

## Conference Program

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### Sunday 10 September 2006

3:00pm	Registration and Poster Set Up <i>Parmelia Hilton Hotel</i>
5:00pm	<i>Welcome Reception</i>

### Monday 11 September 2006

8:00am	<b>Conference opening</b> Room: <i>Argyle</i> Chaired by Prof. Alan Robson, Vice Chancellor, The University of Western Australia Welcome Prof. Len Wade, President, Australian Society of Agronomy
8:10am	<b>Opening Oration</b> Can Science and Technology based agriculture feed the world in 2025? <b>Prof. M S Swaminathan</b> - Swaminathan Research Foundation, Chennai, India
8:50am	<b>Plenary Session: Building crop and pasture systems for sustained productivity and profitability.</b> <i>Room: Argyle</i> Chair: Prof Alan Robson. Vice Chancellor, UWA
8:50am	Invited Paper: The tension between specialisation and diversification in the evolution of farming systems for the Australian crop-livestock zone. <b>Assoc. Prof. Mike Ewing</b> – CRC for Plant-based Management of Dryland Salinity
9:30am	New annual pasture legumes for southern Australia – 15 years of revolution. <b>Phillip Nichols</b>
9:50am	Burning narrow windrows for weed seed destruction. <b>Michael Walsh</b>
10:10am	The role of nitrogen and in-crop lucerne suppression for increasing cereal performance in companion cropping systems. <b>Robert Harris</b>
10.30am	Morning Tea

11:00am	<b>Concurrent Session 1A</b> <b>Pulse agronomy</b> <i>Room: Stirling</i> Chair: Prof Neil Turner  Land Suitability for grain legume production in Western Australia. <b>Peter White</b>	<b>Concurrent Session 1B</b> <b>Management of subsoil constraints</b> <i>Room: Argyle</i> Chair: A/Prof. Richard Bell  Acidification of Western Australia's agricultural soils and their management. <b>Stephen Davies</b>	<b>Concurrent Session 1C</b> <b>Participatory research in practice</b> <i>Room: Fremantle</i> Chair: Tracey Gianatti  Factors affecting planting decisions in Central Queensland farming systems – lessons from on-farm research. <b>Jessica Mowat</b>	<b>Concurrent Session 1D</b> <b>Water use by crops</b> <i>Room: Karri</i> Chair: Dr Phil Ward  Water Extraction of high retention cotton crops. <b>James Neilsen</b>
11:20am	Modelling the population dependence of canopy development and biomass partitioning of field peas. <b>Li Frank Yonghong</b>	Subsoil constraints and wheat production in Queensland: economic impacts and fertiliser management opportunities. <b>Robert Farquharson</b>	Yield Prophet®: An online crop simulation service. <b>James Hunt</b>	Initial soil water: myth and management. <b>Carina Moeller</b>
11:40am	Economic chickpea production for southern Australia through improved cultivars and strategic management to control ascochyta blight. <b>Larn McMurray</b>	Towards an understanding of variability in yield responses to liming. <b>James Fisher</b>	Developing a better understanding of determining potassium requirements in cereal cropping in the central wheatbelt of Western Australia. <b>Jeff Russell</b>	Options for root zone drainage in high rainfall areas. <b>Derk Bakker</b>
12noon	Interpreting variable data from herbicide tolerance trials on pulse cultivars for on-farm applicability. <b>Jason Brand</b>	The effect of P and K nutrition on the tolerance of wheat and chickpeas to subsoil salinity. <b>Dhananjay (Jay) Singh</b>	Evaluating knowledge and practices to combat subsoil constraints in north-eastern Australia. <b>Stuart Buck</b>	Reduced frost damage in wheat crops grown in delved soils. <b>Melissa Rebbeck</b>
12.30pm	Lunch			
130pm	<b>Concurrent Session 2A</b> <b>Simulating agronomic impacts on grain production</b> <i>Room: Karri</i> Chair: Dr Senthold Asseng  Simulation of millet response to combined application of cattle manure, millet residue and chemical fertiliser in the Sahel using APSIM. <b>Irenikatche Akponikpe</b>	<b>Concurrent Session 2B</b> <b>Impacts of subsoils constraints on productivity and sustainability</b> <i>Room: Argyle</i> Chair: Dr Robert Belford  Are flip-flop yields of crops on alkaline soils in the Victorian Mallee related to subsoil physiochemical constraints? <b>James Nuttall</b>	<b>Concurrent Session 2C</b> <b>Breeding &amp; Improvement: Disease &amp; cold resistance</b> <i>Room: Fremantle</i> Chair: Dr Jens Berger  Changes in sorghum yield components after chilling. <b>Daniel Tan</b>	<b>Concurrent Session 2D</b> <b>Pasture agronomy</b> <i>Room: Stirling</i> Chair: Dr Brian Dear Hairy canary clover: a case study for integrating semi-herbaceous forage plants into agricultural systems. <b>Lindsay Bell</b>

1:50pm	Assessing the impact of agronomy on wheat yield across soils and locations. <b>Doug Abrecht</b>	High chloride in subsoil: a key indicator for potential grain yield losses in southwest Queensland. <b>Yash Dang</b>	Development and adoption of new kabuli chickpea varieties in Australia. <b>Kerry Regan</b>	Turning pastures into profit: optimising pasture utilization and stocking rates <b>Mike Hyder</b>
2:10pm	Managing spatial variability of grain yield at the paddock level in southeastern Australia. <b>Abdur Rab</b>	Catchment based long-term monitoring reveals the value of lime application to correct soil acidity. <b>Joel Andrew</b>	Reducing management inputs and maximising seed quality in faba beans through improved varieties. <b>Jim Egan</b>	Managing high stubble loads: is grazing the answer? <b>Julianne Lilley</b>
2.30pm	Afternoon Tea & Poster Viewing			
3.30pm	<b>Donald Medal presentation and oration</b> <b>Presentation of the Young Agronomist Award</b> <i>Room: Argyle</i> Chair: Prof Len Wade			
4.20pm	<b>The Human Resources in Agriculture: Young Agronomists Forum</b> <i>Room: Argyle</i> Chair: Prof Len Wade  Where grows?- Where grows it not? If vain our toil, we ought to blame the culture, not the soil <b>Stuart Higgins</b>			
4:50pm	Perspectives on future careers in agriculture <b>Lindsay Bell and Ben Biddulph</b>			
5:10pm	<b>Forum: The diminishing human resource</b>			
6:00pm	Buses depart for BBQ at Royal Perth Yacht Club Australia II Drive Crawley			
6:30pm	Pre Dinner Drinks			
7:30pm	Dinner			
10:00pm	Buses return			

**Tuesday 12 September 2006**


8:00am	<p><b>The ARWA Plenary session: Future technologies in agriculture.</b>  <i>Room: Argyle</i>            Chair: Dr Wally Cox – Chairman of Directors, Agriculture Research Western Australia Board            Invited Paper: Appropriate Technologies for Agricultural Sustainability in an Uncertain Future  <b>Prof. Rick Roush</b></p>			
8:40am	<p>Managing spatial and seasonal variability with field can improve the profitability of grain production.  <b>Michael Robertson</b></p>			
9:00am	<p>Precision Agriculture in the Victorian Wimmera - grower perspectives.  <b>David Jochinke</b></p>			
9:20am	<p><b>ARWA Plenary session: Improving crops and pastures for targeted environments.</b>  <i>Room: Argyle</i>            Chair: Professor Len Wade            Invited Paper: Using synthetic wheats to breed cultivars better adapted to changing production conditions.  <b>Dr. Maarten van Ginkel</b></p>			
9:50am	<p>Invited Paper: Lupin Adaptation and improvement of lupin for targeted environments and markets  <b>Dr. Bevan Buirchell</b></p>			
10.30am	Morning Tea			
11:00am	<p><b>Concurrent Session 3A</b>  <b>Improving farming systems</b>  <i>Room: Argyle</i>            Chair: Dr James Fisher            Impact of row configuration on high fruit retention (transgenic) rain-fed cotton systems.  <b>Michael Bange</b></p>	<p><b>Concurrent Session 3B</b>  <b>Future technologies in Agriculture</b>  <i>Room: Stirling</i>            Chair: Dr Victor Sadras            Technologies to estimate plant available soil water storage capacities at high spatial resolution.  <b>Mike Wong</b></p>	<p><b>Concurrent Session 3C</b>  <b>Overcoming abiotic stresses</b>  <i>Room: Fremantle</i>            Chair: Dr Jairo Palta            Screening for sodium exclusion in wheat and barley.  <b>Yuri Shavrukov</b></p>	<p><b>Concurrent Session 3D</b>  <b>Weed management</b>  <i>Room: Karri</i>            Chair: Dr Michael Walsh            Who benefits most from ‘public’ R&amp;D into herbicides and weed management?  <b>Bronwyn Crowe</b></p>
11:20am	<p>Plant diversity in vegetable cropping systems.  <b>Shane Broad</b></p>	<p>ALOSCA® - a new technology to deliver rhizobia and other beneficial microbes into broadacre agriculture.  <b>Steve Carr</b></p>	<p>Tapping the large genetic variability for salinity tolerance in chickpea.  <b>Neil Turner</b></p>	<p>Competitive effects of wild radish on lupin cultivars.  <b>Shahab Pathan</b></p>




11:40am	The future of no-tillage systems in Western Australia. <b>Timothy Braslin</b>	Advances and challenges in the spatial detection of nitrogen and water stress in wheat. <b>Daniel Rodriguez</b>	Plant parameters identified for evaluating varietal performance of acid tolerance in lucerne. <b>Xianguang Zhang</b>	Using the Weed Seed Wizard to understand and manage the weed seed bank. <b>Michael Renton</b>
12noon	A diagnostic approach to systems research: two sites at South Stirling WA. <b>Walter Anderson</b>	Oxygation: Enhanced root function, yields and water use efficiencies through aerated sub-surface drip irrigation, with a focus on cotton. <b>Lance Pendergast</b>	Improving forage legume options for saline environments - <i>Melilotus</i> species <b>Mary-Jane Rogers</b>	Loss of bioavailable pendimethalin herbicide from soil under different seeding systems <b>Chauhan Bhagirath Singh</b>
12.30pm	Lunch			
1:30pm	<b>Concurrent Session 4A</b> <b>Systems to improve sustainability</b> <i>Room: Stirling</i> Chair: Dr Doug Abrecht  Characteristics of smallholder sheep farms in Yucatan, and implications for nutrient cycling research. <b>David Parsons</b>	<b>Concurrent Session 4B</b> <b>New crops for farming systems</b> <i>Room: Fremantle</i> Chair: Dr Tina Acuna  Dual purpose long season winter wheats to improve productivity in Western Australia. <b>Mohammad Amjad</b>	<b>Concurrent Session 4C</b> <b>Breeding: Wheat improvement</b> <i>Room: Argyle</i> Chair: Ben Biddulph  On wheat and salmon: the trade-off between seed size and number. <b>Victor Sadras</b>	<b>Concurrent Session 4D</b> <b>Water use by pastures and forages</b> <i>Room: Karri</i> Chair: Dr Lindsay Bell  Comparative water use productivity of forages for the dairy industry in northern Victoria. <b>Alister Lawson</b>
1:50pm	Do ultra-narrow row cotton systems offer any benefits to Australian farmers? <b>Rose Roche</b>	Dual purpose canola - a new opportunity in mixed-farming systems? <b>John Kirkegaard</b>	Reduced tillering wheat lines maintain kernel weight in dry environments. <b>Jacquie Mitchell</b>	The influence of grazing interval and perennial grass species on soil moisture. <b>Jim Virgona</b>
2:10pm	Developing supplementary feed systems for dairying in dry environments for dairy feed supplements in dry environments in New Zealand. <b>John De Ruiter</b>	Fenugreek has a role in south-eastern Australian farming systems. <b>Kate McCormick</b>	Screening for waterlogging tolerance of wheat in the field in Western Australia. <b>Glenn McDonald</b>	Soil water under lucerne phase and companion cropping systems. <b>Phil Ward</b>
2.30pm	Afternoon Tea & Poster Viewing			
3.30pm	<b>ARWA Plenary session: Managing water in a changing climate.</b> <i>Room: Argyle</i> Chair: Mr Rob Delane, Deputy Director General, Department of Agriculture and Food, WA and Director, Agricultural Research Western Australia  Invited Paper: Towards better seasonal climate forecasts for farmers. <b>Dr. Peter McIntosh</b>			

4.00pm	Climate change impact on field crops and adaptation options in Southeastern Australia <b>Muhuddin Anwar</b>
4:20pm	The use of native (endemic) grass and tree species for dryland salinity mitigation, remediation and agronomy activities in south-east Australia. <b>Glen Bann</b>
4:40pm	Genetic diversity in Australian canola and implications for future breeding. <b>Wallace Cowling</b>
5:00pm	Implications of duty of care for the development of new pasture species <b>Dean Revell</b>
5:20pm	<b>The Australian Society of Agronomy Annual General Meeting 2006</b> <i>Room: Argyle</i> Chair: Professor Len Wade, President, Australian Society of Agronomy
6:00pm	Bus departs for the University of Western Australia (UWA)
6:30pm	Public lecture <i>Alexander Lecture Theatre (Room 157 Arts Bldg) UWA</i> “Science and Achieving the UN Millennium Goals” <b>Professor M.S. Swaminathan</b>
8:00pm	Buses return to Parmelia Hilton


## Wednesday 13 September 2006

8:00am	<p><b>Healthy Soils for Sustainable Farms Plenary session: Participatory research: adopting agronomy</b>  <i>Room: Argyle</i>            Chair: Dr Tom Davison – Land and Water Australia’s Healthy Soils for Sustainable Farms programme            Invited Paper: Achieving rapid adoption: information with impact and the role for grower groups.  <b>Dr. Rick Llewellyn</b></p>			
				
8:40am	Supporting farmers and agronomists to participate and learn about on-farm research to improve local farming practices. <b>David Lawrence</b>			
9:00am	Local delivery for statewide impact: lessons from a grower group alliance. <b>Tracey Gianatti</b>			
9:20am	Remote sensing to detect nitrogen and water stress in wheat. <b>Adam Tilling</b>			
9:40am	LUCI in the sky with diamonds – modelling the wider impacts of land use change and intensification. <b>Peter Jamieson</b>			
10:00am	Using the ROOTMAP model of crop root growth to investigate soil-root interactions. <b>Vanessa Dunbabin</b>			
10.30am	Morning Tea			
11:00am	<p><b>Concurrent Session 5A</b>  <b>Arranging plants</b>  <i>Room: Argyle</i>            Chair: Dr Michael Bange            Manipulating row spacing to improve yield reliability of grain sorghum in central Queensland.  <b>Rodney Collins</b></p>	<p><b>Concurrent Session 5B</b>  <b>Overcoming N leaching and soil compaction</b>  <i>Room: Karri</i>            Chair: Chris Gazey            Hardpan penetration ability of wheat roots.  <b>Tina Acuna</b></p>	<p><b>Concurrent Session 5C</b>  <b>Effective technology transfer</b>  <i>Room: Fremantle</i>            Chair: Dr Harry Nesbitt            Participatory research for agronomy: the New Zealand experience.  <b>Huub Kerckhoffs</b></p>	<p><b>Concurrent Session 5D</b>  <b>Modelling crop water use</b>  <i>Room: Stirling</i>            Chair: Dr Dan Rodriguez            An alternative method for simulating crop water use.  <b>Hamish Brown</b></p>
11:20am	<p>A role of wide rows in lupin cultivation in Western Australia.  <b>Robert French</b></p>	<p>Understanding deep drainage in Grey Vertosols of the Moonie and Condamine catchments of south-east Queensland.  <b>Jeremy Whish</b></p>	<p>A new innovation or successful implementation?  <b>Fiona Best</b></p>	<p>Application of APSIM ‘multi-paddock’ to estimate whole-of-farm water-use efficiency, system water balance and crop production for rice-based operation in the Coleambally Irrigation District, NSW.  <b>Donald Gaydon</b></p>

11:40am	Adapting crop species on grey Vertosols in North West NSW to compensate for high chloride levels in the subsoil. <b>Nathan Ferguson</b>	Rooting patterns in double haploid lines of wheat for reduced tillering and their relationship with early N uptake. <b>Jairo Palta</b>	<i>Lifetime Wool</i> : Developing effective extension packages for farmers; a case study based on sustained behaviour change principles. <b>Mandy Curnow</b>	PAWC determines the spatial variability in grain yield and nitrogen requirement by interacting with rainfall on the northern WA sandplain. <b>Yvette Oliver</b>
12noon	A data mining case study using the Whopper Cropper database: “skip row” sorghum in Central Queensland. <b>Brendan Power</b>	Root turnover and microbial activity in cotton farming systems. <b>Nicholas Luelf</b>	Seeds of Life: A participatory variety selection program with subsistence farmers in East Timor. <b>Robert Williams</b>	On farm water management and the Madden-Julian Oscillation. <b>Lexie Donald</b>
12:30pm	Lunch Sponsored by MLA.			
1:30pm	<b>Concurrent Session 6A</b> <b>Crop sequences</b> <i>Room: Karri</i> Chair: Dr Michael Robertson  Short-term cover crops increase wheat yields in southern Queensland. <b>Lawrence Price</b>	<b>Concurrent Session 6B</b> <b>Nutrient management</b> <i>Room: Stirling</i> Chair: Dr Peter White  Response of wheat to split application of nitrogen on a leaching sandy soil. <b>Lionel Martin</b>	<b>Concurrent Session 6C</b> <b>Breeding: Diversifying forage options</b> <i>Room: Fremantle</i> Chair: A/Prof Mike Ewing  Hardy Australians: ecogeography of <i>Cullen</i> suggests perennial legumes for low rainfall pastures. <b>Richard Bennett</b>	<b>Concurrent Session 6D</b> <b>Crop agronomy</b> <i>Room: Argyle</i> Chair: Dr Penny Riffkin  Differences among wheat cultivars in their optimum sowing times in Western Australian environments. <b>Darshan Sharma</b>
1:50pm	Management of the interface between sugarcane cycles in a permanent bed, controlled traffic farming system. <b>Alan Garside</b>	Identifying nutrient management opportunities and threats in the Western Australian grains industry. <b>Wen Chen</b>	Agronomy as applied ecology – or why we shouldn’t lose sight of the big picture when marketing white pegs: a chickpea example. <b>Jens Berger</b>	Assessing the feasibility of GM cotton systems in the Ord River Irrigation Area: tillage systems for late wet season sowing. <b>Steve Yeates</b>
2:10pm	Effect of Butterfly pea ley pastures on subsequent wheat crops. <b>Michael Braunack</b>	Simulating the impacts of subsoil constraints on wheat yields in the northern grain zone. <b>Zvi Hochman</b>	Poor persistence of sub-tropical grasses over winter. <b>Geoff Moore</b>	Wheat yields after perennial pastures under drought conditions. <b>Sarah Ellis</b>
2:30pm	Afternoon Tea & Poster Viewing			

3:00pm	<b>GRDC Plenary session: Overcoming soil and nutrient constraints</b> <i>Room: Argyle</i> Chair: Dr Martin Blumenthal – GRDC program manager  Invited Paper: Nitrogen use efficiency in cereal systems <b>Prof. Achim Dobermann</b>	 <b>Grains Research &amp; Development Corporation</b>
3.40pm	Subsoil amelioration on a sand over clay: crop performance and residual yield benefits. <b>Damien Adcock</b>	
4.00pm	Summary and future directions <b>Prof. Tim Reeves</b>	
4:20pm	Conference closing & handover to incoming ASA President Chair – Prof Len Wade	
5:00pm	Delegates depart Parmelia Hilton for the short walk to the Barrack Street Jetty to catch the Captain Cook Ferry	
5:30pm	Captain Cook Ferry departs Barrack Street Jetty for Fremantle	
7:00pm	Ferry arrives at Fremantle Sailing Club, Marine Tce, Fremantle ARWA Conference Dinner	
10:30pm	Buses return to Parmelia Hilton	

#### Thursday 14 September 2006

7:30am	<b>Field Trips</b> <i>Buses leave Parmelia Hilton</i>  Field Trip 1: Participatory research and adopting agronomy. Field Trip 2: New pasture systems for short growing season landscapes. Field Trip 3: Value adding past the farm gate: The lifecycle of a barley grain and fertiliser granule. Field Trip 4: Soils, landscapes and production systems: Exploring diversity in Avon Valley farming systems. Field Trip 5: High rainfall farming systems tour: Increasing yields through better water management.	 <b>CRC FOR PLANT ~ BASED MANAGEMENT OF DRYLAND SALINITY</b>
7:00pm	Buses return	