39th Conference of the Australian Society of Sugar Cane Technologists (ASSCT 2017)

Cairns, Australia
3 - 5 May 2017

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THIRTY-NINTH CONFERENCE
CAIRNS, 2017

PROGRAM
The Official Opening, Annual General Meeting, and all Technical Sessions
of the Conference will be held at the Pullman Cairns International (PCI),
17 Abbott Street, Cairns City. The Industry Equipment Exhibition (IEE) and
Poster Papers will also be located within the PCI.

WEDNESDAY, 3 MAY 2017

Registration at the PCI, 17 Abbott Street from 07.30

MORNING SESSION – 09.00
Chair: Dr Rob Magarey

WELCOME AND OFFICIAL OPENING
Mayor of Cairns
Cr Bob Manning OAM

09.15–09.30 President’s address: Rob Magarey
09.30–10.15 Keynote address: Alistair Mowat: Leadership, collaboration and adaptation to
economic shocks builds resilience into the New Zealand kiwifruit industry
10.15–10.45 Official opening of the Industry Equipment Exhibition followed by morning tea

GENERAL SESSION
Chair: Rob Magarey
10.45–11.30 Keynote address: Peter Allsopp: Vision to value, or vagueness to vanishing?

Paper 11.30–12.00 Innovation and competitiveness in the Australian sugar
industry, by S Cox, S Salunke, I O’Hara, R Parker, S
Sinclair ................................................................. 16–27

Paper 12.00–12.30 Billet Length: Has the industry benefited by reducing billet
length? by Stuart Norris, Phil Patane, Chris Norris................. 28–37

12.30–13.00 Lunch

AFTERNOON SESSION – 13.00

AGRICULTURE SESSION
Chair: Danielle Skocaj

Paper 13.00–13.30 Productivity: Keynote paper
Sugar productivity—time to make an omelette, by PL Larsen,
AJ Dougall ............................................................. 38–48

Paper 13.30–14.00 Productivity: Innovative methods to analyse and summarise
mill data to identify some of the key factors impacting on
farm productivity in the Herbert by J Stringer, B Croft, I
Asamoah, L Di Bella, M Sefton, R Nielson, P Larsen, R
De Lai, I Davies ................................................... 49–66
Productivity: Is district yield potential an appropriate concept for fertiliser decision making? by Rob Bramley, Jackie Ouzman, David Gobbett ........................... 67–76

Productivity: Benchmarking cane supply quality in the Herbert, Burdekin, Proserpine and Plane Creek regions, by PL Larsen, PA Patane, I Asamoah ............................ 77–88

MANUFACTURING SESSION
Chair: Jeffery Snoad

No. 1 boiler incident—Marian Mill 2016, by T Lloyd, C Wood, D Sievers ........................................ 391–398

The development of standard operating procedures for boilers at Mackay Sugar Limited, by Robert Wilson, Bryan Lavarack .................................................. 399–405

Modelling and experimental determination of the drying kinetics of bagasse fibre, by H Slogrove, M Sheehan, C Walker ................................................................. 406–416

i. Erythorbate, an alternative to sulfite in the prevention of corrosion in sugar mill boilers by D Rodman, D Otley, L Rodriguez ....................................................... 417–422

ii. Managing a major oil leak on a 30 MW steam turbine at Cape Byron Power’s Condong cogen plant, by Thomas Kraemer, Steve Sheppard ........................................ 423–426

15.00–15.30 Afternoon tea

AGRICULTURE SESSION
Chair: Peter Samson

YCS Keynote paper:
There’s yellow, and then there’s yellow—which one is YCS? by Annelie Marquardt, Kate Wathen-Dunn, Robert J Henry, Frederik C Botha ........................................ 89–98

i. A pathology-based investigation into the cause of Yellow Canopy Syndrome, by Kathy Braithwaite, Edwina Mills, Davey Olsen .................................................. 99–106

ii. Effect of plant growth regulators on expression of Yellow Canopy Syndrome in sugarcane, by DJ Olsen, J Brownlee . 107–113

Sharpening research outcomes through innovative management and leadership, by RC Magarey ................. 114–119

MANUFACTURING SESSION
Chair: Neil Sichter

Direct contact juice heating—when to use and when not to use, by R Broadfoot, DW Rackemann ............................ 427–434

Effect of operating conditions on sucrose losses in evaporators in Australian sugar factories, by DW Rackemann, R Broadfoot .................................................. 435–444

Operation of mills with low steam demand: challenges and success in evaporator station and pan house, by Andreas Lehnberger, Fahmi Brahim, Reinhold Hempelmann ........ 445–451

17.00–18.00 Happy hour with the IEE
Proceedings of the Australian Society of Sugar Cane Technologists

THURSDAY, 4 MAY, 2017

MORNING SESSION–08.00

AGRICULTURE SESSION
Chair: Bernard Schroeder

Paper 08.00–08.30  Soil quality: Keynote paper
Mixing sugar with wine—an approach to soil quality benchmarking, by Rob Bramley, Danni Oliver, Jackie Ouzman ......................................................... 120–130

Paper 08.30–09.00  Soil quality: Invited paper
Importance of soil-borne diseases to the grains industry and role of PREDICTA B as a management and research tool, by AC McKay, D Hartley, Herdina, D Giblot-Ducray, KM Ophel-Keller ........................................... 131–140

Paper 09.00–09.30  Soil quality: Invited paper
Soil biological health—what is it and how can we improve it? by Richard Brackin, Susanne Schmidt, David Walter, Shamsul Bhuiyan, Scott Buckley, Jay Anderson .............. 141–154

Paper 09.30–10.00  Soil quality
Soil carbon, root health and nematode pests in sugarcane soils. 1. Root and soil health and its relationship to soil carbon levels, by Graham R Stirling .............................. 155–165
Soil carbon, root health and nematode pests in sugarcane soils. 2. Factors influencing nematode-suppressive services in soils from sub-tropical Queensland, by Graham R Stirling ........................................ 166–174

MANUFACTURING SESSION
Chair: Doug Sockhill

Paper 08.00–08.30  Characterisation of dissolved organic matters in molasses by using LC-OCD-OND, by Mahshid Farzanesh, Korshed Chiniu, Mohammadreza Behi, Dale McClure, Geoff Barton, John Kavanagh .......................... 452–460

Paper 08.30–09.00  A preliminary study on cultivation of Mucor plumbeus for microbial oil production using molasses, by Z Zhang, G Cai, J Te’O, Heng-Ho Wong, I O’Hara ....................... 461–471

Paper 09.00–09.30  The need of bagacillo in processing? by F Plaza, CH Bakir, DW Rackemann ..................................................... 472–478

Paper 09.30–10.00  i. How energy efficient can we get? by AP Mann .................. 479–485
ii. Leveraging regulation for industry gain: NGERS guidelines for sugar mills, by Jacqui Willcocks, Sharon Denny .......... 486–489

10.00–10.30  Morning tea

AGRICULTURE SESSION
Chair: Danielle Skocaj

Paper 10.30–11.00  Soil quality
Soil mapping scale and minimum mapping area for conventional soil mapping of central and northern sugarcane regions of Queensland, by JI McClurg .............. 175–181
### Proceedings of the Australian Society of Sugar Cane Technologists

**Paper 11.00–11.30**  
**Water quality: Invited paper**  
Herbicides and the water quality conundrum, by Phil Ross, Emilie Fillols, Belinda Billing, Aaron Davis  
182–189

**Paper 11.30–12.00**  
**Water quality**  
Review of factors associated with off-site environment contamination with the insecticide imidacloprid from Australian sugarcane fields, by KJ Chandler  
190–199

**MANUFACTURING SESSION**  
Chair: Jim Crane

**Paper 10.30–11.00**  
Electronic cane consignment at Isis Mill, by Paul Nicol, Gary McNair  
490–495

**Paper 11.00–11.30**  
Isis rail yard handling system, by M Ryan, G McNair  
496–500

**Paper 11.30–12.00**  
Improved Willison cane wagon coupling, by LG Santarossa, SI Anderson, G Zhu  
501–513

**12.00–12.30**  
Sectional AGMs

**12.30–13.00**  
Lunch

**13.00–14.30**  
Industry Workshop

**14.30–15.00**  
Afternoon tea

**AGRICULTURE SESSION**  
Chair: John Pickering

**Paper 15.00–15.30**  
**Water quality**  
Consequences of forcing sugarcane growers in the wet tropics to adopt the recommended fertiliser practices, by Karen E Benn  
200–208

**Paper 15.30–16.00**  
**Water quality workshop**  
Water quality—a grower’s perspective, by D Telford, S Calcagno, J Marano  
209–212

**16.00–16.30**  
**Water quality workshop**  
Short presentations and panel discussion

**MANUFACTURING SESSION**  
Chair: Peter Flanders

**Paper 15.00–15.30**  
40 Tonne locomotive driveline upgrade, by LG Santarossa, H Zelenka, S Vickers, F Price  
514–530

**Paper 15.30–16.00**  
Second generation remote shunting unit locomotives, by Malcolm Newman  
531–537

**Paper 16.00–16.30**  
Re-purposing Babinda and Mourilyan sugar mill sites: removal of infrastructure and remediation of land contamination, by P Anderson, D Kaye, D Bignell, M Thatcher  
538–546

**Paper 16.30–17.00**  
Sugarcane-based feed products, by MD Harrison, L Cao, W Stolz, IM O’Hara  
547–556
AGRICULTURE SESSION
Concurrent session
Chair: Greg Shannon

Paper 16.30–17.30 Extended abstracts/posters
Arbuscular mycorrhizal fungi reduce cane grub performance via multiple mechanisms including increased silicon concentrations, by Adam Frew, Jeff R Powell, Peter G Allsopp, Nader Sallam, Scott N Johnson .......................... 213–216

Poster A preliminary study on using *trichoderma* and *paenibacillus* as biocontrol agents against sugarcane fungal pathogens, by Zhanying Zhang, Junior Te’O, Ian O’Hara ...................... 217

Poster *Raivuna Iranica* (Homoptera: Dictyopharidae) a new insect associated with sugarcane in Khouzestan Province, Iran, by Amin Nikpay ................................................................. 218

Poster Improved RSD management in Harwood leads to record yields, by Anthony Young .......................... 219–221

Poster Physiological effects of YCS in sugarcane plants, by Priya Joyce, Nirosha Hewage Don, Davey Olsen ...................... 222–225

Poster Legume crop rotation suppressed the nitrifying microbial community in a sugarcane cropping soil, by Chanyarat Paungfoo-Lonhienne, Weijin Wang, Yun Kit Yeoh, Neil Halpin ................................................................. 226

AGRICULTURE SESSION
Concurrent session
Chair: Terry Morgan

Paper 16.30–17.30 Extended abstracts/posters
Whole system carbon cycling during the growing season of a sugarcane crop in the Tweed Valley, by JR Webb, RG Quirk, IR Santos, DT Maher, BCT Macdonald, B Robson, P Isaac, I McHugh ......................................................... 227–228

Poster The effect of waterlogging on eight sugarcane varieties grown on a heavy clay soil in the Herbert River, by Glen Park, Barry Salter ................................................................. 229

Poster Sugars for ratoon growth—sugars within the underground stool structure to germinate ratoon growth, by Donna Glassop, Jai Perroux, Anne Rae ............................................. 230–233

Poster Nitrogen loss in a sugarcane crop in the wet tropics, by J Fries, N Tahir, B Masters ................................................. 234

Poster Does crop size determine sugarcane nitrogen fertiliser requirements? by PJ Thorburn, JS Biggs, D Skocaj, BL Schroeder, J Sexton, YL Everingham .............................................. 235

Poster Categorising soils for improved nitrogen management in the Tully Mill area, by DM Skocaj, BL Schroeder, AP Hurney 236

Poster Comparison of existing vs. recently introduced insecticides for shoot borer control in North Central Vietnam, by NQ Nguyen, GR Cripps ......................................................... 237

Poster The effect of defoliation on Yellow Canopy Syndrome (YCS) severity in sugarcane, by Andrew Memory, Davey Olsen ... 238

18.30–22.30 Conference Dinner
FRIDAY, 5 MAY 2017

MORNING SESSION—08.00

AGRICULTURE SESSION

Concurrent session
Chair: Terry Morgan

Paper 08.00—08.30 Potential production and environmental benefits from controlled release fertilisers—lessons from a simulation analysis, by K Verburg, JS Biggs, Z Zhao, PJ Thorburn .... 239–250

Paper 08.30—09.00 Estimating economic impacts of controlled release fertilisers in sugarcane systems: an economic risk case study analysis, by John Kandulu, Peter Thorburn, Jody Biggs, Kirsten Verburg ........................................ 251–262

Paper 09.00—09.30 The assessment of enhanced efficiency fertilisers (EEFs) in a glasshouse experiment to investigate nitrogen loss pathways in sugarcane, by LP Di Bella, J Armour, P Moody, M Royle, M Ibanez, M Le Bris .................... 263–273

Paper 09.30—10.00 An economic evaluation of controlled release and nitrification inhibiting fertilisers in the Burdekin, by M Thompson, J Dowie, C Wright, A Curro ...................................... 274–279

AGRICULTURE SESSION

Concurrent session
Chair: Bert Collard

Paper 08.00—08.30 Profiling growers to understand them and the factors impacting their production, by John Agnew, James Ogden-Brown, Kevin Moore, Joanne Stringer ...................... 280–287

Paper 08.30—09.00 Parental improvement in the SRA sugarcane breeding program, by Xianming Wei, Phillip Jackson, Craig Hardner, Roy Parfitt, Felicity Atkin, George Piperidis ...... 288–295

Paper 09.00—09.30 Using DNA markers to speed up progress in sugarcane breeding, by Phillip Jackson, Xianming Wei .................... 296–303

Paper 09.30—10.00 Development of a high-throughput, low-cost SNP genotyping panel for sugarcane breeding, by Meredith D McNeil, George Piperidis, Shamsul Bhuiyan, Jingchuan Li, Xianming Wei, Bert Collard, Karen Aitken ..................... 304–311

MANUFACTURING SESSION

Chair: Doug Sockhill

Paper 08.00—08.30 A comparison of data mining algorithms for improving NIR models of cane quality measures by J Sexton, Y Everingham, D Donald ........................................ 557–567

Paper 08.30—09.00 Development of condition-based maintenance for sugar mill assets, by H Yu, P Borghesani, ME Cholette, GA Kent, L Ma, BJ Burke ..................................................... 568–576

Paper 09.00—09.30 What is the minimum number of operators required to operate a sugar mill? by D Moller ........................................ 577–585

Paper 09.00—10.00 Effect of juice screen position on extraction, by GA Kent, M Doolan ..................................................................... 586–591

10.00—10.30 Morning tea
AGRICULTURE SESSION

Concurrent session
Chair: Barry Salter

Paper 10.30–11.00 Extension of the ‘six easy steps’ nutrient management program to the Queensland wet tropics, by David Calcino, Alan Hurney, Bernard Schroeder ......................... 312–319

Paper 11.00–11.30 i. Smart automation of furrow irrigation in the sugar industry, by Malcolm Gillies, Steven Attard, Andres Jaramillo, Marian Davis, Joseph Foley .................................................. 320–325

ii. Mycorrhizal fungi interactions with nutrients, pests and pathogens in sugarcane: a review, by Anders Claassens, Catherine J Nock, Lukas van Zwieten, Terry J Rose ........ 326–332

Paper 11.30–12.00 Challenges of cane ripening using Corsair (Fluazifop-P-Butyl) and Moddus (Trinexapac-ethyl) to improve sucrose content in sugarcane at Ramu Agri Industries Limited (RAIL), Papua New Guinea, by Sam Emete, Duncan Butler, Lastus S Kuniata ......................................................... 333–341

Paper 12.00–12.30 Identification of climatological sub-regions within the Tully Mill area, by J Sexton, Y Everingham, D Skocaj, J Biggs, P Thorburn, B Schroeder .................................................. 342–350

AGRICULTURAL SESSION

Concurrent session
Chair: Graham Bonnett

Paper 10.30–11.00 Variation in stool architecture and bud sprouting: morphological traits that may contribute to ratooning, by Donna Glassop, Donald Pollock, Jai M Perroux, Anne L Rae ......................... 351–360

Paper 11.00–11.30 Integration of insecticides in the management of Sesamia grisescens Warren (Lepidoptera: Noctuidae) in sugarcane at Ramu, Papua New Guinea, by Lastus S Kuniata ............ 361–370

Paper 11.30–12.00 New methods for screening sugarcane clones for resistance to leaf scald, by Barry Croft, Andrew Greet ......................... 371–376

Paper 12.00–12.30 Incursion of sugarcane smut in commercial cane crops at Ramu, Papua New Guinea, by Leka Tom, Kathy Braithwaite, Lastus S Kuniata .................................................. 377–384

Paper 12.30–12.45 SRA quarantine: recent innovations to deliver new varieties faster, by Nicole Thompson, Elizabeth Wilson .................. 385–390

MANUFACTURING SESSION

Chair: Jeff Snoad

Paper 10.30–11.00 Soft canes and their impact on the factory, by GA Kent, RC Parfitt, DM Pike, PR Stuart, DB Pickering, H Prasad ........ 592–603

Paper 11.00–11.30 Modelling the flows through a shredder, by AP Mann, F Plaza, H Bakir, GA Kent .................................................. 604–617

Paper 11.30–12.00 Six-roll mill with shaft mounted electro-mechanical drives, by B Heron, P Delley, B O’Brien, C Garson ................. 618–630

Paper 12.00–12.30 Perforated mill roll shells, by C Garson .................. 631–642

Paper 12.30–12.45 Thyssenkrupp two roller cane mill and its performance at Indian Cane Power Ltd, Karnataka, India, by Yashwant Sakhardande, SR Kundargi ........................................ 643–649
Proceedings of the Australian Society of Sugar Cane Technologists

12.45–13.30  Lunch
13.30–14.30  ASSCT Annual General Meeting
14.30–15.00  Closing Ceremony