signatures looks at the potential to use measured salt and nutrient distribution, or signatures, as a management tool. Water and salt are inseparably linked. In striving for improved irrigation efficiencies the management of salt and nutrients becomes even more critical. New water and solute measuring devices now make it possible to track the fate of water, salt and nutrients in the soil. Making sense of this information allows the CRC to develop operational diagnostic tools to improve irrigation management both for its productive potential and reduced environmental impact of salts in the root zone.

Tools for Profitability and Longevity addresses the need to increase irrigation productivity while protecting and enhancing our landscapes and environment. This requires new tools which develop and bring together new crop sensing and irrigation control systems which respond to variations across the paddock and over time. To assess the impact of changes in irrigation practice on profits, lifestyle and productive and environmental assets, analysis and forecasting tools are being developed. These tools integrate new and existing sources of information to allow better irrigation decisions to be made.

This presentation will briefly outline key elements of this research program.