

VSI Bulletin

Dedicated service to sugar industry since 1975

Vol. 11, Issue - 2, July, 2011

Quarterly For Private Circulation Only



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**VASANTDADA
SUGAR
INSTITUTE**

Foreword...

On the backdrop of massive sugar production estimated at around 24.5 million tons in India and Maharashtra Sugar Industry contributing in excess of 37 percent, the Sugar Industry has more challenges as the crushing season 2010-11 came to an end. Maharashtra State has already produced a record 9.05 million tons of sugar and faces the challenge of around 0.15 million tons of uncrushed sugarcane. Successive record productions have created surplus sugar stocks. The forecast of next crushing season 2011-12 also indicates high sugar production based on estimated 85 million tons of sugarcane production from an increased cultivated sugarcane area of 1.05 million hectare that will be available for crushing in the State. This will add to the burgeoning sugar stocks that may reflect in drop in ex-mill sugar prices ultimately increasing the short margins of sugar mills which will add a new challenge to already financially constrained Sugar Industry.

To counter this, the Central Government is likely to consider an additional sugar export that will allow the Indian Sugar Industry to export 0.5 million tons more in addition to the 0.5 million tons already allowed earlier and decontrolling sugar. The sugar prices in international market also reaching high to \$750 FOB, therefore allowing further sugar export will help sugar mills to encash on the rising international prices. Further, the sugar mills are also expecting that the Government to allow 1.5 million tons more sugar export additional to 1.0 million tons to arrest the rising inventory.

In this issue the readers are briefed on major events in VSI during the second quarter especially the collaboration agreement between VSI and Ethiopian Sugar Corporation. The readers are welcome to send their comments or feedback.

(A. A. Prabhavalkar)
Editor

Congratulations



A. N. Jamadar

Mr. A N Jamadar has been promoted as Technical Advisor and Head, Electronics & Computer (E&C) department. He has been working at the institute since 1996. As a B.E. Electronics, he held the position as an 'Electronics Engineer' and also the In-charge of the E&C department previously. Congratulations and best wishes to Mr. Jamadar.



K. G. Nalawade

Mr. K G Nalawade, working as a 'Senior Assistant' in Administration department has been promoted as an 'Assistant Administrative Officer'. As a Commerce graduate he is associated with this Institute since 1995. Congratulations and best wishes to Mr. Nalawade.

News

Appointment on Expert Committee of Central Pollution Control Board

Central Pollution Control Board (CPCB), Ministry of Environmental & Forests, Government of India, New Delhi, vide its letter No.F.No.B-116/PCI-III/2010-11 dated March 29, 2011, has appointed Mr. S V Patil, Technical Adviser & Head, Department of Alcohol Technology and Mr. R V Dani, Technical Adviser & Head, Department of Sugar Technology as members of the expert committee for revision of effluent and emission standards for distillery sector and sugar sector respectively.

The Expert Committee will review the studies undertaken by CPCB and published protocols/guidelines on Distillery and Sugar sectors and will draft proposal for revision of effluent and emission standards for Distillery and Sugar Sectors. The Committee may also suggest technological options for zero effluent discharge from Distillery and Sugar sectors.

Sanction of training courses by Central Pollution Control Board

Central Pollution Control Board (CPCB), New Delhi has sanctioned two residential training programs to VSI under its HRD program. The name, duration and dates of these courses are given below

1. Clean Development Mechanism & Carbon Trading- Case studies" – 3 days from 16th -18th November 2011
2. Compliance to Zero Discharge Norms in Distilleries- Technical Challenges and Solutions- 5 days from 16th -20th January 2012

VSI had previously conducted a training programme on "Pollution Control and Waste Management in Sugar and Distillery Units" from 21-25 February 2011 under the HRD program of CPCB in which 20 officers from Central and State Pollution control boards across the country had participated.

Establishment of Sugar Beet Cultivation



Large scale cultivation of sugar beet varieties PAC 6008 and SZ 35 (SesVander Have, Belgium Company) was undertaken in winter 2010 on 38 hectares in operational area of Rajarambapu Patil SSK Ltd., Sangli district. The plant population and crop growth was excellent. The beet harvested at 4.5 months age was in the range of 62-70 tons per hectare with sugar recovery of 11.50%. Few farmers harvested sugar beet as high as 105 tons per hectare. This indicates the potential of the region for cultivation of sugar beet.

Top yield (tons per hectare) obtained by some of the progressive farmers are Mr. Bhimrao Todkar (105.53), Mr. Bhimrao Chavan (94.44), Mr. Jaganath Mirajkar (80.05), Mr. Dhanaji Todkar (78.88) and Mr. Bhupal Aitawade (74.13).

Events

National Technology Day



National Technology Day was celebrated at VSI on 11th May to commemorate the technological breakthrough of the second nuclear test at Pokhran on May 11, 1998. Dr. Amita Ravi Kumar from Institute of Bioinformatics and Biotechnology (IBB), University of Pune was the Chief Guest on the occasion. She talk about the remarkable technological progress India has made since independence, in the field of biotechnology, IT, space, medical, engineering and agriculture against all odds as the population has increased 3 times, huge domestic as well as international demand for food grains and much

of agricultural land acquired for urbanization. Despite the odds, agriculture related small sectors such as poultry, dairy etc. have done well. She delivered a presentation on 'De-halogenase: An enzyme, a green tool for Biotechnology' which is current area of working at IBB. Such enzymes can be used in bioremediation process and also can act as Biocatalyst in certain processes. The event was attended by the scientist, technologists, engineers and students of VSI.



Technical Committee Meeting

The Technical Committee meeting at VSI was held in four sessions for taking the review of technical performance of each of the Departments and Sections during 2010-11 and giving approval for the plan of the research program to be undertaken during 2011-12. The Committee meetings were held on following days:

Sr. No.	Date	Names of the Committee Members attended the Meeting of which was reviewed	Name of Departments / Sections Technical Performance
1.	27 th April 2011	Mr. S G Kolhe – Chairman Mr. S C Deshmukh – DG, VSI	Sugar Engineering, Sugar Technology, Alcohol Technology, Environmental Sciences, Electronics and Computer
2.	12 th May 2011	Mr. S G Kolhe – Chairman Mr. S G Patil – Member Mr. S C Deshmukh – DG, VSI	Plant Breeding, Molecular Biology and Genetic Engineering, Tissue Culture
3.	4 th June 2011	Mr. S G Kolhe – Chairman Mr. S B Patil – Member Mr. S C Deshmukh – DG, VSI	Agronomy, Soil Science, Agricultural Engineering, Agricultural Microbiology
4.	13 th June 2011	Mr. S G Kolhe – Chairman Dr. I Y Mohite – Member Mr. S C Deshmukh – DG, VSI	Agricultural Economics, Entomology, Plant Pathology

During these meetings all the concerned Heads of the sections/ departments presented their reports and had a discussion on the research program.

Research Review Meeting

Research Review Meeting for Agriculture Science and Technology held during May-June was chaired by Mr. Shivajirao Deshmukh, Director General, VSI and co-chaired by Dr. R B Deshmukh, Director, Agriculture Sciences and Technology. All the sectional Heads along with the concerned scientists attended and participated in the meeting. Results of each and every experiment conducted during 2010-11 were discussed in detail. Recommendations were formulated based on the completed experiments. New experiments framed were presented and approved by the Research Review Committee (RRC).

Governing Council Meeting at SBC Amboli



The Governing Council (GC) Meeting was held at Sugarcane Breeding Centre (SBC), Amboli on 30th May 2011 was chaired by VSI President Mr. Sharadchandra Pawar, Hon. Union Minister for Agriculture. This was the first GC meeting held at SBC, Amboli.

During this meeting a field visit was arranged for demonstration of the efforts made by the Institute for the establishment of the Breeding Centre. Information on germplasm collection, its maintenance and utilization, explanation about the Mauritius cut cane technique to be implemented at SBC to make the desired crosses during the unfavourable climatic conditions like high wind speed was also given to the President.

The President expressed his happiness about the working of the centre and expressed his desire to make it a world class sugarcane breeding centre. The Governing Council agreed to create additional facilities for induction of flowering in certain lines of interest to breeders which normally do not flower. The Council was pleased to create additional scientific positions in Agricultural Sciences and Technology, Sugar Engineering and Sugar Technology departments.

Photo Gallery from Amboli – GC meeting



TRAINING PROGRAMS

Training Program on “Advanced Technologies in Sugarcane Agriculture”



A four day training program on ‘Advanced Technologies in Sugarcane Agriculture’ was jointly organized by VSI, Pune and Sugarcane Industry Department (SID) of Government of Bihar. Agricultural Sciences and Technology Division conducted this special training program sponsored by SID for training of their 20 officers during 8th to 11th June 2011 at VSI campus.



The program was inaugurated on 8th June by Mr. Shivajirao Deshmukh, Director General by lightening lamp in presence of Dr. R B Deshmukh, Director, Agril. Sciences and Technology, Dr. Subhash Shinde, Principle Scientist and Head, Crop Production and Protection Division, Mr. S P Singh, Assistant Director, SID, Bihar and scientists from VSI.

During the inaugural address Mr. Shivajirao Deshmukh reviewed the agro-climatic conditions prevailing in Bihar State and appealed trainees to utilize the

potential of the state in increasing sugar production in India by disseminating modern technologies of sugarcane cultivation at grass root level. Dr. R B Deshmukh highlighted the activities being carried out by the institute and assured the trainees about all possible help for the development of sugarcane agriculture in Bihar State.

Scientists from different sections / divisions in Department of Agricultural Sciences and Technology, delivered lectures on different aspects of sugarcane agriculture viz., varietal and seasonal planning, sugarcane varieties, improved sugarcane cultivation techniques, integrated soil fertility management,



tissue culture micro-propagation, seed nursery management, conventional and modern irrigation systems, farm mechanization, agricultural economics, bio-fertilizers, ratoon management and integrated pest & disease management.





In this course, emphasis was given on demonstrations of the improved sugarcane production technologies. Brief notes on above topics in the form of training manual were provided to trainees. The trainees visited different laboratories and research farms of VSI where they discussed the use of different technologies applicable in agro-climatic conditions of Bihar State. A visit to a sugar mill was arranged after the in-house training for four days to know the cane development

activities being carried out by the factories and the actual package of practices followed by the farmers. During the farewell function on 11th June afternoon, the issues pertaining to the constraints in sugarcane cultivation in Bihar State were discussed at length. Participants were given certificates for their participation in training at the hands of Dr. R B Deshmukh.

SHORT TERM TRAINING PROGRAM

VSI organizes Short Term Training Programs (STTP) every year during the off-season. Following are the details of the training programs arranged this year.

1. Repairs and Maintenance of Sugar Factory Instruments

Program was conducted by the Instrumentation department for two weeks from 07th to 18th June 2011. Total 35 trainees from Maharashtra (26), Karnataka (08) and Madhya Pradesh (01) attended the program. This course was aimed at imparting practical knowledge in instrumentation and control systems installed in Sugar Factory as well as co-generation plant for the Instrument Mechanics who are responsible for proper working of the automation systems.

2. Techniques In Analytical Instruments

This was a one week duration program conducted by the Instrumentation department from 14th to 18th June 2011. Total 17 trainees from Maharashtra (12), Karnataka (04) and Gujarat (01) attended the program. This course was aimed at imparting practical knowledge for maintenance of various laboratory instruments used for analysis of process parameters in sugar factory by the Laboratory Chemists who are responsible for giving valuable process feedback based on the analysis report.

3. Fermentation and Distillation Technologies, plant operations and preventative maintenance of distilleries

The program was conducted by the for distillery operators. Total twenty nine participants from co-operative and private distilleries from Maharashtra, Karnataka and Rajasthan states participated in this five day training program. The course content included Molasses Quality, Storage, Alcometry, Yeast development and its growth, Batch & Continuous Fermentation technology, ENA distillation technology, PP Time Practical & GC techniques, Water quality and management of cooling water system, Atmospheric Distillation process, operations and preventative maintenance, Multiproduct Multi-pressure distillation technology, Ethanol manufacture by azeotropic distillation technology, Ethanol manufacture by molecular sieve dehydration technology (MSDH). The staff of Alcohol Technology, Sugar Engineering & Instrumentation Departments participated in the training programme as faculty.



4. Juice clarification & Evaporation and Pan boiling & centrifugation

The Sugar Technology Department conducted two training programs on Juice clarification and Evaporation and Pan boiling and Centrifugation 14th Jun to 18th June 2011 for skilled and semi-skilled workers working at various stations of Sugar manufacturing process. The training was imparted in Marathi. The topics covered under this training programme included Sugar cane juice composition, Different types of liming and sulphitation methods followed in sugar manufacturing process, Raw and refined sugar manufacturing process, Working of Different types of sulphur burner, Different designs of juice sulphitators, Importance of various process parameters in sugar manufacturing process, Improvement of sugar quality with respect to ICUMSA colour of sugar, Rillieux principles, The role of different evaporator configuration & vapour bleeding in steam saving, Different graining methods, Problems in sugar manufacturing process, Pan Capacity, Working of centrifugal machines, Keeping quality of sugar

5. Pollution Control & Environmental Management in Sugar factories

The Department of Environmental Sciences conducted this program from 28th June to 1st July 2009. This course was designed for environment engineers/officers/chemists from sugar factories with the objective of updating the knowledge of the participants regarding their current problems and various advances in pollution control technology. 24 persons from various sugar factories across the state participated in the program. The course contents included sources of pollution, water conservation, types of ETP's, operation and trouble shooting in sugar factory ETP, green belt development, environmental audit and guidelines for consent management.

SEMINARS AND WORKSHOPS

◆ Seminar on Mud Removal System

A seminar on "Mud Removal System" organized by Chemical Systems Technologies (I) Pvt. Ltd. in association with Vijaynagar Sugars Pvt. Ltd. on 9th April 2011. The venue was at Vijaynagar Sugars Pvt. Ltd. Village-Gangapur, Tal- Mundargi, District - Gadag, Karnataka. The chief guest of the inaugural function was Mr. Shivajirao Deshamukh, Director General, VSI inaugural speech, he discussed about the future challenges of sugar industry and importance of implementation of modern technologies in sugar mills. About 60 technical personnel from sugar factories in Karnataka and Maharashtra actively participated in this event. A total of 5 papers were presented during the seminar including a paper on 'Future of MRS in sugar industry' by Mr. R V Dani, Technical Advisor and Head, Sugar Technology department.

◆ One Day Seminar on Energy Conservation

Mr. R V dani, Technical Advisor and Head, Sugar Technology department presented an informative paper entitled 'Energy Conservation in Sugar factory by adopting Modern Technologies' at a seminar on 'Energy Conservation' on 27th April 2011. Total 3 papers were presented. The seminar was organized by Sahakari Khand Udyog Mandal Limited, Navsari, Gujrat for creating awareness about reduction in steam and power in the Sugar Industry.

VISITORS AT VSI

Visit of High-Level Delegation from Ethiopian Sugar Corporation

A high level delegation from Ethiopian Sugar Corporation (ESC) visited VSI to see the research work done, technical education programs, and courses



offered by VSI for the ESC personnel and other young graduates. The goal of the visit was to start discussion on collaboration with VSI for educating Ethiopian nationals in coming years.

H.E. Mrs. Geneet Zewide, Ethiopian Ambassador accompanied the the 5 member delegation of Mr. Abay Tsehaye Abay, Director General, ESC & a cabinet minister, Dy. Director Generals - Mr. Gebremedhin



Shimelis Kebede, Mr. Edessa Dereje Gutema, Mr. Belete Ambachew Dametie and Mewaha Zewdu Negate, Director Sugar Projects. Representatives from Shree Renuka Sugars Ltd. led by Mr. Narendra Murkumbi, VC & MD also accompanied the delegation.

The delegation after visiting all the laboratories and infrastructure were impressed by the high quality

technology and the progress. Mr. Abay in his speech in the meeting with all scientists, technologists, Head of Departments of VSI mentioned that collaboration with VSI in regards of training in sugar technology, engineering, mechanization etc. and technical assistance from the Institute will help Ethiopian Sugar Industry. He expected more fruitful interaction from VSI and the Government of India.

H.E. Mrs. Zewide emphasized the fact that there is much to learn from India and Relations between the two countries have entered in a multifaceted co-operation era. She said that the co-operation especially in Sugar sector goes back five years when the Indian Government provided \$640 million to develop Ethiopian Sugar. Ethiopia has setup a Sugar Corporation and will erect 10 sugar factories under their Government. She welcomed VSI to contribute and have more interaction as Ethiopia like Brazil has abundant resources in land, water, climate etc.

Mr. Murkumbi said that he had visited VSI previously but now very impressed with the huge progress VSI has made in last few years. He iterated that Renuka Sugars is also a member and like to be a partner with VSI in sugar sector.

In the end of the meeting between delegation members had a free discussion session with all Head of Departments regarding future advanced collaboration on sugarcane agriculture, technology and research. Mr. Shivajirao Patil, VP, VSI felicitated the delegation members in traditional Maharashtrian way by presenting 'Shawl-Shriphal' and a memento.





The delegation visit to Sugar Technology department



The delegation visit to Department of Alcohol Technology



The delegation visit to Department of Environmental Sciences



The delegation visit to research fields with Dr. R B Deshmukh, Director, Agriculture Science & Technology



The delegation visit to agriculture labs with Dr. R B Deshmukh, Director, Agriculture Science & Technology



Joint meeting at board room between Head of Departments, VSI and The delegation members



Signing of Collaboration Agreement by Mr. Shivajirao Deshmukh, DG, VSI and Mr. Abay Tsehaye Abay, Director General, ESC





Visit of JMD, Kaset Thai Indentity Sugar Ltd.

Mr. Apichart Noochprayoon, Joint Managing Director of Kaset Thai Identity Sugar Ltd., Thailand visited the Sugar Technology department on 10th June 2011. He had discussion in detail with Sugar Technologists on extension, education, current R&D trainings and technical seminars activities conducted by the department. He showed his keen interest in working of NABL accredited sugar laboratory. He impressed with infrastructure of VSI and appreciated the objectivities carried by VSI. In meeting with the Director General, he committed on sending his technical people for various courses, trainings and seminars conducted by the Institute.

Following organizations, Board of Director, Officers, farmers and students have visited Vasantdada Sugar Institute, Pune to see new innovative technologies developed by VSI and plots of experimental fields during last three months (Apr-11 to Jun-11)

Name of Institution	Visitors	Number
April 2011		
National Sugar Institute; Kanpur, UP	Teachers and Students	36
Harinagar Sugar Mills Ltd.; State : Bihar	Officers and Farmers	38
North Solapur Agriculture Officer; District : Solapur	Officers and Farmers	40
Karvir Taluka Agriculture Office; District : Kolhapur	Officers and Farmers	50
Shirala Taluka Agriculture Office; District : Sangli	Officers and Farmers	40
Gadhinglaj Taluka Agriculture Office; District : Kolhapur	Officers and Farmers	50
Ambejogai Taluka Agriculture Office; District : Beed	Officers and Farmers	56
Latur Taluka Agriculture Office; District : Latur	Officers and Farmers	28
Karvir Taluka Agriculture Office; District : Kolhapur	Officers and Farmers	48
Udgir Taluka Agriculture Office; District : Latur	Officers and Farmers	10
Pusad Taluka Agriculture Office; District : Yeotmal	Officers and Farmers	26
Appasaheb Nalawade SSK Ltd.; District : Kolhapur	Directors	2
Shahuwadi Taluka Agriculture Office; District : Kolhapur	Officers and Farmers	42
Mr. Sant Eknath SSK Ltd; District : Aurangabad	Director Board and Officers	15
HPCL Biofules Limited; State : Bihar	Officers and Farmers	20
Satana Taluka Agriculture Office; District : Nashik	Officers and Farmers	50
May 2011		
Maharashtra State Institute of Vocational Guidance; Pune	Trainee Teachers	60
Kagal Taluka Agriculture Office; District : Kolhapur	Officers and Farmers	100
Barshi Taluka Agriculture Office; District : Solapur	Officers and Farmers	42
June 2011		
Sinnar Taluka Agriculture Office; District : Nasik	Officers and Farmers	48
International Institute of information Technology; Pune	Teachers and Students	26
Total :		827



Library Updates (April 2011 - June 2011)

- 1) Guidelines for developing greenbelts
--- Central Pollution Control Board
- 2) Bio-methanation potential of solid wastes from agro-based industries
--- Central Pollution Control Board
- 3) Phytoremediation of particulate matter from ambient environment through dust capturing plant species
--- Central Pollution Control Board
- 4) Guidelines for ambient air quality monitoring
--- Central Pollution Control Board
- 5) Guidelines for duckweed based wastewater treatment system
--- Central Pollution Control Board
- 6) Wine chemistry and biochemistry
--- Moreno-Arribas M. Victoria; Polo, M. Carmen
- 7) Constructed wetlands for wastewater treatment
--- Central Pollution Control Board
- 8) Knowing and making wine
--- Emile Paynaud
- 9) All India Seminar on "Addressing cyclicity in Indian Sugar Industry –Techno policy issues"
--- Sugar Technologists Association of India
- 10) Managing wine quality –Vol.1 (Viticulture and wine quality)
--- Reynolds, Andrew G.
- 11) General viticulture
--- Winkler, A.I. ; Cook, James A. ; Kliewer, W.M. ; Lider, Llouyd A.

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VSI Bulletin is published by the Vasantdada Sugar Institute, Pune.

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