

Student passion extends saltbush studies



ABOVE: PhD student, Chelsea Fancote working in a sheep pen. (Photo: CSIRO)

By Laureta Wallace
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As a salinity-fighting tool and fodder for prime lambs, the future of saltbush in Australian farming systems looks bright. FFI CRC PhD student Chelsea Fancote (UWA) has made it her mission to further explore the potential of the native shrub and is hoping to produce some exciting results, including new information about the plant's benefits for animal health and performance.

A passion for increasing the value of saline land and answering questions others can't has inspired one young Western Australian in her PhD endeavours.

Chelsea Fancote, was born and raised on a wheat and sheep property in Brookton, WA and knows only too well the impact salinity is having on producers' bottom lines.

After completing a UWA Bachelor of Science Honours degree in agriculture Chelsea is relishing the freedom to research a topic she is committed to.

"I am passionate about finding ways for farmers to see saline land as productive and encourage them to revegetate and rehabilitate it to reduce the spread of dryland salinity," Chelsea said.

Chelsea's PhD project is entitled *Investigating production of high quality lamb meat from animals grazing saltbush* and is being carried out with the support from UWA, the FFI CRC and CSIRO's Livestock Industries division.

"My PhD project focuses on examining the prospects for producing high-quality lamb meat from saltbush grazing. I will also consider the effects of some of the compounds found in saltbush on carcass composition, meat quality and animal health and performance," Chelsea said.

Saltbush versus unimproved pasture

Chelsea, together with supervisors, Dr Hayley Norman (CSIRO), Dr Phil Vercoe and Dr Ian Williams (UWA) and Dr Kelly Pearce (Murdoch University), is carrying out an experiment exploring how saltbushes planted on saline land can be used in the production of high-quality prime lambs. The experiment compares the grazing of a saltbush-based pasture to an unimproved pasture with no saltbush. The study looks at the influence

each scenario has on various aspects of animal health and performance, as well as carcass composition and meat quality.

"The high salt tolerance of saltbush enables these plants to thrive in areas others cannot, while providing a source of green feed for grazing livestock during summer and autumn that has potential to be used in prime lamb production," Chelsea said.

"Saltbush can survive in salty environments because they absorb the salt and other minerals and store them in their leaves.

"It is these minerals and secondary plant compounds that may hold the key to improvements in animal health, performance and meat quality."

The method

The experiment site is at Yealering, WA. There, Chelsea's lambs either graze saltbush or unimproved pastures for a 'backgrounding' period of eight weeks. Following the backgrounding, lambs will be finished in a commercial feedlot and slaughtered.

"The animals backgrounded on the saltbush diet are expected to perform better in the feedlot than those on the non-saltbush diet because of the saltbush compounds," Chelsea said.

Vitamin E is an essential antioxidant that is found in high amounts in saltbush and is important for animal health and productivity. Similarly, betaine has been associated with improved performance in other animal species and may also help lambs in feedlots to cope with heat stress.

"We also hypothesise the saltbush-grazed carcasses will be lower in fat with a higher proportion of lean meat," Chelsea explained.

If Chelsea's hypothesis proves correct, there is the potential for producers to market their lamb in a whole new light.

"Saltbush-grazed lambs could be marketed as a lean, healthy food option, potentially at

a price premium compared with lamb grazed on traditional feed sources," Chelsea added.

Joining the battle against salinity

Making the decision to embark on a PhD project was the result of a Chelsea's farming background and her appetite for learning.

"During my initial studies I realised how much I enjoyed researching and trying to answer questions to which people didn't already know the answers.

"I was based at CSIRO's Perth headquarters during my honours project and found the people I was working with had similar research interest to me which led me to pursue further studies and undertake a PhD."

Despite a mile of work ahead of her and many questions still to be answered, Chelsea already knows where her future research interests lie.

"I would love to be involved in the further development of productive and profitable uses for saline land. Identifying the potential for animal production from different or even new plant species that can live in this environment could be really useful."

More information

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