

# New durum head for Waite

By PAULA THOMPSON

**W**ELL-KNOWN plant breeder Tony Rathjen has made a significant contribution to South Australia's durum industry through work on the breeding program at University of Adelaide's Waite campus for the past two decades.

During that time, the industry has moved from being virtually non-existent in the State to one that is set to produce 220,000 tonnes from 70,000 hectares this season.

With Dr Rathjen set to retire in mid-2012, a succession plan has been put in place. Dr Jason Able was appointed the new durum wheat breeder and lecturer in plant breeding at Waite last month.

As part of this role, Dr Able will take over leadership of the southern breeding operations of the Australian Durum Wheat Improvement Program. Initially, he will be under the mentorship of Dr Rathjen and be assisted by technical officers Christopher Stone and Ranjit Das.

Dr Able has been with the University of Adelaide since completing his PhD at the University of Queensland in 2001. He has more than 10 years of research experience in cereal genetics and is looking forward to applying that knowledge.

"I've basically focused on bread for the last seven years," he said. "I've always worked with cereals, but this is my first foray into durums."

Dr Able hails from Toowoomba, Queensland, and developed an interest in plant breeding.

"Since my undergraduate days, doing a Bachelor of Science in Queensland, I've always been interested in plant breeding," he said.

"I remember going on field trips with Pioneer Seed and Pacific Seeds and learning from their breeders."

Dr Able comes to the durum breeder role with a wealth of experience including:

- Publishing more than 15 peer-reviewed scientific articles since 2005.
- Attracting more than \$1.5 million to the University of Adelaide since 2001.
- Being awarded Grains Council of Australia Leadership Fellowships in

## Key points

- Tony Rathjen set to retire
- Mentoring period in place
- Focus on global collaborations

2005 and 2006.

- Receiving the Peter Goldacre medal in 2008. This is awarded by the Australian Society of Plant Scientists to a scientist who is less than 10 years out of their PhD and has made a significant contribution to plant science.
- Has built and maintained collaborations nationally and internationally with cereal geneticists and breeders.
- Presented seminars nationally and internationally including at the University of California, Berkeley, USA; the University of Wales, Aberystwyth, UK; The John Innes Centre, Norwich, UK and The University of Delhi South Campus, Delhi, India.
- Has participated in wider community events in rural/regional SA including forums relating to cereal biotechnology.

Dr Able will be leading a new GRDC-funded project on root traits in durum. He will be assisted by two new staff members – a postdoctoral research fellow Dr Alison Millar and technical officer David Keetch.

A major target of the durum pre-breeding program over the next few years is to investigate genetic variation in root architecture. In addition, zinc efficiency will be examined with a view to evaluating its effect against significant durum pathogens – as well as yield and stress adaptation.

"There was some literature in the late eighties and early nineties linking improving tolerance to crown rot with improved zinc efficiency. We'll be revisiting it as part of the project," he said.

Dr Able said results from this research would lead to the development of enhanced durum germplasm that could then be used as parental material in the breeding program.

Both the Australian Durum Wheat



**TAKING OVER:** Dr Jason Able has been named the new durum wheat breeder at the University of Adelaide's Waite campus.

Improvement Program and the root traits projects benefit from molecular support from Professor Diane Mather and Dr Genet Mekuria who work at Waite.

Dr Able said he would be continuing with and building on the work of Dr Rathjen.

Earlier this year, the durum breeding program under Dr Rathjen saw the release of a new variety – Tjilkuri which means 'green shoots'.

He believes that the durum program has a bright future, not just locally and nationally but globally.

"To raise the profile of the program and to attract further investment for research, one of my priorities in the next five years – in conjunction with the Waite Research Institute and colleagues at the Waite Campus – is to build new collaborations with overseas breeding programs and markets that are interested in durum," he said.

As part of this, Dr Able will travel overseas next year, looking to establish new links with more organisations.



**TOP CROP:** Crops of the new barley variety Oxford are performing well in the South East this year, despite pressure from heavy falls during harvest.

## Oxford barley holds up in wet weather

**MUCH** of the South Australia's barley crops have been hit hard by wet weather this year but South East farmer Judy Childs says the new variety, Oxford, is holding up well.

Ms Childs, who farms at Kalangadoo, said the Oxford barley was expected to yield between 6 and 7 tonnes a hectare this season.

This year, she planted 34ha and unlike a number of other barley crops in the region that were hit by scald, Oxford remained free of the problem.

"It hasn't had a fungicide treatment and has no scald or rust in it," she said.

"What stands out for me is that in a wet year like this one, it has shown tremendous resistance to typical barley leaf diseases. Its straw strength has prevented any lodging late in the season. Other barleys have suffered."

Ms Child's agronomist, Landmark Naracoorte, Craig Hole, said he could not see any drawbacks with Oxford agronomically.

"This year it's a stand-out among barley crops in

this area as many have suffered scald and leaf rust," Mr Hole said.

"The thing that struck me was how dense Judy's Oxford was from the word go."

"She only sowed at 75 kilograms/ha but the Oxford tillered like you wouldn't believe."

Ms Childs said she found Oxford versatile and resilient in the constraining conditions experienced over the past two seasons.

"This is my second year growing Oxford and at this point it is very encouraging," she said.

Despite scorching temperatures last November, the barley still went 4.7t/ha in the 2009-10 season.

Oxford is a medium to late-maturity barley with high yield potential, wide adaptation and excellent resistance to lodging. It is similar in maturity to Baudin and Gairdner but with a larger kernel size.

It is resistant to powdery mildew, leaf rust, and moderately resistant to leaf scald, net form of net blotch and spot form of net blotch.

• Details: Tim Pepper 0417 500 911.

## 2011 Agricultural Tour Program

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