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Title: New centre showcases gene research into unravelling salt tolerance secrets

Determining what genes make a plant salt tolerant is one of the ways the new Future Farms Industries Cooperative Research Centre (FFI CRC) will help Australian agriculture adapt and diversify.

Research by CRC PhD student at The University of Western Australia, Natasha Teakle, into determining what genes from the perennial legume *Lotus glaber* is responsible for its salt tolerance, was showcased at the Centre's official launch on Monday 9 July.

Teakle's research, which began at the CRC for Plant-based Management of Dryland Salinity, has already identified some of the genes that could be a breakthrough for profitably farming large areas of salt-affected and waterlogged soils.

"So far I have isolated and cloned a gene that protects the plant from the toxic sodium ions present in saline soils. But more work still needs to be done to identify the genes that restrict chloride ion transport to sensitive parts of the plant, and the genes involved in waterlogging tolerance," Ms Teakle said.

"This knowledge will help us select for perennial *Lotus* varieties with better salt and waterlogging tolerance, and the genes identified could also be incorporated into other plants (e.g. those adapted to drought), which could improve their salt tolerance and productivity."

FFI CRC will develop new and adaptable farming systems for Australia that will improve livestock and cropping industries productivity, offer new woody crop options, make better use of limited rainfall and create more diversity in landscapes through the implementation of innovative research outcomes and new technologies.

FFI CRC CEO Kevin Goss said the key to creating new and sustainable farming systems is through perennial pasture and crops – including native species – in broadacre farming systems.

"A lot of people are concerned about how diminishing rainfall and natural resource degradation will affect Australia's agricultural industries in the near future," Mr Goss said.

"To address these concerns and ensure Australian agriculture continues to be internationally competitive, we need to find more productive and better adapted plants for crop-livestock production and develop new industries, and it's our role to assist industry and governments in making these discoveries."

"Perennial plants for example are better suited to drier climates and poorer soils, as they develop deeper roots systems and better use soil moisture."

FFI CRC is an Australian Government backed Cooperative Research Centre that will invest \$114 million in research and development, education and training, commercialisation, and adoption of new farming systems in Australia's southern temperate dryland farming regions.

The Centre is comprised of 16 participants that include major industry research investors and science providers located in southern and eastern Australia.

Its education program will graduate 50 PhDs, like Natasha Teakle, ready to enter industry employment and the science professions.

The Centre was officially launched by Hon Julie Bishop MP, the Federal Minister for Education, Science and Training on Monday, 9 July at the Prescott Room, UWA.

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Future Farm Industries Cooperative Research Centre aims to transform Australian agriculture and rural landscapes by developing and applying Profitable Perennials™ technologies to innovative farming systems and new regional industries.



Natasha Teakle and The Hon Julie Bishop talking perennial plants

High resolution image available at: [http://www.crcsalinity.com.au/images/upload/Natasha and Julie Bishop.jpg](http://www.crcsalinity.com.au/images/upload/Natasha%20and%20Julie%20Bishop.jpg)



The Hon Julie Bishop and Professor Margaret Seares AO, Acting Vice-Chancellor UWA, officially launch the Future Farm Industries CRC

High resolution image available at: [http://www.crcsalinity.com.au/images/upload/Julie Bishop and Margaret Seares.jpg](http://www.crcsalinity.com.au/images/upload/Julie%20Bishop%20and%20Margaret%20Seares.jpg)