

# Future Farm News

Newsletter of the Future Farm Industries CRC

September 2009

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## Tedera breeders try new breeding technique



The Tedera Plant Breeding Team from left to right: M Dabauz, D Real, K Satiew, M Ewing, C Revell and J Croser

The CRC is moving forward with its Tedera (*Bituminaria bituminosa* var. *albomarginata*) breeding program led by Dr Daniel Real (DAFWA) with the development of a new breeding technique, which if successful could fast-track legume cultivar development.



CRC PhD Student, Chelsea Fancote, gets the lamb steaks ready - all in the name of science!

## Is saltbush-fed lamb and mutton tastier?

Saltbush is one of the plants promoted by the CRC to farmers as a way of making salt-affected land productive. Research has found that sheep fed on saltbush are leaner and contain higher amounts of vitamin E, which prolongs meat shelf life. Some farmers are convinced that a saltbush diet also makes the meat tastier.

Being brought up on a farm herself, FFI CRC PhD student Chelsea Fancote has heard the anecdotes from pastoralists and graziers about how tasty saltbush-fed lamb and mutton is, and set out to discover if there is any truth to these claims.

"To find out, I convened a tasting panel designed to test if there are noticeable improvements to the meat eating quality of animals grazed on saltbush for eight weeks before entering a four-week feedlotting phase," Chelsea explained.

"While eating some of this saltbush fed lamb, panellists were asked to identify if there were any differences in the aroma, flavour, tenderness and the overall eating quality of the meat."

"In contrast to what most people think, it's not the salt in the plant that is likely to enhance the eating quality, as nearly all the salt consumed is removed from the body. It's the other compounds in the plant that are likely to be responsible for any differences in meat quality."

Tedera is a group of herbaceous perennial legumes originally from the Canary Islands that remain green and productive during the summer months, making them a valuable out-of-season feed source. Their potential to help farmers and graziers adapt to a drying climate has resulted in the CRC beginning breeding activities to create new varieties of Tedera with the desirable genetic attributes. This process can take up to several generations to get progenies that fully manifest the desired drought-tolerant features.

The breeding team have begun using a lab technique common in the cereal and oilseed industries with promising results. One of the researchers, Dr Janine Croser, said the technique can create a true breeding plant in a single generation.

“This process essentially creates a plant from either the female or male (most commonly) sex cell without fertilisation. This creates a 'haploid' plant with only a single copy of the genetic material. Chemical doubling of the haploid plant's genetic material creates a second identical copy – plants created this way are known as double haploids. These plants look the same as plants resulting from normal fertilisation and are completely fertile,” Dr Croser explained.

Double haploids are of great value to plant breeders as they can dramatically reduce the time required to breed plants with desired traits by creating 'true breeding plants' in a single generation. This is the first time the technique has been applied to pasture legumes.

“While the lab results look promising, we still have a while to go before we can say our new approach has been successful,” Dr Croser said.

The Tedera Plant Breeding project, which is part of the CRC's wider *Drought Tolerant Perennial Legumes* project, is also supported by the Department of Agriculture and Food, Western Australia, the Centre for Legumes in Mediterranean Agriculture and several other national and international institutions.

For more information about Tedera, read this [article](#) from the CRC's *Focus on Perennials* magazine.



## Communications update

So far the preliminary statistical analysis is indicating there are likely to be some differences between the tenderness of the meat samples.

“For me, it was very interesting to see how different people rate meat that comes from the same animal and it seems the biggest variation in the tasting comes from the panellists,” Chelsea said.

Chelsea's taste-testing work is part of her PhD research identifying the benefits of a saltbush diet, including improved animal health and performance.

For more information about Chelsea's research, read this recent [article](#) from the CRC's *Focus on Perennials* magazine.



## Research activities profiled at CRC Board meeting

The FFI CRC Board has continued with its initiative of moving its quarterly meetings around the country as a way to interact with regionally-based CRC staff – this time around the Board met in Wagga Wagga.

Following their meeting on 8 September, Board members attended a series of presentations the next day from researchers and students active in the area.

The presentations started with an update on the *EverTrain* project delivered by Project Leader Deb Slinger, and Agribusiness Director Scott Glyde. They emphasised the important role the project will play in delivering specific training outcomes identified in other CRC projects and the need for the wider CRC community to remain in close cooperation with *EverTrain* to achieve these outcomes.

Also mentioned was the need for flexibility in deciding between accredited and unaccredited models for training delivery, and for the identification of new opportunities outside the CRC where the *EverTrain* training framework could be used.

Next was an overview of the *EverCrop* project by co-project leaders, Dr Rick Llewellyn and Dr Michael Robertson, and Western Australian-based researcher David Ferris, who have recently taken the project from the conceptual to the practical stage in three targeted regions following a series of farmer group engagements.

As a result, *EverCrop* is:

- Investigating new perennial elements as feed resources for livestock enterprises for the uniform rainfall region of northern Victoria and southern New South Wales
- Testing companion cropping technologies in the medium rainfall region of the northern Western

The latest edition of *Focus on Perennials* is now out with stories on the need to breed summer dormant pastures and how a visit to Spain has brought back bugs to help *Melilotus siculus* grow better on salt-affected land, along with updates on the *EverGraze*, *EverCrop* and *EverTrain* research projects.

Copies of *Focus on Perennials* can be downloaded [here](#).



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## In the news



CRC researchers, Matt Newell (Cowra) and Richard Hayes (Industry & Investment NSW, Wagga Wagga), say perennial wheat is more than just a blue sky concept.

Thanks to the communications people at the [NSW Department of Industry and Investment](#), the CRC's *Perennial Wheat* project has been getting some positive press this month that included an appearance by the CRC's Research Director, Dr Mike Ewing, on Prime TV News.

Our CEO, Kevin Goss, also appeared on WIN TV News following his presentation to the Commonwealth House of Representatives (see story below).

Also this month, CRC researcher Dr Mark Norton appeared on Radio National's [Bush Telegraph](#) program to talk about how summer dormancy in plants could help farmers survive drier times.



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## FFI CRC represented at House of Representatives Inquiry

Once the presentations to the FFI CRC Board concluded earlier this month (see *Research activities profiled at CRC Board meeting* story), CEO Kevin Goss, Deputy Chair Lucinda Corrigan and Board Member Mick Poole all jumped in a car and drove to Canberra.

Their quick departure allowed them to appear before

Australia wheatbelt

- Determining perennial options for the unprofitable parts of mallee farms in the low rainfall mallee regions of South Australia, New South Wales and Victoria.

*EverCrop* will be developing regional MIDAS models to accompany these initiatives. For more information about these latest project developments, read the October edition of [Focus on Perennials](#).

After lunch, FFI CRC PhD students Bree Wilson and Tim Hutchings, gave presentations on their research endeavours.

Bree spoke about her work on the ecology of mycorrhizal fungi in salt-affected environments with a focus on the promising *Melilotus siculus* species. Tim presented the results of his analysis on the business performance of farms in south-eastern Australia. His presentation placed a particular emphasis on the business risks faced by producers during the poor growing seasons of the last five years.

The next Board of Directors meeting, Participant's meeting and the company AGM meeting will be held 11-12 November in Canberra.



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## Salinity Knowledge Exchange takes over National Dryland Salinity Program website

Following the Commonwealth Government's decision to abolish Land Water Australia (LWA) at the end of 2009, there was a risk that a lot of the information stored on their website along with others hosted by LWA could be lost.

To ensure the valuable salinity information from the now defunct National Dryland Salinity Program website hosted by LWA remains intact, the CRC's *Salinity Knowledge Exchange* project has taken over the responsibility of hosting this website.

*Salinity Knowledge Exchange* project leader, Dr Nick Edwards, said the website will continue to remain as an archive for National Dryland Salinity Program outcomes with no further updates.

"This means there will be minimal changes to the website with the original domain name staying intact to maintain the current traffic flow," Dr Edwards said.

"The website will now become an adjunct site for the [Saltland Genie](#) and anybody wanting to find out about the research done during the Sustainable Grazing on Saline Lands (SGSL) initiative, as well as general information on how best to manage dryland salinity in Australia, is encouraged to visit the Genie."

the House of Representatives Inquiry into the Role of Government in Assisting Australian Farmers to Adapt to the Impacts of Climate Change that evening.

A transcript of their presentations to the House of Representatives can be downloaded [here](#).



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## 2009 Genetically Modified Crops Coexistence Conference

The GMCC-09 conference will address the issue of Genetically Modified (GM) and non-GM coexistence across the entire agricultural supply chain. Day one of the conference will be devoted to logistical challenges of coexistence, including legal frameworks and technical challenges for GMO analysis.

The conference will be held 10-12 November 2009 at the Melbourne Convention Exhibition Centre, Australia and will feature 30 invited speakers representing 21 countries.

Further speaker details and an updated conference program are available from the conference [website](#).



## Coming Events

### Yorke Peninsula Field Days

**29 September to October 1 2009, Paskeville, SA**

Email: [ypfd@netyp.com.au](mailto:ypfd@netyp.com.au)

Further information: [www.ypfielddays.com.au](http://www.ypfielddays.com.au)

### WA State NRM Conference

**27-30 October 2009, Geraldton, WA**

Email: [ctc@nacc.com.au](mailto:ctc@nacc.com.au)

### Environmental and Resource Economics Early Career Workshop

**3-4 November 2009, Bathurst, NSW**

Further information: [www.ecrew.org.au/index.htm](http://www.ecrew.org.au/index.htm)

### OECD-GenomeAssociation-OZ09

**9-12 November 2009, The University of Western Australia, Perth, WA**

Further information: [www.oecd-genomeassociation-oz09.com](http://www.oecd-genomeassociation-oz09.com)

### 4th International Conference on Coexistence between Genetically Modified (GM) and Non-GM Based Agricultural Supply Chains

**11-12 November 2009, Melbourne, Vic**

Further information: [www.gmcc-09.com](http://www.gmcc-09.com)

### 2009 APEN Conference

**11-13 November 2009, Busselton, WA**

Further information: [www.apen.org.au](http://www.apen.org.au)

**Australian Agricultural and Resource Economics Society**

**2009 Conference (53rd)**

**10-12 February 2009, Adelaide, SA**

Further information: [www.alloccasionsgroup.com/AARES2010](http://www.alloccasionsgroup.com/AARES2010)

**Outlook 2010 (ABARE)**

**2-3 March 2010, Canberra, ACT**

Further information: [mfinnegan@abare.gov.au](mailto:mfinnegan@abare.gov.au)

**WANTFA Annual Conference**

**10 March 2010, TBA**

Email: <mailto:kaye@wantfa.com.au>

Further information: [www.wantfa.com.au](http://www.wantfa.com.au)

**2010 International Climate Change Adaptation Conference - Adaptation Futures**

**29 June - 1 July, Gold Coast, Qld**

Further information: [www.nccarf.edu.au/conference2010](http://www.nccarf.edu.au/conference2010)

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