

## **Report of XI STAI DSTA Joint Convention,4-6 September 2015,Goa**

**The Sugar Technologists' Association of India (STAI) & The Deccan Sugar Technologists' Association (India)** successfully organized their flagship event **XI Joint Convention and Sugar Expo 2015** from **4<sup>th</sup>-6<sup>th</sup> September 2015** at **Dr Shyama Prasad Mukherjee Indoor Stadium, Goa.**

**Mr. Shripad Naik**, Hon`ble Minister for AYUSH,Ministry of Health and Family Welfare, Govt. of India inaugurated the Convention & Expo. The three days congregation was attended by over 1100 delegates comprising of sugar professionals, leading industrialists, scientists, students, media representatives, etc.

The highlights of the Joint Convention were :

### **Important dignitaries present :**

1. Mr Narendra Sawaikar,Hon`ble Member of Parliament (South Goa)
2. Mr M Manickam, Executive Chairman, Sakthi Sugars Limited
3. Mr Ranjit Puri, Chairman, ISGEC Heavy Engineering Limited
4. Mr Murugesh Nirani, Founder Chairman and Managing Director,Nirani Group of Industries
5. Dr G SC Rao, President, The Sugar Technologists' Association of India
6. Mr R V Shirgaokar, President, Deccan Sugar Technologists' Association (India)
7. Mr Sanjay Awasthi, President (Elect.),The Sugar Technologists' Association of India

### **Memorial Lectures :**

#### **- S.N. Gundurao Memorial Lecture**

The prestigious S.N. Gundurao Memorial Lecture was delivered by Prof. Mohamed Mathlouthi, Association AVH, Reims, France on "Controlling the Quality of Crystals For an easier management of Storage, Handling and Packaging of White Sugar".

#### **- J.P Mukherji Memorial Lecture**

The prestigious J.P. Mukherji Memorial Lecture was delivered by Mr M S Sundaram, Managing Director, J P Mukherji & Associates Pvt. Ltd. on "Energy Conservation in Sugar Industry".

#### **- Mangal Singh Memorial Lecture**

The prestigious Mangal Singh Memorial Lecture was delivered by Mr Dilip Jain, Principal Consultant, Global Cane Sugar Services Pvt. Ltd. on "Use of Intermediate Sugar House for Alcohol Production to reduce Sugar Production".

## **Awards**

### **Life Time Achievement Awards**

The STAI Life Time Achievement awards for the year 2015 were conferred to:

1. **Dr M Manickam**, Executive Chairman, Sakthi Sugars Limited
2. **Dr Gururaj Hunsigi**, Professor and Head (Retd.), University of Agricultural Sciences, Bengaluru
3. **Mr H P S Bhatia**, Director, Chadha Sugar & Industries Pvt. Limited
4. **Mr Shantaram Pansare**, Business Co-ordinator, Thyssenkrupp Industries
5. **Mr R V Vatnal**, Group Technical Advisor, Nirani Group of Industries

### **Industry Excellence Awards**

The STAI Industry Excellence Awards for the year 2015 were conferred to :

1. **Mr Murugrsh R Nirani**, Founder Chairman and Managing Director, Nirani Group of Industries
2. **Mr Hasan M Mushrif**, Founder, Sar Senapati Santaji Ghorpade Sugar Factory Ltd.
3. **Mr Mohd Hussain**, Chairman, Three Star Engineering Pvt. Ltd.
4. **Mr Yogesh Marwaha**, Senior Vice President, Isgec Heavy Engineering Limited
5. **Mr Pradeep Kumar Asthana**, Chairman and Managing Director, Kamuna Group

### **Dr Banshidhar Gold Medal : Innovation in the area of Energy Efficiency and Conservation in Sugar Industry**

Mr G Venkateshwara Rao, Chief Operating Officer, KCP Sugar and Industries Corporation Limited

### **J P Mukherji Gold Medal for the Best Engineer of the Year**

Mr B D Pabsetwar, Works Manager, Sahkari Khand Udyog Mandal Ltd. Gandevi, Gujarat

### **Isgec Gold Medal - Engineering for Excellence**

#### **- Process Technology**

Mr Narendra Mohan, Director, National Sugar Institute, Kanpur

#### **- Process Engineering**

Mr T S Rao, Director - J P Mukherji & Associates Pvt. Ltd.

## **NOEL DEERR GOLD MEDAL**

### **SUGARCANE AGRICULTURE :**

- Dr. T Ramasubramanian, Ms N. Geetha, Mr B. Ramanujam,,Mr G. Santhanalakshmi

### **ENVIRONMENT & CO-PRODUCTS (ETHANOL)**

- Mr G D Patil., Mr D M Kapadiya, Mr N Mithani

### **EQUIPMENT DESIGN & MAINTENANCE**

- Mr J K Kharbanda ,Sanjay Awasthi

### **FACTORY PROCESSING**

- Mr Subodh Vinayak Joshi

### **MANAGEMENT**

- Mr Arunachalam Selvaraj and Mr Ganesh Bongane

## **STAI SILVER MEDAL**

### **SUGARCANE AGRICULTURE**

- Dr. Bakshi Ram , Dr. R. Karuppaiyan
- Mr Anil Kumar Sawhney

### **ENVIRONMENT & CO-PRODUCTS (ETHANOL)**

- Mr N K Shukla

### **EQUIPMENT DESIGN & MAINTENANCE**

- Mr Rajesh Srivastava & Mr D K Goel

### **FACTORY PROCESSING**

- Mr Sanjay Awasthi ,Yogesh Marwaha, Mr Anurag Goyal,
- Mr Atul Kumar Agarwal ,Mr Deep Malik

### **MANAGEMENT**

- Mr M. Krishnan and Mr S J Lakshman

## **Sugar Expo 2015**

In conjunction with the Joint Convention, Sugar Expo 2015 was also organized which saw participation by 72 leading organizations comprising of turn-key sugar plant manufacturers, agri-machinery manufacturers, chemical manufacturers, SMEs from India and abroad.

The hallmark of the event was new & innovative launches by the technology providers and display of all the products that can be made from sugarcane.

### **Technical Presentations**

To compete for various awards and medals, members presented innovative research papers and articles during the Joint Convention in following concurrent sessions :

### **SUGARCANE AGRICULTURE**

1. Evaluation of Promising Sugarcane Genotypes in Central Maharashtra : by Dr R S Hapase, Dr J. M. Repale , D. S. Pawar
2. MS 10001: A New Early High Sugared and High Yielding Sugarcane Variety for Maharashtra: by S.M.Pawar, R.M.Garkar ,D.S.Thorave
3. Varietal Composition of Sugarcane In Uttar Pradesh: by Dr Rammurti Singh, Dr Rajkishore
4. Performance of Pi 07131 (Pi 00-1110) - A High Yielding, High Sugar Variety Suitable for Peninsular Zone: by S.Rajeswari, A.Lourdusamy Manjunatha S Rao
5. Snk 07680 (Cosnk 13103): An High Tonnage, High Sugar And Non Flowering Variety For Organic Sugar And Jaggery Production:by Sanjay B Patil,Guddadamath S.G,Nadagouda B.T
6. Genetic Improvement of Sugarcane Varieties Developed over decades: by G. Hemaprabha, S. Alarmelu And R.M Shanthi
7. Potential Hybrids through Recurrent Selection for Yield and Quality in Sugarcane (Saccharum Spp): by S.Alarmelu, G.Hemaprabha, R.M.Shanthi
8. Development of Sugar Yield-Related EST-SSR Markers for Increasing Sugar Productivity:by R.K. Singh, S. Haq, S.P. Singh ,B.L. Sharma
9. Identifying Parents Conferring High Sugar Accumulation Potential to the Progeny: by Raman Kapur, S. K. Duttamajumder, Ram Kumar Gautam
10. Contribution of Families and Traits for Genetic Enhancement of Sugarcane Productivity Under Moisture Stress Environment: by Sanjay B. Patil, M. Khadi
11. Assessment of Genetic Diversity in Tissue Culture Plants of an Intergeneric Hybrid of Sugarcane, Coc 671 X Sorghum: by Dr V.P.Sobhakumari
12. Factory-Level Network R&D Model to Locally Optimize Biocontrol Input for Sugarcane Borer : Outcomes And Scope: by S.Sithanantham, C. Thamarachelv , S.Judy
13. Evaluation of Sugarcane Genotypes against Red Rot and Smut Pathogen:K V Makwana,S N Gajjar, S C Mali

14. Methodology for Screening Sugarcane Genotypes for Resistance to Brown Rust: by D. R. Murumkar, S.V. Nalawade, D.V. Indi
15. Fungicidal Management of Brown Rust on Sugarcane in Western Maharashtra: by D. R. Murumkar, S.V. Nalawade, D.V. Indi
16. Organic Sugarcane Production and Processing Technology – Need of The Hour: by J. R. Patil
17. Effect Of Plantozyme Application on Growth, Yield, Quality And Economics of Sugarcane: by R. M. Garkar, S. M. Pawar, M. M. Keskar
18. Beneficial Effects of Bio-active Silicon on Sugarcane Growth and Quality under Sub-tropical conditions : by Neeru Jain, Radha Jain, Dr S. Solomon
19. Use Of Humic Acid With Chemical Fertilizers In Sugarcane : by P.S. Deshmukh, J. P. Kharade, D. B. Phonde
20. Enhancement of Sugarcane Production and Productivity by the Biofertilizers with Graded Chemical Fertilizers: by Mahatma L, Makwana K.V, Sabalpara A.N.
21. Effect of Fertilizer Levels and Foliar Application of Multinutrients on Growth and Yield of Sugarcane : by J. P. Kharade, P.S. Deshmukh, D. B. Phonde
22. Site-Specific Nutrients Management for Target Yield In Sugarcane: by B. T. Nadagouda, S. G. Guddadamath, Sanjay B. Patil
23. Integrated Soil Fertility and Nutrient Management: A Socio-Economic Performance Analysis: by Dr T Rajula Shanthy
24. Weed Management in Spring Sugarcane : by P. M. Chaudhari, D.S. Bhoite, S.M. Pawar
25. Sempra (Halosulfuron Methyl 75 Wg) + Boosten (Metribuzin 70 Wp) – A New Herbicide Combination for Weed Management In Sugarcane: by Dr R. P. Srivastava, O.P. Singh
26. Improving Water-Use Efficiency in Sugarcane Cultivation: Experience from Sugar Mills of DSCL Sugars and Olam Agro India Limited: by Harsh Vivek, Prashant Pastore, Suparna Jain
27. Relay Intercropping of Autumn Sugarcane with Skipped Row Planted Rice to Enhance Cane and Sugar Productivity and Profitability under Real Farming Situations in Indian Sub-Tropics: by S.N. Singh, R. K. Singh, Ishwar Singh
28. Crop Diversification in Sugarcane Based Production Systems (SBPS) through Intercropping Vis- A- Vis Input Management for Poverty Alleviation, Food/ Nutritional/ Environmental Security And Rural Livelihood: by Dr A K Singh, Dr S Solomon
29. Planting Geometry in Relation to Mechanization in Sugarcane: by P P Shinde
30. Performance Evaluation of Machinery for Sugarcane Handling and Trash Management : by S. Mukesh, Vijaya Rani & Surat Singh Panghal

### **Factory Engineering Section**

1. Bagasse Assimilator System A Boon To Sugar Factory Co Generation: by N B Patil
2. Bagasse Drying – A Green & Efficient Solution to Significantly Meet out Power Deficit in India: by Anoop Kr. Kanaujia, D Swain

3. Bagasse Gasification –An Energy Efficient Option: by Mr Narendra Mohan, J P Srivastava, Anoop Kanaujia
4. Novel Way of Harmonic Mitigation And Power Quality Improvement In Sugar Plants By Using Active Harmonic Filters - A Case Study: by A K Bhardwaj, D K Goel
5. Virtual 12 Pulse Drive system For Harmonic Mitigation &Energy Conservation In Sugar Plants: by Ganesh Iyer
6. Thyristor Based Speed Control Techniques Of Mill Powered By DC Motor In Sugar Industry: A Case Study : by Brajesh Singh, Virendra Kumar, M.K Banerjee
7. Design Optimization of Sugar Plant Equipments With The Aid of an Advanced FEA Software: by J K Kharbanda ,D K Goel, Narender Kalsi
8. Development of 2 Roller Cane Mill And Its Performance at M/S Indian Cane Power Ltd, Mudhol, Karnataka : by Yashwant Sakhardande, S R Kundaragi
9. Mill Setting Method by Material Balance: by K. B. Kale & Dr M. B. Londhe
10. Up-Gradation of Milling Tandem - A Case Study: by D.K.Goel, J.K. Kharbanda, Manoj K. Verma
11. Studies and Analysis of Impact on the Milling System Due to Replacement of Tail Bar Coupling by JPMA Mill Coupling: by D S Nikam, S S Ghadge, P R Pawar
12. Cost Effective And Stain-Less Solution For Equipment Design In Manufacturing of Cane Sugar: by C P Agrawal, Dr. Arijit Saha Podder, Amit Goyal
13. Advantages Of Ferritic Stainless Steel Tp 439 Grade Laser Welded Tubes In Sugar Industries :by Vijay Kaul, Alkesh M Sharma
14. Achieved 32% Steam Consumption On Cane: by Milind P Chavan
15. 22 Mw Bagasse Based Co-Generation At Sonhira S.S.K Ltd., Sangli, Maharashtra: by Navnath Sapkal, Tushar Ingle ,Umesh Kulkarni
16. Practical Approach To Increase Availability Of Equipment And To Reduce R&M Cost: by Anil K Tyagi, Mr Deepak Sharma

### **Factory Processing Section**

1. Production of VHP Raw Sugar as per Buyers Demand: by Sanjay Abaso Salave, Vikas Shamrao Chavan
2. Cane Juice Clarification by Fermenter Gases for Production of Direct Consumption Sulpherless White Sugar: by Narendra Mohan, Ashutosh Bajpai, N.Dev
3. Comparative Evaluation of Carbonation & Phosphatation Process for Refined Sugar Production: by Narendra Mohan, Mahendra Yadav
4. Innovative Step in Sugar Industry- Closure of Filter Station, Muddy Juice Transfer to Mills: by A K Paul, Sukhvinderjit Singh, HPS Bhatia
5. Molasses Formation & its Impact on Sugar Crystallization: by Rajesh Singh
6. Comparative Study of Hydrometer Brix%Vs Refractometric Brix% for Sugar Process Daily Report Preparation: by Dr M. B. Londhe, V. P. Sidanale, R. R. Patil, R.V. Dani
7. New Formula for Estimation of Heat Transfer Coefficient In Multiple Effect Evaporators : by Dr. M. B. Londhe, P.S. Dumanavar, Dr. R. V. Dani
8. 2 Stage Screening of Mixed Juice to Improve Juice Clarification: by S V Joshi

9. Lime Impurity Separator System (LISS) (A study): by A K Tiwari
10. Need for Online Turbidity Monitoring in Clarified Juice in Real Time: by M K Banerjee
11. Role of Falling Film Evaporator in reducing the Inversion Losses in Evaporator Configuration: by S.K.Bhojraj, Sunil Kekal

### **Co Products and Management Section**

1. Hydrodynamic Cavitation for Distillery Wastewater Treatment:  
by V. M. Bhandari, L. G. Sorokhaibam, V. V. Ranade
2. Biocatalytic Decolorization of Distillery Spent Wash by Immobilized Fungal Bioreactor: by M.S Patil, M.V. Kulkarni
3. Diacetyl Formation in Molasses Fermentation and its Separation in Distillation - A Case Study: by R. S. Patil, S. V. Patil
4. Foaming in Molasses: Effect of Temperature, Organic and Inorganic Constituents: by Kiran Singh, S. Mohan, Jitendra Singh
5. Flue Gas Treatment Systems – Spent Wash Boiler-Exhaust Gases: by K.S.R Naidu
6. Cellulosic Ethanol: A Challenge and Opportunity:  
by Prof. Satindar Kaur & Kamalpreet Brar
7. Global Sugar Scenario and Challenges for the Indian Sugar Industry:  
by Sanjay Awasthi
8. Plant Commissioning and Operations Outsourcing Experience In Western India : by Naveen Tyagi, Kohinoor Sarao, Shweta Yadav
9. Cleaner Production – A Sustainable Approach for Sugar Industry: by A K Malik
10. Implementation of Human Resource Accounting in Sugar Industry for Growth:  
by Girish Kohli
11. Revival And Rejuvenation Of Financially Crippled Sugar Industry:  
by N K Shukla, MK Biswas
12. Ethanol and Cogen Potential in Sub Tropical Region: by N K Shukla

-----

1. Alarmelu S, G. Hemaprabha and R.M. Shanthi 2015. Potential hybrids through recurrent selection for yield and quality in sugarcane. Proceedings of XI Joint Convention of The Sugar Technologists' association of India and the Deccan Sugar technologists' association (India). 4-6 September 2015, Goa .p 248-258.

Cane yield in sugarcane is a major driving force for overall improvement and an approach towards selection of better high yielding varieties combining high sucrose through recurrent selection programme is the essential objective of the breeder. The objectives of this study were to evaluate the effect of selection on yield and yield parameters and on the correlated responses in the populations and identification of potential hybrids of commercial worth. Effect of recurrent selection was studied in populations for Yield (Ax A), Yield and quality (AxB) and Quality (Bx B). Yield traits like number of millable canes, cane height and cane diameter significantly improved over two cycles of recurrent selections. Correlated responses of yield traits in the three populations were in the desired direction. The recurrent selection to increase cane yield was found to be effective over four cycles of selection in yield population with significant gain. There was a substantial improvement for cane weight, cane height, cane thickness and stalk number in four cycles of selection. Two cycles of recurrent selection was completed in A x B population and genetic progress was observed for yield (upto 23.95%) and quality (4.38%) traits. Two cycles of recurrent selection was completed in B x B population and genetic progress observed for NMC and sucrose %. The cycle I and II hybrids showed an overall improvement of 15.21% for number of millable canes and 5.38 % for sucrose%. Sixty cycle hybrids were evaluated in RBD and among them C<sub>4</sub> 34, C<sub>4</sub> 66, C<sub>4</sub> 25 recorded the maximum sucrose of 20.10 % at 300 days and among the C<sub>3</sub> and C<sub>4</sub> hybrids evaluated for juice and yield traits at 360 days, 13 hybrids were promising. C<sub>4</sub> -66 and C<sub>4</sub>-22 recorded the maximum sucrose of 23.66%. recorded the maximum sucrose of 23.66 % followed by C<sub>3</sub>- 41 with 22.84 % and C<sub>3</sub> -12 with 22.85 % in comparison with CoC 671 (23.17%).These clones combined high yield, quality and red rot resistance. The top ten high yielding hybrids recoded significant single cane weight, cane population, cane diameter and cane yield in comparison with the base population. The third cycle of selection of the populations forms a new source of prebreeding material that could be utilized in breeding programmes. The reciprocal recurrent selection program adopted in Ax B population can be strengthened to improve yield population. The positive results indicate the usefulness of recurrent selection for developing new parental lines or varieties of commercial value in sugarcane.