

# Delivering CRC Salinity technologies

**R**esearch is vital to the development of innovative farming systems, but the ultimate aim is to exact change on the ground through a successful path to adoption. The FFI CRC is actively supporting adoption through a systematic approach to harvesting and delivering successful CRC Salinity technologies.

## Identifying potential 'winners'

The harvest and delivery process started with scanning the large portfolio of CRC Salinity research projects nearing completion, identifying key research outcomes that could make a significant difference to regional and catchment-based salinity and natural resource management.



Workshops trialed during 2006 helped identify 13 key 'headline' technologies (new plants, cropping and grazing systems, and tools for catchment and natural resource management) considered ready for a more focused delivery effort.

These 'headline' technologies have:

- Generated new knowledge
- Proven to be scientifically robust
- Been trialled and supported by sample users
- The potential to make a significant difference to salinity and NRM.

The collaborative assessment process considered the potential advantages of each technology for the CRC's main user clients, which were:

- State DPI/Agriculture extension officers
- Landmark agronomists and product development managers
- Rural industry RDC extension program managers and state coordinators
- Regional catchment and NRM organisation staff
- Private companies including consultants and seed merchants
- Leading producers and producer groups
- Forestry and wood processing companies and forest growers
- Local government, landcare coordinators, planners and engineers
- Representatives from NGOs such as Greening Australia.

## Delivering to next users

Delivery is occurring through path to adoption initiatives already underway, such as the *SGSL National Synthesis Product* and *EverGraze* regional extension activities, and through workshops in regions where the technologies have best prospects.

Regional workshops involve invited researchers and next users:

- Considering the merits of the technologies (e.g. farming system 'fit', and profit, labour, NRM outcomes)



## headline technologies

### NEW OR UNDER-UTILISED PLANTS

Technology	Applications and benefits
<b>Sub-tropical grasses:</b> Rhodes grass, panics, kikuyu, setaria	Provide 20-30 kg DM/ha/mm rain over summer, early autumn; deferred grazing on annual pastures until autumn break
<b>Saltland legumes:</b> fertilised balansa clover/puccinellia	Fix nitrogen (N) and boost grass production on saltland; high quality out-of-season feed
<b>Chicory:</b> under-utilised perennial herb	Summer-active, high-quality forage for ewes and lambs; reduce recharge
<b>Birdsfoot trefoil northern NSW:</b> summer-growing tap-rooted perennial legume	Recharge control where soils are too infertile for white clover and too acidic for lucerne
<b>Perennial grasses for medium-low rainfall:</b> Kasbah cocksfoot, Atlas phalaris, Fraydo fescue in southern NSW	Fill winter feed gap on properties with large percentage area under lucerne

### CROPPING SYSTEMS

Technology	Applications and benefits
<b>Lucerne phase farming:</b> lucerne in rotation with cereals in south-west /south coast WA threatened by salinity expansion	Increase whole-farm profit; salinity control/prevention; herbicide-resistant weed control; resilience and biodiversity benefits
<b>Perennial vegetation for southern NSW:</b> trees, shrubs and perennial pastures instead of annual cropping	Reduce recharge, run-off and salt accession to streams
<b>Mallees for WA wheatbelt:</b> 12,000 ha planted	Diversify product base of agriculture while controlling recharge and salinity

### GRAZING SYSTEMS

Technology	Applications and benefits
<b>High-performance grazing systems:</b> well-managed perennials in the right place with responsive animal production systems	Increase lambing percentages and weaning weights; increase profit/ha; improve NRM
<b>Saltland grazing systems:</b> productive options for 50% of saltland	Increase pasture/livestock production; reduce off-site impacts; increase producer pride

### TOOLS FOR CATCHMENTS AND NRM

Technology	Applications and benefits
<b>Salinity Investment Framework SIF 3:</b> decision-assisting framework using estimated public-private benefits to identify policy options	Improved policies for catchment management of salinity and NRM
<b>Surface water management for WA wheatbelt:</b> raised beds in cropping paddocks and high-capacity roadside drains and culverts	On- and off-farm works increase crop yields and prevent road damage
<b>Weed risk management:</b> Environmental weed risk management policy	Defines CRC's compliance obligations and procedures to minimise weed risk from new plants

- Assessing regional needs and identifying the preferred mix of FFI CRC and Participant-managed path to adoption options, including commercialisation
- Assessing delivery capacity and resources for implementation and evaluation.

Adoption products managed by FFI CRC include the CRC Salinity website, fact sheets, *Focus on Perennials*, *SALT Magazine*, and training workshops.

Adoption products managed by the CRC's partners, such as state departments of Primary Industries/Agriculture, Landmark, Research and Development Corporation, Meat & Livestock Australia, and Australian Wool Innovation Limited, include field days, publications, websites, forums and workshops.

### In the pipeline

An additional seven CRC Salinity technologies (four of them new plants) are 'in the pipeline', soon for delivery by FFI CRC. Users are engaged in further development of these technologies, and wider delivery will occur on a progressive basis. ↘

### More information

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# FFI CRC innovating the 'five-star' pathway

**R**ather than having a straight path from research to end-user, the FFI CRC 'five-star' Adoption and Commercialisation function focuses on encouraging co-learning between researchers and next users, as the research happens.

This will create a business-oriented research culture and build a skilled extension workforce that can confidently integrate advice to and from end-users about production and NRM issues at the local to regional scale. This cultural change will:

- Create a demand-driven business orientation amongst FFI CRC Program Leaders and researchers
- Have influencers, users and technology commercialisation expertise working with research teams from project planning stage

- Maximise IP commercialisation opportunities that will assist technology adoption
- Develop a national extension workforce skilled in providing locally relevant advice on profitable perennials for production and NRM
- Evaluate the effectiveness of this contemporary approach.

The Adoption Manager has been working with Program and Project Leaders to apply these strategies in continuing and new projects. An Adoption and Commercialisation Consultative Panel assists the Adoption Manager in achieving this cultural change. The Panel comprises:

### FFI CRC A&C team:

- > Kevin Goss, Chief Executive Officer (Chair)
- > John Powell, Adoption Manager
- > Mike Ewing, Research Director
- > Mark Stickells, Commercial Director
- > Scott Glyde, Program 7 Leader (Education & Training)

### Industry A&C advisers:

- > Bruce Cairns, Landmark
- > Lu Hogan, AWI
- > Michael Goldberg, MLA
- > Tom McCue, GRDC
- > Lionel Henderson, CSIRO
- > Erin Gorter, Evergreen Farming
- > Georgina Gubbins, Grasslands Society of Southern Australia

### State agency A&C advisers:

- > Peter Regan, NSW Node Manager
- > Austin Brown, Vic Node Manager
- > Tim Hollier, DPI Victoria
- > Anna Dutkiewicz, SA Node Manager
- > Trevor Dooley, PIRSA Rural Solutions
- > Richard George, WA Node Manager
- > Trevor Lacey, DAFWA

Bill Ryan (Kondinin Group), Col Stucley (Enecon) and Gavin Hanlon (North Central CMA), provide specialist advice on the three areas of business opportunity – agribusiness, woody industries, and NRM and catchments. ↘

## Five-star pathway to adoption

Five elements of activity occur simultaneously to embed adoption and commercialisation in FFI CRC culture:

↘ **Communication:** Progress with technology development and adoption is communicated through FFI CRC and Participant websites and audio and print media.

↘ **Researcher-user engagement:** Researchers work with users from research design through to technology marketing and commercialisation (where this facilitates adoption) to generate joint understanding of the relative advantage from the proposed technology, and the factors that matter in user adoption. It accommodates user learning preferences and incorporates their experience, skills and knowledge into project design and management. It also includes user trialling of the technology as it develops, and transfer of researcher and next user experience, skills and knowledge to end users.

↘ **User training:** FFI CRC and Participant-managed training activities and events upskill next users and end users who may not have been directly involved in developing the technologies. Activities include FFI CRC Evertrain accredited training (under the national Australian Qualifications Framework system), non-accredited (but assessed) training, and more informal, non-assessed activities.

↘ **Commercialisation:** Focused on improving adoption performance, this includes packaging FFI CRC technologies into integrated, branded products amenable to marketing with other services, and can include revenue generation for the FFI CRC.

↘ **Monitoring, evaluation and adaptive management:** Undertaken continuously with ongoing feedback, this will enable the Adoption Manager to adaptively manage activities to meet Business Plan milestones.