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The views of the authors as set out in these Conference Proceedings do not
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THIRTY-FOURTH CONFERENCE
CAIRNS, 2012

PROGRAM
The Official Opening, Annual General Meeting and all Technical Sessions of the Conference will be held at the Novotel Palm Cove Resort, Coral Coast Drive, Palm Cove, Cairns. The Industry Equipment Exhibition will be located within an adjacent air-conditioned Hoecker Pavilion.

TUESDAY, 1 May 2012
Registration at the NPCR, Coral Coast Drive from 11.00 am

AFTERNOON SESSION – 1.00 pm
Chairman: Dr N Berding

WELCOME AND OFFICIAL OPENING

1.05–1.30 Opening address, Dr Chris Russell
1.30–1.45 President’s address, Dr Nils Berding
1.45–2.45 Keynote address, Mr Jonathan Kingsman
2.45–3.15 Official opening of Industry Equipment Exhibition and afternoon tea

INVITED PAPERS
Chairman: Dr Nils Berding

3.15–3.45 Is agricultural science training in Australia in decline? Implications for our industries, by N Menzies, K Basford
3.45–4.15 Imposed change: Implications of the Welsman RD&E restructuring on the Australian sugar industry—an independent assessment, by P Gadek
4.15–4.45 Imposed change: Implications of carbon pricing for the Australian sugar industry, by S Denney
4.45–5.15 Poster presentations
5.15–6.00 Poster viewing
6.00–8.00 Welcome function

WEDNESDAY, 2 MAY 2012
MORNING SESSION–8.00 am

AGRICULTURE SESSION (Concurrent A)
Chairman: Mr Greg Shannon

Paper: 8.00–8.30 Nitrous oxide emissions from a sugarcane soil under different fallow and nitrogen fertiliser management regimes, by WJ Wang, B Salter, SH Reeves, TC Briefies, J Perna

Paper: 8.30–9.00 Validating the ‘SIX EASY STEPS’ nitrogen guide-lines in the wet tropics, by DM Skocaj, AP Hurney, BL Schroeder

Paper: 9.00–9.30 Does prolonged green cane trash retention influence nitrogen requirements of the sugarcane crop in the wet tropics? by AP Hurney, BL Schroeder
Paper 9.30–10.00 Sugarcane harvest and transport management: a proven whole-of-systems approach that delivers least cost and maximum productivity, by G Dines, S McRae, C Henderson

AGRICULTURE SESSION (Concurrent B)
Chairman: Dr Rob Magarey

Paper: 8.00–8.30 Implementation of a risk assessment program to forecast greyback canegrub damage in Mulgrave sugarcane fields, by Nader Sallam, Gail Lowe

Paper: 8.30–9.00 Implementation of a monitoring and risk-assessment system for greyback canegrub near Mackay, by PR Samson, AN Eaton

Paper: 9.00–9.30 Estimation of potential losses from the top-shoot borer, Scirpophaga excerptalis Walker (Lepidoptera: Pyralidae) in Ramu, Papua New Guinea, by LS Kuniata, KT Korowi, P Pupue


MANUFACTURING SESSION
Chairman: Mr Paul Giordani

Paper: 8.00–8.30 Improving the harvesting and transport of whole crop harvested sugar cane, by M Inderbitzin, R Beattie

Paper: 8.30–9.00 A new approach to automatically producing schedules for cane railways, by M Masoud, E Kozan, GA Kent

Paper: 9.00–9.30 A spatial display incorporating a real-time alarm and warning system for cane train operations, by J Markley, P Everitt, S Strong

Paper 9.30–10.00 Investigation into a low-cost wagon bearing failure prevention system, by AJ Craig, PF Britton

10.00–10.30 Morning tea

AGRICULTURE SESSION (Concurrent A)
Chairman: Mr David Calcino

Paper: 10.30–11.00 Determination of sucrose and glucose in sugarcane using a glucose biosensor, by MJ Curtis, DA Donald, M Ridd

Paper: 11:00–11.30 Development of near infrared (NIR) spectroscopic methods to predict carbon, nitrogen, silicon, phosphorus and potassium levels in mill by-products, by Deborah E Purcell, Zofia A Ostatek-Boczynski, Eloise C Keeffe, Wayde N Martens, Michael G O’Shea

Paper: 11.30–12.00 Season rainfall and crop variability in the Mackay region, by B Salter, BL Schroeder

AGRICULTURE SESSION (Concurrent B)
Chairman: Mr Greg Shannon


Paper: 11:00–11.30 A new method of statistical analysis for sugarcane disease screening trials, by J Stringer, B Croft, S Bhuiyan, E Deomano, R Magarey, M Cox, X Xu

Paper: 11.30–12.00 Comparison of RSD assays for diagnosis and screening varieties for resistance, by BJ Croft, J Green, KS Braithwaite
MANUFACTURING SESSION
Chairman: Mr Lino Santarossa

Paper: 10.30–11.00 Real-time cane transport scheduling, by A Pinkney

Paper: 11.00–11.30 The effect of mill orientation angle on bagasse moisture content, by GA Kent, DJ Kauppila, NJ McKenzie

Paper: 11.30–12.00 A mill design concept for reducing bagasse moisture, by GA Kent

12.00–1.00 Lunch

AFTERNOON SESSION–1.00 pm

AGRICULTURE SESSION
Chairman: Dr Rob Magarey

Paper: 1.00–1.30 Reassessing RSD: insights from Harwood, by Antony Young, Steve Lokes, Wayne Davis, Bob Aitken

Paper: 1.30–2.00 Weedicide properties of trash blankets and timing of application of pre-emergent herbicides on trash, by Emilie F Fillols

Paper: 2.00–2.30 Accelerating the characterisation of sugarcane biomass using near-infrared (NIR) spectroscopic techniques, by John Oxley, Barrie Fong Chong, Gail G Sant, Michael G O’Shea

MANUFACTURING SESSION (Concurrent A)
Chairman: Mr Lino Santarossa

Paper: 1.00–1.30 A desktop study of mill roller life prediction using cumulative fatigue damage theory, by SN Thompson, PF Britton

Paper: 1.30–2.00 An enhanced mill extraction model, by OP Thaval, GA Kent

Paper: 2.00–2.30 Modelling of the mechanical behaviour of heavily over-consolidated bagasse, by F Plaza

MANUFACTURING SESSION (Concurrent B)
Chairman: Mr Paul Turnbull

Paper: 1.00–1.30 Characterisation of sugarcane juice particles that influence the clarification process, by CCD Thai, WOS Doherty

Paper: 1.30–2.00 Polymer mud scraper assembly, by RG Attard, W Neilsen, B Refalo, G Meyer

Paper: 2.00–2.30 Preliminary studies on the flotation clarification of mixed juice, by BP Lavarack, RA Casanovas

2.30–3.00 Afternoon tea

AGRICULTURE SESSION
Chairman: Mr David Calcino

Paper 3.00–3.30 Opportunities for reducing on-farm energy use and greenhouse gas emissions in sugarcane, by Craig Baillie, Guangnan Chen

Paper: 3.30–4.00 Economic implications of changing sugarcane management practices—Mackay Whitsunday region, by M East, S Simpson, J Simpson

Paper 4.00–4.30 An assessment of sugarcane yield monitoring concepts and techniques from commercial yield monitoring systems, by TA Jensen, C Baillie, RGV Bramley, JH Panitz
MANUFACTURING SESSION (Concurrent A)
Chairman: Mr Paul Giordani

Paper 3.00–3.30 All improvement is change but not all change is improvement, by SJ Scott

Paper: 3.30–4.00 Maintenance effectiveness and efficiency, by NJ Hicks, SJ Scott

Paper 4.00–4.30 Investing wisely towards asset management excellence to assure reliable assets are consistently effective, by P Townson, D van der Berg

MANUFACTURING SESSION (Concurrent B)
Chairman: Mr Paul Turnbull

Paper 3.00–3.30 Optimisation of process parameters for the removal of hydroxycinnamic acids in sugar solutions, by DMT Nguyen, WOS Doherty

Paper: 3.30–4.00 Mixing and drying mud and ash at Tully Mill, by F Plaza, A Booth, AP Mann, GA Kent

Paper 4.00–4.30 On-line scale monitoring device, by DW Rackemann, L Cripps, P Chohan, CP East, WOS Doherty

4.30–5.00 Section AGMs

THURSDAY, 3 MAY 2012

MORNING SESSION—8.00 am

AGRICULTURE SESSION (Concurrent A)
Chairman: Mr Greg Shannon

Paper: 8.00–8.30 Soil sensing at high spatial resolution—broadening the options available to the sugar industry, by RGV Bramley, DL Gobbett, JH Panitz, AJ Webster, P McDonnell

Paper: 8.30–9.00 Preliminary evaluation of shape and colour image sensing for automated weed identification in sugarcane, by Cheryl McCarthy, Steven Rees, Craig Baillie

Paper: 9.00–9.30 Developing sugar cane yield prediction algorithms from satellite imagery, by Andrew Robson, Chris Abbott, David Lamb, Rob Bramley

Paper: 9.30–10.00 Within block spatial variation in CCS—another potentially important consideration in the application of precision agriculture to sugarcane production, by RGV Bramley, JH Panitz, TA Jensen, CP Baillie

AGRICULTURE SESSION (Concurrent B)
Chairman: Mr David Calcino

Paper: 8.00–8.30 Preparations to enhance Australia’s biosecurity: Part 2—Resistance screening and pathogen research at Ramu Agri-Industries, PNG, by RC Magarey, LS Kuniata, PR Samson, KT Korowi, KS Braithwaite, NP Thompson, R Kombukon, JI Bull

Paper: 8.30–9.00 Ramu stunt: resistance screening and validation of the diagnostic test, by KS Braithwaite, R Kombukon, LS Kuniata, RC Magarey

Paper: 9.00–9.30 The effect of smut resistance on disease incidence and severity under natural spread conditions, by RC Magarey, JI Bull, KJ Lonie, G Piperidis

Paper: 9.30–10.00 Review of the management of sugarcane red rot caused by Colletotrichum falcatum Went in India, by T Kalaimani, T Jayaraj, B Rajenderan, A Thirumurugan
MANUFACTURING SESSION
Chairman: Mr Peter Guernieri

Paper: 8.00–8.30  A preliminary study into the environmental and economic consequences of a sugar factory depithing operation, by TJ Rainey, AP Mann, CH Bakir, IM O’Hara

Paper: 8.30–9.00  Predicting the effects of bagasse depithing operations on boiler combustion performance, by AP Mann, IM O’Hara

Paper: 9.00–9.30  Tools and techniques to make managing your energy efficiency opportunities effort easy, by S Scott

Paper: 9.30–10.00  Refinery vacuum pan energy efficiency optimisation, by NJ Hicks, M Clarke

10.00–10.30  Morning tea

AGRICULTURE SESSION
Chairman: Dr Rob Magarey

Paper: 10.30–11.00  How well are the predicted breeding values of parental clones associated with family performance in the BSES-CSIRO sugarcane breeding program? by Xianming Wei, Phil Jackson, Felicity Atkin, Mike Cox, George Piperidis, Roy Parfitt

Paper: 11.00–11.30  Initiatives towards maintenance, improvement and utilisation of sugarcane germplasm in Fiji, by Amit Raj Singh, Shireen S Sattar, JS Gawander, M Krishnamurthi

Paper: 11.30–12.00  Towards a reliable method to select potentially high value Erianthus hybrids, by N Piperidis, K Aitken, S Hermann

Paper: 12.00–12.30  Genetic correlations between flowering propensity and cane yield and CCS and implications for sugarcane breeding programs, by Phillip Jackson, Xianming Wei, Felicity Atkin

MANUFACTURING SESSION (Concurrent A)
Chairman: Mr Peter Guernieri

Paper: 10.30–11.00  Developments in highly stressed large boiler ID fans, by LG Santarossa, D Lyons, J Mewing, R Thompson

Paper: 11.00–11.30  The potential for centralised second generation hydrocarbons and ethanol production in the Australian sugar industry, by JC Meyer, PA Hobson, F Schultmann

Paper: 11.30–12.00  Moisture uptake and tensile properties of starch-sugar cane fibre films, by WN Gilfillan, PA Sopade, WOS Doherty

Paper: 12.00–12.30  A review on the production of levulinic acid and furanics from sugars, by DW Rackemann, WOS Doherty

MANUFACTURING SESSION (Concurrent B)
Chairman: Mr Paul Quagliata

Paper: 10.30–11.00  Performance of WDT fugal at Marian Mill, by C Muddle, R Broadfoot, G Eastaughffe, R Treloar

Paper: 11.00–11.30  Computational dynamic analysis of a fugal floor structure, by SN Thompson, DJ Kauppila, PF Britton, MJ Van Blerk

Paper: 11.30–12.00  Importance of in-line colour measurement of sugar for product quality and factory performance, by T Diringer, BC Nielsen
12.30–1.30 Lunch
1.30–2.30 ASSCT AGM

MANUFACTURING SESSION
2.30–3.30 Workshop A: Sugar mill condition monitoring, by Alan Yarrow, ISS Machine Health, Innisfail

AGRICULTURE SESSION
2.30–3.30 Workshop A: Spatial mapping of sugarcane composition using in-field telemetry, by Steven Staunton, BSES Limited
3.30–4.00 Afternoon tea

MANUFACTURING SESSION
4.00–5.00 Workshop B: Condition monitoring of electrical drive systems, by Mark Tierney, Contec Control Technology AB, Sweden

AGRICULTURE SESSION
4.00–5.00 Workshop B: Fostering and managing innovation in agriculture, by Chris Russell, International Agriculturist and Technical Director

7.00 Conference Dinner & Closing Ceremony

**FRIDAY, 4 MAY 2012**

8.00–1.30 Field trips