

VSI Bulletin: Vol. - 20, Issue - 1, January-March, 2020



Proceeding of the 2nd International Conference & Exhibition On

Sustainability - Innovation & Diversification in Sugar and Allied Industry

Day 1 - Date : 31/01/2020

INAUGURAL FUNCTION

The 2nd International Conference & Exhibition on Sustainability – Innovation & Diversification in Sugar and Allied Industry was inaugurated on 31st January, 2020 at Vasantdada Sugar Institute, Manjari-Pune, India.

The event was attended by nearly 2000 delegates from across the country and 100 delegates from other countries. The following dignitaries graced the occasion during the inaugural Session:

Mr. Sukhiinder Singh Randhawa. Hon'ble Minister for Cooperation & Jails, Punjab State for special guest, Dr. Jose Orive, Executive Director of the International Sugar Organization (ISO,) UK as key note speaker, Mr. Sharad Pawar, Hon'ble President, VSI, honoring this event as the Chief Guest, Mr. Dilip Walse-Patil, Hon'ble Vice President, VSI & Minister for Labour, Maharashtra State, Mr. Jayant Patil, Hon'ble Minister for Water Resource, Maharashtra State, Mr. Balasaheb Patil, Hon'ble Minister for Cooperation & Marketing, Maharashtra State, Mr. Shankarrao Gadakh Hon'ble Minister for Soil & Water Conservation, Maharashtra State, Mr. Satej Patil Hon'ble Minister of State Home (Urban), Mr. Rajendra Yadravkar, Hon'ble Minister of State Public Health & Family Welfare, Mr. Jayprakash Dandegaonkar, President, Maharashtra Rajya Sakhar Karkhana Sangh, Mumbai and Mr. Vivek Pittie, President, Indian Sugar Mills Association (ISMA), Mr. Ajit Chougule, President of Western Indian Sugar Mills Association (WISMA), Members of Board of Trustees and

members of Governing Council of VSI viz. Mr. Vijaysinh Mohite-Patil, Dr. Indrajit Mohite, Mr. Arvindrao Gore, Mr. Kallapanna Awade, Mr. Arun Lad, Mr. Harshavardhan Patil, Mr. Madandada Bhosale, Mr. Ashok Pawar, Member of Legislative Assembly of Shirur, Mr. Chetan Tupe, Member of Legislative Assembly of Hadapsar constituency, Dr. Ashok Dhawan, Vice Chancellor of Vasantrao Naik Marathwada Krushi Vidyapeeth, Parbhani and Dr. Vishwanatha, The Vice Chancellor of Mahatma Phule Krushi Vidyapeeth, Rahuri were present on dias. Apart from these sponsor exhibitors, delegates', sugarcane industry officials and farmers were present.

Mr. Walse-Patil welcomed all the dignitaries and participants. The dignitaries on the dias inaugurated the event with lighting of lamp and felicitation of distinguished guest and dignitaries on dias. The key note address by Dr. Jose Orive gave the overview of world sugar market. Apart from this he also pointed out that sugar industries diversifying in to green energy and other byproducts is essential for improving sugar industry resilience against commodity cycles and weather.

Mr. Sukhjinder Singh Randhawa talked on present scenario of sugarcane and sugarbeet cultivation in Punjab State.

Mr. Sharad Pawar in his inaugural speech he welcomed all the participants. He briefed the role of VSI and their activities relevant to the evolving needs of the sugar & allied industry and sugarcane growers. He

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emphasized demand of sugar in country by 2025 will be around 30-33 million tonnes. Taking into this requirement of land for food grain crops, there are constraints to increase area under sugarcane cultivation will achieve this demand only by increasing productivity per unit of land by increasing sugar recovery. He also stressed on other challenges assured water, vagaries of monsoon and uncertain behavior of weather this kind of stress contributed to occurrence of pest and diseases. All these issues

need to be analyzed and appropriate measures will have to be taken by scientist, sugar industry policy makers, to thrive profitability for growers and millers. He expressed his wish that the deliberation and discussions in this conference will be benefited to sugarcane growers and sugar industry.

The inauguration event was concluded with vote of thanks by Mr. Dilip Walse-Patil













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Plenary Session 1: SUGAR INDUSTRY SCENARIO ACROSS THE GLOBE

The plenary session-I of the program was chaired by Dr. Sushil Solomon, Vice Chancellor, Chandrasekhar Azad University of Agriculture & Technology, Kanpur, U.P., India and Coordinator by Dr. RS Hapase, Principal Scientist, Plant Breeding Department, VSI. In this session following topics were presented by speakers:

- Present status and perspectives of ethanol production in Brazil by Mr. Jaime Finguerut, Former Director, CTC, Brazil.
- Beet sugar industry and sugarbeet cultivation in Egypt by Dr. Salah F. Abou Elwafa, Associate Professor of Plant Molecular Breeding and Genetics, Assiut University, Egypt.
- An overview of sugar industry and sugarcane cultivation in Indonesia by Mr. Lilik

- Koesmihartono Putra, Director, Indonesian Sugar Research Institute, Indonesia.
- Status of sugar industry in the Philippines by Mr. Terence Uygongco, President, Capiz Sugar Central, Philippines.
- Sugar industry in Sri Lanka by Mr. Keerthipala,
 Former Director, Sugarcane Research, Sri Lanka.
- Thai sugar industry: 2020 and beyond by Mr. Rangsit Hiangrat, Director General, Thai Sugar Millers Corporation Limited, Thailand.
- Sugar Industry scenario in India by Mr. Vivek-Pittie, President, ISMA, New Delhi, India.
- Present status of sugar industry in Sudan by Mr. Ihab Abdo Hassan, Farm Manager, Kenana Sugar Company, Sudan



Technology Providers' Session-I

The session was conducted under the chairmanship of Dr. SV Patil, Head & Technical Adviser, Co-chaired by Dr. KS Konde, Joint Technical Adviser, and Rapporteur Dr. ST Devkar and Mr. RV Burase, Technical Officer, Dept. of Alcohol Technology & Biofuels, VSI, India.

Following speakers participated and presented their company overview and their services to the stakeholders.

- Mr. Dilip Dighe, General Manager, The Maharashtra State Co-operative Bank Ltd. (MSCB), Mumbai, India
- Mr. Bharat Bhusan, Assistant Manager, M/s. Mojj Engineering Systems Ltd, Pune, India
- Mr. Miguel Verhein, Executive Director, AquaTuta, Spain
- Mr. Mahendra Gholop, Chief Executive Officer, Universal Forces Industries, Pune, India

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- Mr. Narain Madhavan, AGM New Business
 Mr. Vaibhav Tiwari, Production Manager, Praj Initiatives for Xylem Water Solutions, Xylem Water Solutions India Pvt. Ltd., Bangalore, India
- Mr. Natesan, Senior Manager, Business Development, S.S. Techno Ltd, Pune, India
- Industries Ltd, Pune, India Mr. Roman Rudkowskyj, Deputy Managing Director, Tomsa Destil, Spain

Agriculture Session 1: SUGARCANE IMPROVEMENT THROUGH BREEDING-BIOTECHNOLOGY FOR ABIOTIC AND BIOTIC STRESS

Agriculture session-I was chaired by Dr. KP Vishwanatha, Vice-Chancellor, MPKV, Rahuri, Coordinator by Dr. K. Harinath Babu, Sr. Scienitist, MB & GE Lab., VSI, Pune India and Rapporteur Dr. JM Repale, Senior Scientist, Plant Breeding, VSI & Dr. SG Dalvi, Scientist, Tissue Culture, VSI.

In this session, Dr. Jagadish Rane, Director, ICAR-National Institute of Abiotic Stress Management, Baramati, Pune, India presented Management of abiotic stress in sugarcane: challenges and opportunities.

Dr. Bakshi Ram, Director, Sugarcane Breeding Institute, Coimbatore, India had given presentation on topic 'Sugarcane breeding In India: prospects and problems' and Dr. Prakash Lakshmanan, Sugarcane Research Institute, GXAAS, Guangxi, China talked on topic 'Molecular improvement of sugarcane for biotic and abiotic stress tolerance: What have we learned and what is the way forward! He explained that the sugarcane cane yield improvement is very slow and molecular strategies for improving water stress tolerance.

Dr. KP Vishwanatha, Chairman gave concluding remarks and session was concluded with vote of thanks.



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Day 2 - Date : 01/02/2020

Plenary Session- II: GLOBAL SUGAR MARKETS AND ECONOMICS

This session was conducted under the chairmanship of Mr. Arvind Chudasama, Editor, International Sugar Journal, United Kingdom, Mr. Sanjay Khatal, MD, Maharashtra Rajya SSK Sangh Ltd., Mumbai Coordinate the session and Rapporteur Mr. MR Shinde, Sr. Statistician, Statistics & Informatics Section, Mr. VN Pawar, Finance Officer, Finance Section, VSI. Following speakers talked various tooles viz.

In this session, Mr. Arvind Chudasama extended warm welcome to all speakers of the session and participants. He presented Present global scenario on sugar production and consumption.

Mr. Prakash Naiknaware, , Managing Director, NFCSF, New Delhi, India presented India's continued presence in the global sugar'.

Mr. Ravi Gupta, President (Corporate), Shri Renuka Sugars Ltd., New Delhi, India presented 'Global sugar scenario' that included production, consumption, export and deficit of major sugar producing countries. He emphasized the benefits of organic sugarcane cultivation and production.

Mr. Mikhail Soroko, Head of Raw Sugar Trading, BH-1206, Geneva, Switzerland talked on a topic 'Recent global sugar price trends: off the lows'. He explained role of Alvean in trading of raw and white sugar globally.

Mr. Kiran Wadhwana, Director, COMDEX INDIA, New Delhi, India presentation on 'World sugar trade' highlighted the importance of raw sugar, having significant share in international sugar trade.

Mr. Rajesh Tope, Governing Council Member of VSI and Chairman, Karmayogi Ankushrao Tope Samarth SSK Ltd., felicitated Chairman of the session and other speakers were felicitated by the Chairman of the session. The session was concluded with vote of thanks by Mr. Sanjay Khatal.

Agriculture Session II: SOIL RESILIENCE AND SUSTAINABILITY

The session was conducted under the chairmanship of Dr. Ashok Dhawan, Vice-Chancellor, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani, India and Co-chairman Dr. BD Bhakare, Head, Dept. of Soil Science & Agri. Chemistry, MPKV, Rahuri, India. The session was coordinated by Dr. Preeti Deshmukh, Scientist & Head, Soil Science Section, VSI and Rapporteur were Mrs. JP Kharade, Scientific officer, Soil Science Section, VSI and Mr. BG Mali, Scientific officer, Microbiology Section, VSI

Following speakers presented their topics as, Dr. Takashi Kosaki, President International Union of Soil Science, Faculty of International Communication, Japan presented the topic on 'Site specific fertilizer management for enhancing sustainability and productivity of soil resources'

Dr. (Ms.) Eleanor Milne, International Coordinator Leicester, Leicestershire United Kingdom delivered a topic on 'Estimating the impacts of agricultural practices on soil organic carbon in tropical agriculture'

Dr. AL Pharande, Dean, Faculty of Agriculture & Director of Instruction, MPKV, Rahuri, India presented a topic on 'Integrated reclamation technology for salt affected shrink-swell soil'.

The session was concluded with the vote of thanks by Mrs. SD Ghodke.

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INAUGURAL OF POSTER PRESENTATION

This session was inaugurated by Mr Sukhjinder Singh Randhawa, Hon'ble Minister for Cooperation & Jails, Punjab State along with Mr. Rajesh Tope, Hon'ble Minister for Health, Govt. of Maharashtra, Mr. Shivajirao Deshmukh DG, VSI and Mr. Vikas Deshmukh, Director, AST, VSI were present. Total 100 posters were displayed in poster presentation area by the scientist and research students from different disciplines of agriculture as well as technology & engineering. The posters were evaluated by the external committee members and they selected following for best posters awards in both areas.

ir.No.	Title of Poster	Name of Author(s)	Prize
	Agriculture Se	ction	
1	Mechanization of sugarcane planting	PP Shinde	1st
2	Earthing up equipment for sugarcane cultivation	PP Shinde	2 nd
3	Effect of foliar application of consortium of endophytic fixing bacterial inoculant on yield and quality of sugarcane	MW Pawar, SD Ghodke & PV Ghodake	3 rd
	Technology Se	ction	
1	Biorefinery process for valorization of sugarcane biomass: from constituents sugars and lignols to value added products	Vishnu Prabhakar Srivastava, Tushar Mishra & Narendra Mohan	1 st
2	Hydrothermal Pretreatment Of Sugarcane Bagasse For Biogas Production	Nitin Kumar Agarwal, Madan Kumar, Virendra Kumar Vijay & Vivek Kumar	2 ^{rrd}
3	Head space solid phase micro extraction-gas chromatography mass spectrometry (HS - SPME - GC- MS) technique for determination of volatile compounds in alcoholic beverages	Sukeshani Havale & Sanjay Patil	3 rd
4	Reduction in So ₂ emission in sugar production	VP Sidanale, RV Dani, RR Patil & LS Dalvi	3 rd

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Above awards were given by the hands of Dr. (Ms.) Eleanor Milne, International Coordinator Leicester, Leicestershire United Kingdom and Mr. Jaime Finguerut, Advisor to CTC, Brazil. The poster session was coordinated by Dr. RM Devarumath, Scientist, MB & GE Lab. VSI along with Dr. Deepali Nimbalkar, Head & Sr. Scientist, Dept. of Environmental Sciences, VSI and other committee members.









Technical Session I: FACTORY PROCESSING AND ENGINEERING

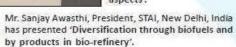
The technical session-I was conducted under the

chairmanship of Mr. DK Goel, Honorary Editor, STAI, New Delhi, India. The session was coordinated by Mr. RA Chandgude, HOD, Sugar Engineering, VSI. Rapporteur is Dr. VP Sidanale, Sugar Technology, VSI and Mr. P. G. Patil, Sugar Engineering, VSI.

During the session following topic were presented by

speakers, Dr. Jose Luiz Oliverio, Senior Consultant, Dedini, Matriz, Brazil has presented 'Increase your profit by using sustainable mill technologies - A new reality to Brazilian sugarcane mills' Dr. Geoff Kent, Principal Research Fellow, Centre for

Tropical Crops, Australia has presented talk on 'Latest technologies in sugarcane milling' Prof. Mohammed Mathlouthi, President, Association Andrew VanHook, Reims, France has presented topic on 'Sugar crystallization and drying basics and practical aspects'.



The session was concluded with Vote of thanks by Mr. RA Chandgude.

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Agriculture Session III: INNOVATION IN MICRO-IRRIGATION AND MECHANIZATION

This session was chaired by Dr. SS Magar, Former Vice Chancellor, Dr. BSKKV, Dapoli, India and Mr. PP Shinde, Head, Agril. Engg., VSI, Pune Coordinated with Rapporteur are Mr. SR Patil, and Ms. MA Gaikwad, VSI.

The following speakers presented their topics; Dr. Felix Reinders, President, International Commission on irrigation and drainage, South Africa presented 'Micro irrigation practices used in different countries'.

Dr. VM Mayande, Former Vice Chancellor Dr. PDKV, Akola, India talked on 'Importance of mechanization in sugarcane cultivation'.

Dr. SS Magar, Former Vice Chancellor, Dr. BSKKV, Dapoli, India presented 'Status and prospectus of micro-Irrigation system for sugarcane water management'.

In concluding remarks by chairman, he suggested that VSI, ICAR, Agricultural universities and sugar mills should focus on sugarcane mechanization with automation and robotics in future. The session concluded with vote of thanks.



Technical Session II : RECENT DEVELOPMENTS IN BIOETHANOL TECHNOLOGIES

The Technical session-II conducted under the chairmanship of Dr. GSC Rao, Managing Director, Global Tech, New Delhi, India. The session was coordinated by Dr. SV Patil, Head & Technical Adviser, Dept. of Alcohol Technology & Biofuels, VSI, Pune, India along with Rapporteur are Dr. KS Konde, Joint Technical Adviser and Mr. DA Patil, Scientist, Department of Alcohol Technology & Biofuels, VSI, In this session following topics were presented by invited speakers; Prof GD Yadav, Former Vice Chancellor, ICT, Mumbai, India presented Biochemical

conversion technologies for advanced biofuels and value added products'.

Mr. YB Ramakrishna, Member- Working Group of Biofuels, Ministry of Petroleum and Natural Gas, New Delhi, India delivered talk on 'New policy on biofuel -2018: Opportunities for the sugar industry in creating bioeconomy'.

Mr. Jaime Finguerut, Advisor to CTC, Brazil presented 'Present status and perspectives of ethanol production in Brazil'.

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Mr. Roman Rudkowskyj, Deputy Managing Director, TomsaDestil, Spain talked on the topic 'Technical aspects of converting cellulose to ethanol'.

Dr. GSC Rao, Chairman concluded the session with his presentation on 'Ethanol blending program with dual feed distilleries'. He presented worldwide energy consumption and global ethanol production data. Dr. SV Patil concluded the session with vote of thanks.

Agriculture Session IV : ADVANCED AGRO-TECHNIQUES FOR SUSTAINABLE SUGARBEET PRODUCTION

This session chaired by Dr. Imad Eujayl, Sugarbeet Molecular Geneticist, USDA-ARS, Northwest Irrigation & Soil Research Laboratory, USA. The session was coordinated by Mr. PV Ghodke, Scientist & Head, Agronomy Section, VSI, and Rapporteur is Dr. AS Patil, Scientific Officer, and Mr. GE Atre, Scientific Officer, VSI

During the session following Speakers presented their topics; Dr. Salah F. Abou-Elwafa, Faculty of Sugar & Integrated Industries Technology (FIIST), Assiut University, Egypt presented 'Beet sugar industry and sugar beet cultivation in Egypt' Dr. Imad Eujayl, Sugarbeet Molecular Geneticist, USDA-ARS, Northwest Irrigation & Soil Research Laboratory, USA

delivered his speech on 'Applied research Strategies for sugarbeet, drought, heat tolerance and seed production'.

Dr. Timothe Masson, Executive Secretary, WABCG, France delivered his talk on 'Activities of WABCG for increasing sugarcane and sugarbeet productivity'.

Dr. Jean-Noel Evrard, Head of marketing and Communication, SeSVenderHave, Belgium presented the topic on 'Sugar beet seed production for tropical condition'.

Dr. Imad Eujayl, Chairman of the session summarized the session and thanked all the speakers and session was ended with vote of thanks by Mr. P. V. Ghodke.

Technology Providers' Session-II

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The session was chaired by Dr. RV Dani, Head & Technical Adviser, Dept. of Sugar Technology, VSI, and co-chaired by Mr. RA Chandgude, Head & Technical Adviser, Dept. of Sugar Engineering, VSI, Pune, India. Rapporteur is Dr. RN Bhosale, and Mr. SP Nalvade, VSI

Mr. RA Chandgude welcomed all the delegates, audience & technology providers. The following technology providers presented their company profile and activities; M/s. Ulka Industries Pvt. Ltd., Pune, M/s. S.S. Engineers, Pune, M/s. Privillege Biksons Boilers Pvt. Ltd., Pune / Ahmednagar, M/s. Fives Cail - KCP Ltd., Chennai, M/s. Uttam Energy Systems Ltd., Pune / Ghaziabad, M/s. Triveni Turbine Ltd., Bangalore Maharashtra Energy Development Agency (MEDA), Pune. This session was concluded with Vote of thanks by Dr. RV Dani.

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Day 3 - Date: 02/02/2020

Technology Providers' Session-III

The session was conducted under the chairmanship of Mr. Vikas Deshmukh, Director, AST, VSI, Pune, Co-Chairman, Mr. BH Pawar, Head, Sr. Scientist, Plant pathology Section, VSI, Pune and Rapporteur are Mr. US Manjul, and Dr. MW Pawar, Microbiology section, VSI.

The following speakers participated and presented their company activities:

Mr. Sudhir Chandna, Regional Marketing Head on behalf of KBK Chem Engineering Pvt. Ltd., a subsidiary of Shree Renuka Sugars Ltd., Athani, Karnataka

- Mr. Govind Misale, Vice-President (Ethanol)
- Mr. Sanjay Jagavkar, Co-founder and Director of Pharmazone Services Ltd., on behalf of The Maharashtra State Chemists & Distributors Association, Mumbai
- Mr. Satish Naib, State Manager Marketing, Indian Farmers Fertilizer Cooperative Ltd., Pune
- Mr. Sanjay Singh, Managing Director, SLAVS AGRO
- Mr. MV Patil, Managing Director of Shree Datta SSK Ltd., Shirol, Dist. Kolhapur

The concluding remark by chairman and session was concluded with vote of thanks.



Technical Session III: BIOCHEMICAL CONVERSION TECHNOLOGIES FOR ADVANCED BIOFUELS & VALUE ADDED PRODUCTS

The session was chaired by Mr. Pramod Choudhari, Chairman and Managing Director, Praj Industries, Pune, India: Dr. SV Patil, Head & Technical Adviser, Dept. of Alcohol Technology & Biofuels, VSI, Pune, coordinated the session. Rapporteur is Dr. S. Behera, Scientist and Mr. RV Godage, Scientist Department of Alcohol Technology & Biofuels, VSI.

Following invited speakers delivered the talk; Mr. Pramod Choudhari opened the session with his presentation on session theme Dr. Sasisankar Padmanabhan, Associate Staff Scientist R & D, Praj

Matrix, Pune, India presented 'Bioethanol, biofuels and biorefinery opportunity: Market, industry and emerging technologies' Prof. Luuk van der Wielen, Director, Bernal Institute and Bernal Chair Biosystems Engineering and Design, University of Limerick, Limerick, Ireland presented on the topic 'Next Gen Biorefinery development for a profitable, lowcarbon economy' Mr. Dhirendra Oke, Whole time Director, Mojj Engineering Systems Ltd., MIDC, Bhosari, Pune, India presented 'Least utilization of water and supporting fuel in distillery'.



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Agriculture session V : INTEGRATED MANAGEMENT OF PESTS IN SUGARCANE - NEW PERSPECTIVE

The Agriculture session V was chaired by Dr. SD Sawant, Vice Chancellor, Dr. BSKKV, Dapoli, Ratnagiri, India. The session was coordinated by Mr. BH Pawar, Senior Scientist & Head, Plant Pathology Section, VSI, Pune. Dr. GS Kotgire, Scientist and Dr. TD Shitole, Scientific Officer VSI were Rapporteur of the session. The following invited speakers presented their research activities as; Dr. (Mrs.) Chandish R. Ballal, Director, NBAIR, Bengaluru, India presented 'Biological control of sugarcane pests: strategies and challenges'

Dr. RS Viswanathan, Principal Scientist &Head, Plant Pathology, SBI, Coimbatore, India presented 'Impact of climate change on sugarcane diseases and development of new diseases in sugarcane' Dr. SN Sushil, Principal Scientist, Division of Crop Protection, ICAR-IISR, Lucknow, India delivered talk on 'Plant protection regulations with reference to sugarcane in India'.

Dr. SD Sawant, gave his speech on 'Overview of sugarcane diseases and management strategies" and also summarized the session.





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EXHIBITION AND LIVE CROP DEMONSTRATIONS

Exhibition area was inaugurated on 31" January, 2020 by Mr. Sukhjinder Singh Randhawa, Hon'ble Minister for Cooperation & Jails, Punjab and Mr. Shard Pawar along with other dignitaries. They visited live crop demonstration area and exhibition area comprises of Prime Conference Sponsor (01), Conference Sponsor (06), Platinum Sponsor (15), Diamond Sponsor (02), Gold sponsor (15), Silver sponsor (45), Stall Sponsor (3m X 3m: 60), Stall Sponsor (2m X 2m: 39) Open Stall Sponsor (12) participated. Apart from this advertisement of full Page & Half Page (50) were given in the souvenir book and sponsor for food/catering were also contributed in this event. In the exhibition area sponsor displayed their products and their activities.

VSI displayed the live sugarcane crop demonstrations with different plots of sugarcane varieties, performance of tissue culture raised plant, biostimulator performance plots in different crops including sugarcane comparison with control plants, drip irrigation plots, Performance of micronutrient, macronutrient, bio-inoculants etc. and intercropping with sugarcane plots were demonstrated. VSI Stall was exhibited with all the information and activities were displayed for visitors. More than 1.2 Lakh visitors visited the exhibition and crop demonstrations area during the conference.









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