VTH ISSCT MOLECULAR BIOLOGY WORKSHOP

Réduit, MAURITIUS
3 - 7 April 2006

"Molecular Biology-The Means for Driving the Sugar Cane Industry Forward"

- **Programme**
- Abstracts

PROGRAMME & PRESENTATIONS

Monday 3 April

Keynote address:
From Sugar to renewable biomass: the way ahead
Dr. Jean-Claude Autrey, Director MSIRI

Session 1: GENETICS, PHYSIOLOGY, MAPPING AGRONOMIC TRAITS AND DISEASE RESISTANCE TRAITS

- QTL mapping of sugar cane resistance to brown spot (Cercospora longipes, Butler)
  S M Aljanabi (salijanabi@msiri.intnet.mu), Y Parmessur, H Kross, S Dhayan, S Saumtally and A Dookun-Saumtally
- Genetic of sugar cane resistance to smut (Ustilago scitamineae) : characterisation of pathogen diversity, QTL mapping in a
  bi-parental progeny and associations study among modern cultivars
  L-M Raboin, A Selvi, S Nibouche, K Miranda Oliveira, J Pauquet, C Calatayud, M Zapater, O Garsmeur, H Telismart, J Dintinger,
  J-H Hoarau, L Costet, J Carlier and A D'Hont (dhont@cirad.fr)
- A framework for linkage disequilibrium mapping in the highly polyploid genome of sugar cane
  Louis-Marie Raboin, Jérôme Pauquet, Mike Butterfield, Angélique D'Hont (dhont@cirad.fr) and Jean-Christophe Glaszmann

Reporting Summary of Session 1 discussions

Tuesday 4 April

Session 2: GENETIC IMPROVEMENT, MARKER ASSISTED BREEDING AND GENETIC DIVERSITY

- New markers from sugar metabolism ESTs
  Jorge A da Silva (jadasilva@ag.tamu.edu), John Veremis and Nora Solís-Gracia
- Genotyping of sugar cane using molecular markers
  Y Parmessur, S Aljanabi (salijanabi@msiri.intnet.mu), V Narrainsawmy and A Dookun-Saumtally
- Biodiversity of endophytic diazotrophs in sugar cane
  G S Magnani, C Martin-Didonet, L M Cruz, F O Pedrosa, V Baura, C Fadel-Pichet, M B Steffens, L U Chubatsu, L U Rigo, E M Souza and S Aljanabi (salijanabi@msiri.intnet.mu),
- Evaluation of genetic diversity among a collection of S. spontaneum and related species using AFLP markers
  Jie Arro (jarro1@lsu.edu) , Collins A. Kimbeng , John C. Veremis , Christopher J. Botanga **(Poster)**

Reporting Summary of Session 2 discussions

Wednesday 5 April

Session 3: SUGAR CANE GENOMICS

- Complexities of chromosome landing in a highly polyploid, aneuploid, interspecific genome : towards map-based
  cloning of a resistance gene (Bru1) in sugar cane (2n=ca 115)
  Loic Lecunff, Olivier Garsmeur, Jérome Pauquet, Louis Marie Raboin, Romain Philippe, Hughes Telismart and
  Angélique D'Hont (dhont@cirad.fr)

- The SUCEST-FUN Project : Searching for sugar cane genes with a biotechnological prospect
  Glaucia Mendes Souza and Eugenio Ulian (eugenio.ulian@gmail.com)
- Changes in leaf gene expression patterns associated with source-sink perturbation
  Alistair McCormick, Mike Cramer and Derek Watt (derek.watt@sugar.org.za) **(Poster)**

Thursday 6 April

Session 4: SUGAR CANE TRANSFORMATION

- Sugar cane proteins interacting with HC-Pro, a suppressor of RNA silencing from Sorghum mosaic virus
  T Erik Mirkov (e-mirkov@tamu.edu) and Jong-Won Park
- Genetic manipulation of sugar cane
  E C Ulian (eugenio.ulian@gmail.com)
- Progress towards the generation of drought tolerant transgenic sugar cane containing the CBF4 transcriptional factor from Arabidopsis
  R McQualter and A Dookun-Saumtally (adookun@msiri.intnet.mu)

Reporting Summary of Sessions 4 & 5 discussions

Friday 7 April

Session 5: SCIENTIFIC AND TECHNICAL ADVANCES

- An alternative approach for micropropagation of sugar cane using leaf discs as explants
  K Mulleegadoo and A Dookun-Saumtally (adookun@msiri.intnet.mu)
- Increased embryogenic competence and transformation efficiency of sugar cane explants containing pre-emergent inflorescences
  S J Snyman, G M Meyer, J M Richards, N Haricharan, S Ramgareeb and B I Huckett (barbara.huckett@sugar.org.za) **(Poster)**

Presentation by Dr. Jean-Claude Autrey, Immediate Past Chairman ISSCT on ISSCT's New Strategic Initiative:
International Sugar Cane Biomass Utilization Consortium (ISBUC)

Discussion on Molecular Biology Publications in ISSCT Proceedings

Discussion on Molecular Biology Section Committee and its programme.

Workshop wrap-up and recommendations