

**INTERNATIONAL SOCIETY OF SUGAR  
CANE TECHNOLOGISTS.**



**9<sup>th</sup> SUGARCANE BREEDING AND  
GERMPLASM WORKSHOP.**

**NOVOTEL ROCKFORD PALM COVE,  
CAIRNS,**

**17 – 21 AUGUST, 2009.**



**Australian Government**

**Sugar Research and  
Development Corporation**

**Sunday, 16 August.**

16:30 – 18:30	<b>Registration: Arlington Room</b>
18:30 – 21:30	<b>Welcome cocktail party: Conference Terrace.</b>

**Monday, 17 August.**

8:15	<b>Welcome.</b>	<b>Nils Berding and Raúl Castillo.</b>
<b>SESSION THEME: Keynote presentations.</b>		<b>CHAIR: Dr Nils Berding.</b>
8:30	<b>Future opportunities for sugarcane biomass use.</b>	Dr Les A. Edye, Principal Research Fellow, Queensland University of Technology, Brisbane.
9:30	<b>Sugarcane crop improvement - an R&amp;D investors' viewpoint.</b>	Dr Frikkie Botha, Executive Director, Sugar Research and Development Corporation, Brisbane.
10:30	<b>Morning tea.</b>	
<b>SESSION THEME: Bioenergy.</b>		<b>CHAIR: Dr Anna Hale.</b>
11:00	<b>FAPESP bioenergy program BIOEN: Research on the improvement of sugarcane, ethanol production, and its impacts.</b>	<b>Glaucia Mendes Souza.</b>
11:30	<b>Developing new varieties that combine high sugar content with high fibre content: future prospects for multi-purpose energy canes in the Caribbean.</b>	<b>Anthony Kennedy.</b>
12:00	<b>Energy cane breeding and selection in Louisiana – a progress report.</b>	<b>Thomas Tew, Anna Hale, Yong-Bao Pan, and Edward Richard, Jr.</b>
12:30	<b>Lunch.</b>	
13:00		
13:30	<b>Breeding sugarcane for sugar plus energy production.</b>	<b>Phillip Jackson, Xianming Wei, Michael O'Shea, Anne Rae, and Mike Cox.</b>
14:00	<b>Characterization of <i>Saccharum</i> spp. L. Cell-wall composition at different stages of leaf senescence.</b>	Maria Thereza Bazzo Martins, Amanda P. de Souza, Bruna Arenque, Marryelli de O. Goulart, Aline Melro Murad, Alan Carvalho Andrade, Betania Ferraz Quirino, Marcos Silveira Buckeridge, and <b>Hugo Bruno C. Molinari.</b>

<b>SESSION THEME: Crop improvement. – 1.</b>		<b>CHAIR: Dr Anthony Kennedy.</b>
14:30	<b>BSES-CSIRO joint venture variety improvement program: 1. Overview and structure.</b>	<b>M.C. Cox, N. Berding, G. Piperidis, X. Wei, P.A. Jackson, J.K. Stringer, and F.C. Atkin.</b>
15:00	<b>Afternoon tea.</b>	
15:30	<b>Sugarcane improvement in South Africa: Molecular and <i>in vitro</i> technologies as adjuncts to conventional breeding.</b>	<b>Derek Watt, Shailesh Joshi, and Roy Parfitt.</b>
16:00	<b>Multi-site selection in Réunion island: first results.</b>	<b>Audrey Thong-Chane and Laurent Barau.</b>
16:30	<b>BSES-CSIRO joint venture variety improvement program: 2. Breeding objectives: concept, construction, and implementation.</b>	<b>Xianming Wei, Phillip Jackson, Joanne Stringer, Mike Cox, Barry Croft, and Robert Magarey.</b>

**Tuesday, 18 August.**

<b>SESSION THEME: Keynote presentations.</b>		<b>CHAIR: Dr Nils Berding.</b>
8:30	<b>Global trends in sugarcane improvement - Syngenta's view.</b>	Dr Manuel B. Sainz, Group Leader, Sugarcane Research, Syngenta Centre for Sugarcane Biofuels Development, Centre for Tropical Crops and Biocommodities, Queensland University of Technology, Brisbane.
9:30	<b>Application of DArT technology and associated informatics to sugarcane crop improvement.</b>	Dr Andrzej Kilian, Director, Diversity Arrays Technology Pty Ltd, Yarralumla, Canberra, Australia.
10:30	<b>Morning tea.</b>	
<b>SESSION THEME: Molecular breeding.</b>		<b>CHAIR: Dr Angélique D'Hont.</b>
11:00	<b>Comparative mapping of a sugarcane genetic map to the sorghum genome.</b>	<b>Karen Aitken, Meredith McNeil, Scott Hermann, Peter Bundock, Frances Elliott, Katarzyna Heller-Uszynska, Andrzej Kilian, Robert Henry R, and Phillip Jackson.</b>
11:30	<b>Genetic variability among sugarcane genotypes estimated by target region amplification polymorphism.</b>	<b>Silvana Creste, Luciana R. Pinto, Maximiliano Salles Scarpari, Roland Vencosky, G. Marcos, and A. Landell</b>

12:00	<b>DNA profiling and genetic diversity of sugarcane germplasms by SSR loci.</b>	<b>Liping Xu</b> , Xiaodi Huang, Youxiong Que, Jingsheng Xu, Jinlong Guo, and Rukai Chen.
12:30	<b>Lunch.</b>	
13:00		
<b>SESSION THEME: Molecular breeding.</b>		<b>CHAIR: Dr Karen Aitkin.</b>
13:30	<b>Characterization of the Bru1 (brown rust resistance) locus; distribution in sugarcane cultivars.</b>	<b>Angélique D'Hont.</b>
14:00	<b>Identification of microsatellite markers associated with brown rust resistance in a sugarcane bi-parental cross.</b>	<b>Luciana Rossini Pinto</b> , Maria Marta Pastina, Dilermando Perecin, Silvana Creste, Mauro Alexandre Xavier, Thaís Monteiro Fávero, Maximiliano Salles Scarpari.
14:30	<b>Towards marker assisted breeding of sugarcane in Australia – progress, lessons, challenges, and prospects.</b>	<b>Phillip Jackson</b> , Karen Aitken, Xianming Wei, Scott Hermann, Jingchuan Li, John Foreman, Michael Hewitt, Terry Morgan, Andrzej Killian, Katarzyna Heller-Uszynska, and Mike Cox.
15:00	<b>Afternoon tea.</b>	
15:30	<b>Molecular cloning and characterization of cytosolic malate dehydrogenase gene <i>SCcyMDH</i> from sugarcane (<i>Saccharum officinarum</i> L).</b>	<b>Jingsheng Xu</b> , Youxiong Que, Shiwu Gao, Weiqi Tang, Liping Xu, and Rukai Chen.
<b>SESSION THEME: Crop improvement. – 2.</b>		<b>CHAIR: Dr Tom Tew.</b>
16:00	<b>A tool for designing crosses for sugarcane improvement in CENICAÑA.</b>	Carlos A. Viveros, Clímaco Cassalet, Álvaro Amaya, and <b>Jorge I. Victoria.</b>
16:30	<b>BSES-CSIRO joint venture variety improvement program: 3. The role of foreign varieties in the Australian sugar industry.</b>	<b>G. Piperidis</b> , M.C. Cox, N. Thompson, and B.J. Croft.
19:00 – 23:00	<b>Fire Up Barbie Dinner – Sprigs Lawn.</b>	

**Wednesday, 19 August.**

08:30 – 17:00	<b>Field tour – BSES Meringa.</b>
20:00	<b>ISSCT Sugarcane Breeding and Germplasm business meeting. Open discussion – Raúl Castillo, Chair.</b>

**Thursday, 20 August.**

<b>SESSION THEME: Physiology.</b>		<b>CHAIR: Dr Derek Watt.</b>
8:30	<b>Assessment of genetic variation in water use efficiency and resistance to water stress in sugarcane.</b>	<b>Jaya Basnayake</b> , Geoff Inman-Bamber, Phillip Jackson, Nils Berding, and Prakash Lakshmanan.
9:00	<b>Six years of tropical, managed flower initiation in Ecuador.</b>	<b>Raúl O. Castillo</b> , Edison Silva, Fabricio Martínez, Henry Romero, and Nils Berding.
9:30	<b>Effects of modifications in the glasshouse on flowering and crossing efficiency.</b>	<b>Tracy Martiz</b> and Roy C. Parfitt.
10:00	<b>Phenology of sugarcane and <i>Erianthus arundinaceus</i> and development of a technique to control flowering time of <i>E. arundinaceus</i> in Ishigaki Island, Japan.</b>	<b>Shuichiro Tagane</b> , Yosifumi Terajima, Yasuteru Shikina, Mitsuru Kyan, Naomi Makiya, Koji Yamato, and Akira Sugimoto.
10:30	<b>Morning tea.</b>	
11:00	<b>Breeding for high phosphorus use efficiency in sugarcane.</b>	<b>Jiangxiong Liao</b> , Jun Liang, and Fengxue Fang.
<b>SESSION THEME: Biometrics.</b>		<b>CHAIR: Dr Mike Cox.</b>
11:30	<b>An evaluation of new designs for the first clonal stage of selection of the MSIRI sugar cane development program.</b>	<b>K. Ramdoyal</b> , D Santchurn, C Ramnawaz, and H Mungur.
12:00	<b>Quantitative genetic analysis of progeny tests to improve selection and genetic gains in sugarcane breeding programs.</b>	<b>Serge J. Edmé</b> , Wayne Davidson, Barry Glaz, and Jack Comstock.
12:30	<b>Lunch.</b>	
13:00		
13:30	<b>BSES-CSIRO joint venture variety improvement program: 4. Methods of analysis for family and parent data.</b>	<b>F.C. Atkin</b> , J.K. Stringer, and M.J. Dieters.

14:00	<b>BSES-CSIRO joint venture variety improvement program: 5. optimal experimental design and analysis for sugarcane clonal trials.</b>	<b>J.K. Stringer</b> , X. Wei, A.B. Smith, and B.R. Cullis.
<b>SESSION THEME: Introgression.</b>		<b>CHAIR: Dr George Piperidis.</b>
14:30	<b>50 years of sugarcane germplasm enhancement – roadblocks, hurdles, and success.</b>	<b>Anna L. Hale</b> , John C. Veremis, Thomas L. Tew, David M. Burner, Benjamin L. Legendre, and Preston H. Dunckelman.
15:00	<b>Afternoon tea.</b>	
15:30	<b>Morphological and genetic evaluation of Thai <i>Erianthus</i> collection.</b>	<b>Shuichiro Tagane</b> , Werapon Ponragdee, Chonthicha Klaewkla, Akira Sugimoto, and Taksina Sansaywichai.
16:00	<b>Chromosome genetic analysis for the hybrid progenies of <i>S. officinarum</i> L. and <i>Erianthus arundinaceus</i> (Retz.) Jeswiet.</b>	<b>Yanquan Lin</b> and Zuhu Deng.
<b>SESSION THEME: Crop improvement – 3.</b>		<b>CHAIR: Dr Raúl Castillo.</b>
16:30	<b>Traits for early-generation selection to enhance sugarcane productivity under a normally irrigated regime.</b>	<b>Sanjay B. Patil</b> , B.M. Khadi, I.S. Katageri, and P.M. Salimath.
19:00 (for 19:30)	<b>Workshop dinner – Flinders Room.</b>	

### Friday, 21 August.

<b>SESSION THEME: Crop improvement – 3.</b>		<b>CHAIR: Dr Raúl Castillo.</b>
8:30	<b>Resistance to orange rust and yellow spot in the Australian sugarcane germplasm.</b>	<b>R.C. Magarey</b> and J.D. Bull.
9:00	<b>Identification of high-sucrose parental materials for early harvesting in Ecuador.</b>	<b>Edison Silva</b> , Fabricio Martínez, Wilmer Caicedo, and Raul O. Castillo.
9:30	<b>Assessing colour and pith: fibre ratio of sugarcane varieties in the SASRI selection program.</b>	<b>R.C. Parfitt.</b>
10:00	<b>BSES-CSIRO joint venture variety improvement program: 6. Integrated data management solutions.</b>	<b>P. J. Lethbridge</b> and <b>M.C. Cox</b>
10:30	<b>Morning tea.</b>	

<b>SESSION THEME: Crop improvement - 4.</b>		<b>CHAIR: Dr Luciana Rossini.</b>
11:00	<b>Comparative analysis of commercial productivity of new and older varieties in Mauritius.</b>	<b>K. Ramdoyal</b> , D. Santchurn, G. Badaloo, and D. Bissessur.
11:30	<b>Progress from breeding and variety selection programs in Argentina.</b>	<b>Ricardo F. de Ulivarri</b> , Roberto A. Sopena, and Martin I. Issa Joya.
12:00	<b>Overview of sugarcane breeding in mainland China.</b>	<b>Jian-wen Chen</b> , Hai-hua Deng, Wan-kuan Shen, Yong-wen Qi, Phillip Jackson, Ling Peng, and Yan-hua Lan.
12:30	<b>Lunch.</b>	
13:00		
<b>SESSION THEME: Crop improvement - 5.</b>		<b>CHAIR: Dr Phillip Jackson.</b>
13:30	<b>Pedigree analysis of sugarcane varieties in mainland China.</b>	<b>Yongwen Qi</b> , Qiong Zhang, Haihua Deng, Chuiming Zhang, and Yongsheng Chen.
14:00	<b>QCANESelect™: A web-based variety management and information resource for the Australian sugar industry.</b>	<b>B. Croft</b> , D. Millard, M. Cox, and A. Burrows.
14:30	<b>The importance of understanding the sexual reproduction of sugarcane in commercial fields for the development of genetically modified (GM) sugarcane.</b>	<b>J.J. Olivares-Villegas</b> , N. Berding, T. Morgan, and G.D. Bonnett.
15:00	<b>Afternoon tea.</b>	