

Consultants get canopy management message

WA grain growers can learn a lot from crop canopy management techniques used in the eastern states, according to the WA Association of Agricultural Consultants.

Canopy management involves managing a variety of crop inputs – including varieties, seeding rate, seeding date, moisture, nutrients and weed and pest control – to manage biomass and optimise yield.

AAAC members recently took part in a GRDC supported workshop in Northam led by two of Australasia's leading canopy management researchers, Nick Poole and Mick Faulkner.

Mick, of South Australian group Agrilink Agricultural Consultants, said one of the keys to improving yields through better canopy management was for the industry to move beyond the assumption that it was simply about the timing of nitrogen applications.

"For a long time there has been this assumption that managing the crop canopy could be done by simply applying nitrogen later in the season," Mick said.

"But the research we've done in recent years looks at a more holistic approach to optimising the crop canopy, by looking closely at what the plant is doing at different growth stages and asking ourselves – 'are we setting up this plant to yield, or are we creating biomass which is not helping us get the desired outcome?'"

Attendees at the workshop also looked at using remote sensing techniques to compare plant biomass spatially, and year on year, as a tool for measuring the effectiveness of canopy management strategies.

AAAC WA President David Williams said consultants picked up valuable information on how varieties, seeding rates, fertiliser applications and fungicide applications interacted with available moisture to affect plant biomass and grain filling.

"The key message is about using canopy management to promote yield rather than growing bulky crops," David said.

"But it's clear we could benefit from a lot more investigation into how this could be applied to local conditions."

GRDC Western Panel Chair Neil Young, who also attended the workshop, said one of the most important developments from the day was that it marked the start of close

co-operation between farm advisers and GRDC supported researchers.

"From GRDC's point of view it was fantastic to see the exchange of ideas between our WA consultants, who have such a huge influence over the adoption of new

practices, and these leading edge researchers who can bring a fresh perspective to our industry," Neil said.

For more information on GRDC's canopy management research visit www.grdc.com.au/canopymanagement ■



Canopy management should be aimed at grain yield rather than creating bulky crops.



CROP DOCTOR With Peter Reading **SOUTH**

WHEAT PROTEIN RESEARCH CUTS BREEDING TIMELINE

Cutting edge protein analysis of new wheat varieties is speeding up the breeding process and delivering better quality wheat for Australian grain growers.

Researchers at Murdoch University and the WA Department of Agriculture and Food have developed a new method of molecular analysis for wheat protein that identifies varieties with good dough strength and extensibility from a single seed.

The GRDC supported project has led to a significant improvement in accuracy and turn-around times for analysing wheat protein. All of the major wheat breeding programmes from across Australia have been taking advantage of the technology.

According to DAFWA's Senior Molecular Geneticist, Dr Wujun Ma, what was once done by bulking up varieties to the stage where there was enough seed for test milling and processing is now done from molecular analysis of a single seed.

"There are a number of different proteins in wheat which affect quality," Wujun said. "What we identify are those proteins that improve the dough strength and extensibility of a wheat type and provide that information back to wheat breeders," Wujun said.

"Using this information a breeder can quickly identify which crosses out of the many they produce have the quality characteristics the market requires in early stage testing, before enough seed is available for the more expensive test milling stage."

Peter Reading is the Managing Director of the Grains Research and Development Corporation, phone (02) 6166 4500.



Dr Wujun Ma.