

ISSCT Workshops
12th Germplasm & Breeding, 9th Molecular Biology
in Okinawa, Japan
22 – 26 October 2018

Organizer

International Society of Sugar Cane Technologists (ISSCT)

Japanese Society of Sugar Cane Technologists (JSSCT)

Co-organizing Institute

Okinawa Prefectural Agricultural Research Center (OPARC)

Japan International Research Center for Agricultural Sciences (JIRCAS)

Kyushu Okinawa Agricultural Research Center / National Agriculture and Food Research Organization (KARC/NARO)

Scientific Committee

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Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD), France

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Yanmar Agribusiness Co., Ltd.

PROGRAMME

SUNDAY, 21ST OCTOBER

16:00 - 21:00	Registration
19:00 - 21:00	Welcome cocktail

MONDAY, 22ND OCTOBER

OPENING CEREMONY

9:00 - 9:05	Welcome address – ISSCT workshop secretariat	Mr. Katsuhiko Miyagi Chairperson of JSSCT Director General of OPARC
9:05 - 9:15	Welcome address – ISSCT secretariat	Dr. Goolam Badaloo for General Secretary, ISSCT
9:15 - 9:40	Welcome address – Co-organizer	Governor of Okinawa Prefecture Dr. Masamichi Daikoku Director General of KARC/NARO Dr. Hide Omae Director of TARF/JIRCAS
9:40 - 9:50	Germplasm & Breeding section	Dr. Goolam Badaloo MSIRI, Mauritius
9:50 - 10:00	Molecular Biology section	Dr. Angélique D'Hont CIRAD, France

ISSCT: International Society of Sugar Cane Technologists

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OPARC: Okinawa Prefectural Agricultural Research Center

TARF/JIRCAS: Tropical Agriculture Research Front / Japan International Research Center for Agricultural Sciences

KARC/NARO: Kyushu Okinawa Agricultural Research Center / National Agriculture and Food Research Organization

MSIRI: Mauritius Sugarcane Industry Research Institute

CIRAD: Centre de Coopération Internationale en Recherche Agronomique pour le Développement

KEYNOTE SPEECH		CHAIR: Goolam Badaloo
10:00 - 11:00	Genetic Base Broadening, the importance and future of the <i>Saccharum spontaneum</i> genome	Dr. Anthony Kennedy, Director, West Indies Central Sugar Cane Breeding Station Inc.
11:00 - 11:30	Coffee break	
SESSION THEME: Germplasm Evaluation and Use		CHAIR: Goolam Badaloo
11:30 - 11:50	Worldwide genetic diversity of <i>Saccharum spontaneum</i> and level of diversity captured in a sugarcane breeding program (MO1)	Karen Aitken*, Jingchuan Li, George Piperidis, Cai Qing, Fan Yuanhong, Phillip Jackson
11:50 - 12:10	Determining breeding values of parental genotypes for sugarcane yield (BO1)	Ntombi Mbuma, Marvellous Zhou*, Rouxlene Van der Merwe
12:10 - 12:30	Estimating breeding values in sugarcane breeding using SAS mixed models (BO2)	Marvellous Zhou*
12:30 - 12:50	How to make the best sugarcane crossings managing the flowering time (BO3)	Luciana Gonçalves Chaves Castellani*, Michael Keith Butterfield
12:50 - 13:00	Group photo	
13:00 - 14:30	Lunch	
SESSION THEME: Germplasm Evaluation and Use		CHAIR: Phillip Jackson
14:30 - 14:50	Evaluation of extent of flowering and island pithiness in commercial parent varieties in Mauritius (BO4)	Satish Koonjah, Goolam Badaloo*, Michael Mangar
14:50 - 15:10	Total antioxidant activity in early generation and commercial sugarcane genotypes in Louisiana's sugarcane variety development program (BO5)	Anna Hale*, Himaya Mula-Michel, James Todd
15:10 - 15:30	Vegetation index as a parameter for identifying spatial variability zones in early stage selection trials (BO6)	Danilo Eduardo Cursi*, Hermann Paulo Hoffmann, Monalisa Sampaio Carneiro, Roberto Giacomini Chapola, Antonio Ribeiro Fernandes Junior, Matheus Gabriel Acorsi, Márcio dos Anjos, Rodrigo Gazaffi

SESSION THEME: Improvement of Sugarcane for Stress Environments		CHAIR: Derek Watt
15:30 - 15:50	Evaluation of crossing combination for improvement of ratoon yield in Tanegashima island, Japan (BO7)	Taiichiro Hattori*, Katsuki Adachi, Michiko Hayano, Makoto Umeda, Takeo Sakaigaichi, Minoru Tanaka, Yusuke Tarumoto
15:50 - 16:10	Creation of genetic variation and selection for drought tolerance in sugarcane. (BO8)	Tanapon Chaisan*, Wannasiri Wannarat, Jetsada Authapun
16:10 - 16:30	Breeding for higher total cane biomass for marginal environments and for year-round harvest in Mauritius (BO9)	Goolam Badaloo*, Deepack Santchurn
16:30 - 17:00	Coffee break	
17:00 - 17:30	DISCUSSION SESSION: Improvement of Sugarcane for Stress Environments	CHAIR: Derek Watt

TUESDAY, 23RD OCTOBER		
SESSION THEME: Molecular Genetics & Genomic Selection		CHAIR: Karen Aitken
8:40 - 9:00	A monoploid reference sequence for the highly complex genome of sugarcane (MO2)	Olivier Garsmeur, Gaetan Droc, Karen Aitken, Bernard Potier, Marie-Anne Van Sluys, Catherine Hervouet, Edwin van der Vossen, Robert Henry, Jeremy Schmutz, Angélique D'Hont*
9:00 - 9:20	Identification and characterization of genes responsible for the brown rust resistance (Bru1) effect (MO3)	Joshi SV*, Lloyd Evans D
9:20 - 9:40	Analysis of QTL related to resistance to smut disease using Japanese wild sugarcane (<i>Saccharum spontaneum</i>) (MO4)	Masaaki Mori*, Yusuke Ueta, Tatsuro Kimura, Hiroyuki Enoki, Takeo Sakaigaichi, Yusuke Tarumoto, Minoru Tanaka, Taiichiro Hattori, Makoto Umeda, Michiko Hayano, Katsuki Adachi

9:40 - 10:00	Genome-wide association mapping for traits related to drought tolerance and biomass in sugarcane (<i>Saccharum</i> spp.) using EST-SSR markers (MO5)	Laurent Soulard*, Warodom Wirojsirasak, Nitiya Juabsap, Chirawat Prasitsom, Prapat Punpee, Peeraya Klomsa-ard, Klanarong Sriroth
10:00 - 10:20	Optimizing genomic selection in sugarcane for phenotyping cost and selection accuracy (BO10)	Kosuke Hamazaki*, Yusuke Ueta, Taiichiro Hattori, Takayoshi Terauchi, Yoshifumi Terajima, Jun-ichi Nagai, Masaaki Mori, Hiroyoshi Iwata
10:20-10:50	Coffee break	
10:50 - 11:10	Use of genomic selection to speed up gains in sugarcane breeding (BO11)	Phillip Jackson*, Xianming Wei, Emily Deomano, Karen Aitken
11:10 - 11:40	DISCUSSION SESSION: Molecular Genetics	CHAIR: Karen Aitken & Angélique D'Hont
SESSION THEME: Utilizing Wild Germplasm in Sugarcane Breeding		CHAIR: Anthony Kennedy
11:40 - 12:00	Utilizing wild germplasm in sugarcane breeding – progress and prospects (BO12)	Phillip Jackson*
12:00 - 12:20	Isolation of specific genomic DNA segments from <i>E. arundinaceus</i> and chromosome identification (MO6)	Yongji Huang, Fan Yu, Ling Luo, Zuhu Deng*, Jiayun Wu, Muqing Zhang
12:20 - 12:40	Cancelled (MO7)	
12:40 - 13:00	Characteristics of intergeneric hybrids between <i>Saccharum</i> spp. hybrid and <i>Erianthus arundinaceus</i> (BO13)	Yoshifumi Terajima*, Pachakkil Babil, Nobuko Ohmido, Masumi Ebina, Shin Irei, Akira Sugimoto, Hiroko Takagi
13:00 - 14:30	Lunch	
14:30 - 16:20	Country reports on the utilization of wild germplasm in sugarcane breeding	Anna Hale (USA), Danilo Cursi (Brazil), Goolam Badaloo (Mauritius), Audrey Thong-Chane (Réunion), Phillip Jackson, RongZhong Yang (China), Shin Irei (Japan)
16:20 - 16:50	Coffee break	

16:50 - 17:20	DISCUSSION SESSION: Utilizing Wild Germplasm in Sugarcane Breeding	CHAIR: Anthony Kennedy
17:20 - 17:30	Introduction of excursion day	

WEDNESDAY, 24TH OCTOBER

7:30 - 21:00	<p><u>Excursion day</u></p> <ul style="list-style-type: none"> - Depart from hotel: 7:30 - Okinawa Prefectural Agricultural Research Center: 9:00 – 11:00 - Lunch: 11:30 – 12:50 - Okinawa Churaumi Aquarium: 15:00 – 16:30 - Arrive at hotel : 18:15 - Dinner party: 19:00 – 21:00
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THURSDAY, 25TH OCTOBER

<i>SESSION THEME: Breeding Methods</i>		<i>CHAIR: Monalisa Carneiro</i>
8:40 - 9:00	Web-based pedigree database for sugarcane breeding (BO14)	Yusuke Tarumoto*, Katsuki Adachi, Shin Irei
9:00 - 9:20	Development of mobile application for searching Thai commercial cane varieties (BO15)	Ratana Tangwongkit*, Borpit Tangwongkit, Prasit Vongsateam, Jakgrit Kuntong, Thawat Hamarn, Pongsak Chonthanasawad, Lop Phavaphutanon
9:20 - 9:40	Selection for brown rust sugarcane resistant varieties using seedlings from fuzz (BO16)	Edison Silva*, Fabricio Martínez, Tito León, Cervando Madrid, Fabián Fiallos, Roberto Díaz Juárez
9:40 - 10:00	Evaluation of disease resistance in sugarcane crosses in China (BO17)	Rong-zhong Yang*, Hui Zhou, Fang Tan, Zhong-feng Zhou, Xiu-peng Song, Shi-yun Tang
10:00 - 10:20	How to improve selection decisions in the first replicated yield trial (RYT) of	Jean-Yves Hoarau*, Laurent Barau, Audrey Thong-Chane,

	sugarcane selection programs? (BO18)	Thomas Dumont
10:20 - 10:50	Coffee break	
10:50 - 11:10	High-throughput UAV platform for early stage selection in sugarcane clonal assessment trials (BO19)	Jayampathi Basnayake, Sijesh Natarajan, Xianming Wei, Prakash Lakshmanan
11:10 - 11:30	Investigation of genotype by environment interactions in Louisiana breeding, USA (BO20)	James Todd*, Yong-Bao Pan, Collins Kimbeng, Edwis Dufrene, Herman Waguespack, Michael Pontif
11:30 - 11:50	Multi-local selection of sugarcane analyzed with GGE biplots: overview of results at a glance and scope of lessons (BO21)	Jean-Yves Hoarau*, Susie Guilly, Laurent Barau, Audrey Thong-Chane, Thomas Dumont
11:50 - 12:10	Genetic variability of yield traits in diverse sugarcane ecologies of selection in Réunion island (BO22)	Thomas Dumont*, Jean-Yves Hoarau, Laurent Barau, Audrey Thong-Chane, Bernard Siegmund
12:10 - 13:10	Poster Session (BP, MP): Odd Number	
13:10 - 14:30	Lunch	
<i>SESSION THEME: Molecular Physiology - Transgenic</i>		<i>CHAIR: Jershon Lopez</i>
14:30 - 14:50	The developmental stages of sugarcane are equivalent between plants of different chronological ages (MO8)	Donna Glassop*, Mark P. Hodson, Panagiotis K. Chrysanthopoulos, Anne Rae
14:50 - 15:10	Transcriptomic characterization and potential marker development of contrasting sugarcane genotypes in response to leaf abscission, resistance to Pokkah boeng and water stress (MO9)	Shiqiang Xu, Jihua Wang, Heyang Shang, Youzong Huang, Wei Yao, Baoshan Chen, Muqing Zhang*
15:10 - 15:30	Guidelines for commercial release of transgenic sugarcane in Argentina (MO10)	Aldo Noguera, Ramón Enrique, María Francisca Perera*, Santiago Ostengo, Josefina Racedo, Diego Costilla, Silvia Zossi, María Inés Cuenya, María Paula Filippone, Björn Welin, Atilio Pedro Castagnaro
15:30 - 16:00	Coffee break	

16:00 - 16:20	Development of transgenic sugarcane associated with increasing biomass, sugar and stress in Colombia (MO11)	Jershon López*, Hugo Jaimes, Marcela Franco, Isabel Ocampo, Rocio Barrios, Fredy Salazar, Fredy Garcés
16:20 - 17:00	Country reports on transgenic developments	
17:00 - 17:30	DISCUSSION SESSION: Transgenesis	CHAIR: Jershon Lopez

FRIDAY, 26TH OCTOBER

<i>SESSION THEME: Evaluation & Adoption</i>		<i>CHAIR: Rajeswari Subramanian & Edison Silva</i>
8:40 - 9:00	Studying three-way interaction under generalized sites regression model in sugarcane final assessment trials (BO23)	Gabriela Estéfano Saraiva Leme, Danilo Eduardo Cursi, Roberto Giacomini Chapola, Hermann Paulo Hoffmann, Rodrigo Gazaffi*
9:00 - 9:20	Methodology for selecting sugarcane clones for dry environments (BO24)	Zhao Peifang, Phillip Jackson*, Liu Jiayong, Chen Xuekuan, Jaya Basnayake, Prakash Lakshmanan, Zhao Xindong, Fan Yuanhong
9:20 - 9:40	Screening of elite sugarcane germplasm for developing high sugar varieties in South India (BO25)	Rajeswari Subramanian*, S. Parthiban, P. Bharathi, K. Shanmugha Sundaram, S.J. Lakshman
9:40 - 10:00	Evaluation of cultivar performance of sugarcane in the temperate area in Japan (BO26)	Shozo Okada*, Masami Ueno, Yoshinobu Kawamitsu
10:00 - 10:20	Performance of selected Phil 2009 series of sugarcane varieties in four mill districts in Luzon (BO27)	Rachel Sarol, M.V. Serrano*, N. Guiyab, A. Casupanan, P. Macamos Jr., L. Santiago III, S. Ocampo, L. Caranguian
10:20 - 10:50	Coffee break	
10:50 - 11:10	Long-term evaluation of the productivity of sugarcane cultivars in the Daitoh islands, Okinawa (BO28)	Hiroo Takaragawa*, Eizo Taira, Masami Ueno, Yoshinobu Kawamitsu
11:10 - 11:30	Rapid adoption of new varieties through post-release trials in Ecuador (BO29)	Edison Silva C.*, Fabricio Martínez, David Palomeque,

		Walter Jara, Glenda Toala
11:30 - 11:50	Identifying breeding groups to select sugarcane genotypes according to sucrose accumulation curves (BO30)	Santiago Ostengo*, Angélica Rueda Calderón, Cecilia Bruno, María I. Cuenya, Mónica Balzarini
11:50 - 12:10	Evaluation of the phenotypic diversity for traits related to plant growth and sugar content in a sugarcane germplasm collection (BO31)	Warodom Wirojsirasak*, Sucharat Butphu, Phunsuk Laotongkum, Chirawat Prasitsom, Laurent Souldard, Prapat Punpee, Peeraya Klomsa-ard
12:10 - 13:10	Poster Session (BP, MP): Even Number	
13:10 - 14:30	Lunch	
14:30 - 15:30	Business Session Meeting (Breeding and Molecular Biology Committees)	Chairs and Committee Members and all interested delegates are welcome
15:30 - 16:00	Coffee break	
16:00 - 16:10	Closing remark	
17:00 - 21:00	Farewell Party	

MO: Oral presentation of Molecular Biology Section

BO: Oral presentation of Germplasm and Breeding Section

BP: Poster presentation of Germplasm and Breeding Section

MP: Poster presentation of Molecular Biology Section