

VSI Bulletin

Dedicated service to sugar industry since 1975

Vol. 11, Issue - 1, April 2011

Quarterly For Private Circulation Only



**VASANTDADA
SUGAR
INSTITUTE**

Foreword...

With excess sugarcane production of around 82.5 million tons for the on-going crushing season 2010-2011, 164 sugar factories out of total 207 are operational in Maharashtra State. These factories had crushed 64.2 million tons of sugarcane by end of March 2011, producing 7.1 million tons of sugar already with average sugar recovery of 11.07%. The average recovery of the State is down by 0.46 units though it is expected to be around 11.30% at the season end. With approximately 18.3 million tons of sugarcane yet to be crushed, the State is expected to produce a record sugar in excess of 9.0-9.1 million tons. 27 sugar factories have closed their crushing season at the end of first quarter of 2011. The sugarcane crushed so far is 11.9 million tons higher as compared to March 2010 end, with sugar production increase by 1.1 million tons. The 2010-2011 sugar production estimates of 9.0-9.1 will be successive high after 7.1 million tons produced in 2009-2010.

Efforts are on at the State level to crush entire available sugarcane. To encourage sugar factories to crush the entire available excess sugarcane, the State Government has declared Rs. 3 per km per ton of sugarcane transport subsidy. Even the Central Government is considering sugar export option under the Advance License Scheme (ALS).

The first quarter saw very important events such as the signing of collaboration agreement between VSI and ICSL, France, a high profile visit of Mr. B C Gupta, Secretary (Food), Government of India, New Delhi and Mr. R P Bhargia, Chief Director of Sugar. Our scientists and technologists were engaged in participation in training programs and seminars, the current issue will provide our readers the insight on key events happened during the first quarter.

(A. A. Prabhavalkar)
Editor

Welcome

The Institute welcomes the following newly appointed staff during the first quarter of 2011.

Sr. No.	Name	Designation	Department
1.	Mr. B U Chavan	Agriculture Assistant	Farm Section (Naigaon)
2.	Mr. S N Waghmare	Agriculture Assistant	Agriculture Engineering
3.	Mr. G S Yadav	Agriculture Assistant	Agriculture Engineering
4.	Mr. J H Yadav	Agriculture Assistant	Plant Pathology
5.	Miss J B Zende	Laboratory Assistant	Soil Science
6.	Mr. R S Patil	Laboratory Assistant	Agriculture Engineering

Congratulations

Vasantdada Sugar Institute (VSI) management has promoted the following officers to Managerial levels.



Mr. D B Ghule has been promoted as the Registrar. He has been working at VSI since 1983 after completing MSc (Organic Chemistry). He also holds the position of Estate Manager and Rector. He was incharge of the Registrar's section since 2007. Congratulations and best wishes to Mr. Ghule.



Mr. R S Gangele has been promoted as Personnel Manager. He holds several degrees including M.A. (B+), DLL & L W, D.P.M., D.C.A., D.H.R D., C.C.T.K and is currently pursuing MBA in human resources. He has around 30 years of experience and was working as Personnel officer since 2005. Congratulations and best wishes to Mr. Gangele.



Mr. T P Patil has been promoted as the Administrative Manager. He has been working at VSI since 2002 and was working as Assistant Administrative Officer. Congratulations and best wishes to Mr. Patil.





Miss. M C Pagariya, Junior Research Fellow, Molecular Biology and Genetic Engineering (MB & GE), VSI has been awarded CSIR-SRF fellowship by Council of Scientific and Industrial Research (CSIR), New Delhi. She has also submitted her doctoral thesis on “Candidate Genes as Molecular Markers for Evaluating and Validating Sugarcane Germplasm for Salinity Stress” to the Department of Botany, Shivaji University, Kolhapur under the guidance of Dr. R M Devarumath and Dr. P G Kwar. Congratulations and best wishes to Ms. Pagariya.



Participation in Seminars and Training Programs

Dr. Deepali Nimbalkar and Mr. A B Deshmane from the Department of Environmental Sciences participated in a training programme on laboratory management System as per ISO/IEC 17025:2005 organised by the Centre for Electronics Test Engineering, STQC Directorate, Pune from 2-3 February 2011 and sponsored by the Quality Council of India.

Dr. P G Kwar, Scientist, Plant Molecular Biology, VSI has successfully participated in 21 days training course on ‘Niche Area of Excellence’ entitled “Characterization of Drought Adaptive Traits and Molecular Approaches to Introgress them for Crop Improvement India” during 4th-24th March, 2011. The course was organized by the Department of Crop Physiology, University of Agricultural Sciences, GKVK, Bangaluru and supported by Indian Council of Agricultural Research (ICAR), New Delhi.

Dr. M B Londhe and Dr. R N Bhosale participated a one day seminar on “Production of Sulphurless Sugar” organized by National Federation of Co-operative Sugar Factories Ltd. (NFCSF), New Delhi and S. Nijalingappa Sugar Institute, Belgaum-Karnataka at Hotel Sankam Residency, Belgaum, Karnataka. Dr. M B Londhe was Co-Chairman for the session. Dr. R N Bhosale presented the article entitled - “Sulphurless Sugar Production for Indian Sugar Industry” - R V Dani, Dr. R N Bhosale and Dr. M B Londhe.

NEWS**Seminar on
“Water Conservation & Distillery Effluent Treatment Technologies for Zero Discharge”**

All India Distillers Association (AIDA) and Central Pollution Control Board (CPCB) jointly organized a seminar on “Water conservation & Distillery effluent treatment technologies for zero discharge” from 26th to 27th February 2011 at New Delhi. Mr. S V Patil, Technical Adviser & Head, Mr. D R Takate, Technical Adviser, Mr. M L Kadam, , Mr. R V Godage, and Mr. D A Patil from the Department of Alcohol Technology attended the same. The chief guest for the workshop was Prof. S P Gautam, Chairman, CPCB. During the inauguration function Mr. J S Kamyotra, Member Secretary, CPCB, Mr. B K Murkute, President, AIDA,

was followed by inaugural address by Prof. S P Gautam. About 150-200 participants from various part of the country attended the workshop and total 25 technical papers were presented out of which VSI presented the following two papers

1. “Water conservation in distilleries” – D A Patil, K A Gaikwad and S V Patil
2. “Importance of water treatment in distilleries” – D R Takate, R V Godage and M L Kadam

During the seminar various aspects of water conservation in distilleries and effluent treatment technologies for disposal of spent wash & achieving



Mr. S V Patil, Technical Adviser & Head, Department of Alcohol Technology presenting a paper



Mr. D R Takate, Technical Adviser, Department of Alcohol Technology presenting a paper

Mr. V N Raina, Director General, AIDA and Mr. Abhay Chaudhary, Executive Vice President, Praj Industries were also present. Mr. B K Murkute delivered the welcome address during the inaugural session. This

zero liquid discharge were discussed in detail. The views expressed by the speakers and the delegates were conveyed to the Chairman, CPCB during the concluding session.

Secretary (Food), Government of India and Chief Director of Sugar – Visit to VSI

Mr. B C Gupta, Secretary (Food), Government of India, New Delhi and Mr. R P Bhargia, Chief Director of Sugar visited VSI on Monday. They keenly observed the library and laboratories of MB&GE, Tissue Culture Laboratory and Green House, Bio Fertilizer unit, Plant Breeding, Alcohol Technology, Sugar Technology and Environmental Sciences departments.

Mr. Shivajirao Patil, Vice President and Mr. Shivajirao Deshmukh, Director General welcomed the guests to VSI. Mr. R P Bhargia introduced the chief guest. All the Heads of Departments/ Sections of VSI had an opportunity to interact with the guests. Mr. Gupta insisted on a more concrete role for VSI. Both guests

praised the contribution made by VSI through Research, Education, Training and especially Extension. The Secretary in his speech said that the main challenging issues ahead are development of high yield sugarcane varieties, better utilization of bagasse and by-products, arresting the cyclic nature of sugar production with all the economics must be properly worked out. He welcomed any ideas, suggestions that the scientist, technologists and engineers of VSI can put forward. He said after visiting the premier labs infrastructure and witnessing the research work that he was very impressed with the work VSI has been doing.





Sugar Beet Processing Plant Inauguration



Traditionally sugar beet is a crop of temperate region, however with the availability of tropicalized hybrids now it is possible to cultivate this crop in Maharashtra. It is a short duration crop and does well even on saline soils. It matures in 150 to 180 days and on an average gives 75 to 80 tons of beet yields per hectare with 13 percent sugar recovery. Looking at these advantages VSI conducted systematic research on this crop and developed the



required package of practices such as time and method of sowing, spacing, seed rate, nutrient and water requirement, management of diseases and pests etc.

The Institute conducted large scale demonstrations on an area of 96 acres at farmer's fields in the jurisdiction of Rajarambapu Patil SSK Ltd. (BPSSK), a Co-operative Sugar Mill, in Islampur, Sangli District. Not only this but the Institute provided complete solution from seed to procurement of produce and its processing into sugar with the help

of BPSSK sugar mill by erecting a sugar beet processing unit at the Sarvodaya Co-operative Sugar Mill (BPSSK-Unit No.3, Ashta).

Seed of sugarbeet hybrid PAC 6008 was supplied by SESVanderHave - a Belgian Seed Company to the farmers free of charge while BPSSK sugar mill supplied the plant protection chemicals at concessional price.



The sugar beet processing plant of 100 TBD capacity was inaugurated on 15th March 2011 by Mr. Shivajiraodada Patil, Vice President, VSI in presence of Mr. P R Patil, Chairman, BPSSK, the Directors and staff of BPSSK sugar mill. Mr. Shivajirao Deshmukh, Director General, VSI was also present on the occasion. More than five hundred farmers including those who participated in conducting demonstrations attended the inaugural function.



“Development of Standards and Guidelines for Grain Based Distillery Waste in India” Project Sponsored by Central Pollution Control Board.

The Central pollution control board (CPCB), New Delhi has recently awarded the fifth project to the Department of Alcohol Technology on “Development of standards and guidelines for grain based distillery waste in India”. The total cost of the project sanctioned by CPCB is Rs. 19.16 lakh and duration of the project is of 2 years. The objectives of the project are given below.

1. Inventorization of large, medium and small grain based distilleries based on alcohol production capacity and their locations.
2. General description of manufacturing processes and effluent treatment/ emission control systems with flow diagram for generation, treatment and disposal of effluents.
3. Field visit to 10 selected distilleries based on production capacity, location and type of effluent treatment/ emission control systems.
 - a) Material and energy balance for individual and overall operations.
 - b) Performance evaluation of available effluent treatment and emission control systems in the selected distilleries.
 - c) Detailed analysis of effluent quality i.e. pH, TDS, TSS, BOD, COD, residual sugar etc. from various streams of the ETP.
 - d) Identification of causes for poor performance of Effluent Treatment Systems to suggest suitable remedies.
 - e) Techno-economic comparison of various treatment and disposal systems and feasibility study of other possible treatment systems after field visits i.e. bio-digestion before evaporation, incineration of MEE concentrate, and concentration by membrane filtration etc.
4. Monitoring and quantification of solid waste generated and their disposal/ handling methods.
5. Study and analysis of nutritive values, stability and microbial contaminations etc. of DWGS/ DDGS as cattle feed.
6. Development of guidelines for the effluent treatment and disposal systems for the grain based distilleries.
7. Development of standards for the effluent quality for the grain based distilleries.
8. Identification of clean, advanced, energy efficient and techno-economic feasible technologies for grain based distilleries to achieve “Zero liquid discharge”.
9. Performance evaluation of above-mentioned parameter at 10 selected distilleries in India.

The proposed study will help CPCB to evolve new standards and guidelines for disposal of solid, liquid & gaseous effluents from grain based distilleries. It will also help CPCB and State Pollution Control Boards to monitor and control the pollution problems arising from grain based distillery operations. It will also identify bottlenecks in the performance of existing effluent treatment systems in the grain based distilleries and the methods to resolve the problems. It will be also possible to identify new technologies for improving the performance of grain based distillery effluent treatment plants. Data on pollution control norms from countries producing grain ethanol will also be collected and compiled. In future, it will be possible to conduct training courses for the benefit of personnel from grain based distillery industry.

Tailor Made Course in Alcohol Technology for Sanzi Group

The Department of Alcohol Technology conducted a specially designed short term course entitled "Orientation course in Alcohol Technology" from 27th January 2011 to 31st January 2011 for staff of M/s. Sanzi Group Import & Export and its associate companies, Mumbai. Sanzi group and the associate companies are involved in manufacture of molasses & grain based liquors and export of the same to few African countries. The following five participants attended the course.

The participants were also demonstrated few practical aspects of Alcohol Technology such as 1) Potassium permagnate test for spirits, 2) Measurement of strength of spirits & liquors, 3) Sensory analysis of spirits & liquors, 4) Gas Chromatography analysis of spirits & liquors. The participants were also taken to 1) M/s. Viraj Alcohol & Industries, Shirala having 30 KLPD Grain based distillery, 2) M/s. Vishwasrao Naik SSK Ltd., Shirala having 30 KLPD molasses based distillery, 3) Lokranjan Breweries Pvt. Ltd., Hadapsar, having

Sr. No.	Name of participants	Designation	Company Name
1.	Mr. Samir A Dhrolia	Director	Sanzi Group
2.	Mr. Avinash Karnik	President	Blue Water Alcobev
3.	Mr. Kishor C Kedari	Blender	Dahisar Distilleries Ltd.
4.	Mr. Mohan R Toraskar	Blender	Master Blenders Pvt. Ltd.
5.	Mr. Niranjn Godbole	Blender	Subhash Liquors Pvt. Ltd.

During the inauguration session, the participants were introduced with the staff of Alcohol Technology Department. They were also introduced to the activities of the institute in general and the Department of Alcohol Technology in particular. Mr. S V Patil, Technical Adviser & Head delivered the introductory lecture on 'World alcohol production scenario and trends'.

This was followed by lectures on various topics by the staff of Alcohol Technology Department on – 1) Feed stocks available for alcohol production, 2) Importance of yeast for alcoholic fermentation, 3) Alcoholic fermentation batch & continuous systems, 4) Distillation of alcohol (Pot distillation, atmospheric & Multi pressure vaccum distillation system), 5) Alcohol quality aspects, 6) Alcohol production from grains, 7) Alcoholic beverages, Manufacture of country liquor & Indian made foreign liquor i.e. Whisky, Rum, Brandy, Gin & Vodka, 8) Maturation & aging, 9) Alcoholometry, 10) Overview of distillery effluent treatment technologies.

Country liquor unit and 4) Allied Blenders & Distillers Ltd., Hadapsar having IMFL unit. During the visit, practical aspects of spirits production and liquor manufacturing were explained in detail to the participants. During concluding session, the participants expressed their appreciation on the information received and the overall content of the course.



CPCB sponsored training program on “Pollution Control and Waste management in Sugar and Distillery Units”



The Department of Environmental Sciences conducted a residential training programme on “Pollution Control and Waste Management in Sugar and Distillery Units” under the HRD programme of Central Pollution Control Board from 21-25 February 2011 at its campus in Pune. Around 20 officers from Central and State Pollution Control Boards across the country participated in this programme. The objective of this programme is to update the knowledge of the participants regarding the current status and various advances in pollution control technology in the sugar and distillery industry. The program was inaugurated by the Director General Mr. Shivajirao Deshmukh who stressed on the need for better environmental management and pollution control in this sector. He also informed the participants of the work done by VSI in this field and also of the various research projects completed by VSI for CPCB.

The participants were introduced to the sugar and distillery industry processes at the beginning of the program so that they could understand the sources of pollution in a better way. The program also included lectures on water conservation, air pollution control and waste water treatment. Distillery effluent treatment methods were given special emphasis by including

lectures on Biomethanation, composting, reverse osmosis, evaporation and incineration. The faculty from VSI included Mr. S V Patil, Technical Adviser & Head, Alcohol Technology, Mr. R V Dani, Technical Adviser & Head, Sugar Technology, Dr. Deepali Nimbalkar, Scientist, Environmental Sciences and Mr. D D Sapkal, Sugar Technology. Guest faculty included Mr. P K Mirashe, Regional officer, MPCB, Pune, Dr. H M Modak, Rochem Separation Systems, India, Mr. N V Kulkarni, MOJJ Engineering Systems Ltd. Pune and Mr. S Damodaran,, Thermodyne Technologies Pvt Ltd., Chennai. The participants were also taken to Kisanveer Satara SSK Ltd., at Bhuinj in Satara district to see the actual working of various technologies in the sugar factory and distillery.

The concluding session was chaired by Dr. Rekha Sitasawad, I/c Environmental Training Unit, CPCB. The participants gave their feedback about the program which primarily expressed satisfaction with the practical nature of the program. They were happy to learn about the inner workings of the sugar and distillery units which they felt would help them in their work of pollution abatement. The program was coordinated by Dr. Deepali Nimbalkar.

National Environmental Awareness Campaign’ (NEAC) 2010-11



Vasantdada Sugar Institute (Department of Environmental Sciences), participated in the ‘National Environmental Awareness Campaign’ (NEAC) 2010-11. NEAC is a programme organized every year by Ministry of Environment and Forest (MoEF), Government of India. This year’s theme was ‘Biodiversity Conservation’ and the theme allocated to VSI was conservation of medicinal plants. For implementation of the programme VSI identified a school – ‘Navin Vidyalaya’ located at village Markal, Pune. In this one day awareness campaign Dr VS Ghole, Head of Department of Environmental Sciences, guided the school students on importance of biodiversity and its conservation. Mr. Shivaji Lokhande a local farmer and entrepreneur, engaged in medicinal plant cultivation and herbal extract, shared his knowledge and wisdom with students.

Followed by this school students planted few medicinal plant within school campus. In this programme staff members and MSc students of Environmental sciences department of VSI participated actively.

Training Program on “Process Simulation & Optimization using CHEMCAD”

Ingenious Process Solutions Pvt. Ltd., Mumbai conducted five days training program on “Process Simulation & Optimization” with the help of CHEMCAD software at VSI. Mr. Gautam Pradhan, General Manager (Operations) conducted the training program. During the training program following topics were covered.

- 1) Introduction to CHEMCAD.
- 2) Selection of Chemicals.
- 3) Selection of Units.
- 4) Selection of Thermodynamics Properties.
- 5) Drawing of flowsheets.
- 6) Drawing and connecting the streams.
- 7) Building and Using a Dynamic Simulation.
- 8) Simulation of Pumps.
- 9) Heat Exchangers.
- 10) Atmospheric Distillation Plant.
- 11) Reboilers.
- 12) Output with Reports.

CHEMCAD is Computer aided design software worldwide used for design and simulation in various industries like Distillery, Petroleum, Petrochemicals and Pharmaceutical Industries etc. CHEMCAD is powerful and flexible process simulation software that increases productivity and improves engineering decisions.

The Important Advantages of CHEMCAD are

- The latest engineering technique.
- All functionality united in a single software environment.
- Seamless connection to the engineering computing environment, with links to tools such as MS Excel and Word and interfaces such as COM, DCOM, OPC, CAPE-OPEN, and XML.
- CHEMCAD combines a state of the art graphical user interface, an extensive chemical component database, a large library of thermodynamics data, and library of most common unit operations.

- CHEMCAD is capable of modeling continuous, batch, and semi batch processes, and it can simulate both steady state and dynamics systems.

The software will be used for process simulation and optimization in fermentation, distillation and evaporation systems used in distillery industry. It would be possible to improve alcohol quality in distilleries based on samples collected from such distilleries and analysis & simulation carried out at VSI. The staff of Alcohol Technology, Sugar Engineering & Sugar Technology Departments attained the program.

Collaboration Between VSI & International Centre for Spirits and Liquors (ICSL), France



Centre International des eaux-de-vie et boissons spiritueuses (CIEDV), France, also known as International Centre for Spirits and Liquors (ICSL) is a reputed French institute working in the field of spirits and liquors in Europe. ICSL is involved in educational and consultancy activities in the area of spirits and liquors manufacturing in many parts of the world including Europe, Russia, South America, China and India. ICSL is affiliated to the University of Poitiers, France. Established in 1431, the University of Poitiers



is the second oldest university in France. ICSL is situated at Segonzac, a town in South West France, which is historically the capital of the Grande Champagne, the 1st cru of Cognac. ICSL is a non-profit organization like VSI.

The Governing Council of VSI had given approval for the proposal of collaboration between VSI and ICSL, France, in the meeting held on 17th December 2010. The collaboration agreement was signed by Mr. Etienne Hosteing, Vice President, and Mr. Xavier Latreuille, General Secretary from the CIEDV. On behalf of VSI, Mr. Shivajirao Patil, Vice President and Mr. Shivajirao Deshmukh, Director General, VSI signed the agreement on 29th March, 2011 at VSI, Pune.

Objectives of the collaboration

1. Advanced training in the area of spirits, liquors and wines.
2. Students and staff exchange program.
3. Exchange of technical information in the area of spirits and liquors.
4. To identify priority areas of cooperation for educational institutions in two countries.



5. To identify partnerships and proposals for further concrete actions.
6. Industrial consultancy partnership.
7. ICSL can identify and generate opportunities for consultancy services in and outside of Europe (and particularly in South America) for VSI in the area of sugarcane/molasses spirits and liquors manufacturing.

There is a good similarity in activities of ICSL and VSI. Therefore, it is possible to exchange technical knowledge and other facilities for the betterment of both the Institutes. ICSL and VSI has decided to work together and develop advanced activities in the area of training, generation of database and technical support for members of the molasses/sugarcane based distilleries and wineries.



Dr. Sapan Datta, DDG (Crop Science), ICAR, New Delhi Visit to Sugarbeet Farmers in Sangli District

Dr. Sapan Datta, Deputy Director General (Crop Science), Indian Council of Agricultural Research (ICAR), New Delhi along with Dr. R. B. Deshmukh, Director, Agril. Sciences & Technology, VSI visited Rajarambapu Patil SSK, Ltd. (RBPSSK), Islampur, District Sangli for observing the sugar beet grown in the fields of the farmers and beet processing plant installed at Sarvodaya SSK Ltd. on March 19, 2011. Mr. A.S. Deshmukh, Sr. Scientist & Mr. S.B. Manepatil, Scientist from VSI Pune also participated in the visit.

They visited the sugar beet plots.

pest & disease infestation, technical support, expected yields and its economics. The farmers expressed their satisfaction about the technical support from sugar factory and the VSI about sugar beet cultivation. The crop growth both as sole crop and intercrop was excellent without much problem of pests & diseases. Based on the experience of the factory staff on 92 acres beet cultivation, they were expecting 60 to 65 tons of beet yield per hectare with 12 to 14 per cent sugar recovery. Sugar beet

Sr. No.	Name of the Farmer	Village	Date of Planting	Soil Type	Remarks
1.	Mr. Jagganath Appasaheb Mirajkar	Ashta	01-11-2011.	Medium deep	Four rows of sugar beet were taken as intercrop in sugarcane after soyabean in Kharif. The growth of sugar beet as well as sugarcane was good, however it is suggested to grow only two to three rows of sugar beet between two rows of sugarcane spaced 120 cm. apart.
2.	Mr. Vasant Pandurang Rakate	Bawchi	03-11-2011	Medium deep	The crop growth and population was very good. There was no major problem of pest & diseases. Variety used was PAC6008



They also visited the tomato and capsicum crops grown on commercial basis by Mr. Girish Balkrishna Gulavani. During the visit DDG had detailed discussion with the Sugar Beet farmers about their experience in sugar beet growing, problems faced,

being a crop of 5½ to 6 months duration needs 50% less water and fertilizers as compared to sugarcane. It was also observed that, the Sugar beet could also be grown in saline soils.



They visited 100 TBD sugar beet processing plant installed at Sarvodaya SSK and keenly observed the processes like washing of beets, making of cossets, diffusion of cossets and juice separation. The beet juice was further mixed with sugarcane juice to process it to sugar.

After the visit, DDG had discussion with Shri P R Patil, Chairman of Rajarambapu Patil SSK, Shri. Mahuli, Managing Director and Directors of the factory to know their views about sugar beet cultivation and processing. The factory management was satisfied about beet cultivation in their operational area and they are planning to increase the area under beet in next season. DDG expressed great satisfaction over the efforts made by the farmers and factories both in beet cultivation and it's processing with the technical guidance of VSI Pune. He also mentioned that, this should serve as an ideal example for other sugar factories in the country to initiate the beet cultivation so as to extend their crushing season with increased productivity and profitability to the farmers.

After the discussion, the Chairman of the factory felicitated DDG, ICAR, Director, Agril. Sciences & Technology & VSI Scientists.

Advisor : Shivajirao Deshmukh
Editor : A A Prabhavalkar
Layout & Photography : Shriram Patil

Committee :
Dr. S H Shinde, K R Patil, R V Dani, S V Patil,
Dr. D S Nimbalkar, A S Deshmukh, M R Shinde,
N S Pathan.

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

Disclaimer: The views expressed in the articles are those of the authors and do not necessarily reflect the views of the VSI. The publisher makes no representation or warranties with respect to accuracy, applicability or completeness of information. Contents are for reference purpose only. Using it for any other purpose than for which it is shared is unauthorized and prohibited. No material from the issue may be copied, reproduced, republished, uploaded or commercially exploited in any manner without the prior consent of the publisher.
Copyright © Vasantdada Sugar Institute

Quinquennial Review Team (QRT)

A periodical review of research organization is a must to assess the performance of organization and to decide future direction of research. In the National Agricultural Research system it is a regular



feature to review the research carried out by various ICAR Research Institutes, NRCs, All India Coordinated Research Projects etc. At VSI lot of research effort has gone in to develop need based technologies for sugarcane also in their dissemination to farmers.

It is for the first time that, VSI has appointed a QRT to review the research work done by different sections and divisions under the department of Agricultural Sciences & Technology. The team consists of very experienced, eminent sugarcane scientists in the country. Dr. J V Gaud, Former Vice Chancellor, University of Agricultural Sciences and Technology, Dharwad, Karnataka is the Chairman of the Committee and Dr. K Mohan Naidu and Dr. T V Sreenivasan both former Directors, Sugarcane

Breeding Institute, Coimbatore, Tamilnadu are the Members of the Team, Dr. R S Hapase, Principal Scientist, Plant Breeding, VSI, Pune is working as the Member Secretary of QRT.

The team has visited the recently established Sugarcane Breeding Centre at Amboli (Sawantwadi) and various field experiments and seed plots at Manjari Farm, Vasantdada R & D Farm and the



Naigaon Seed Farm. The team also paid visit to Molecular Biology and Genetic Engineering, Tissue Culture and other laboratories of the Department. Scientists from various sections presented their past achievements, research programs at hand and future plans.

Team visited Sugarcane Breeding Centre, Amboli, VSI, Pune and the Rajarambapu Patil Cooperative Sugar Mill during their visits on 7th-11th December 2010, 3rd-8th January and 21st-26th February 2011. The final report of QRT is expected soon.

Training Program on ' Sugarcane Agriculture' at VSI, Pune



Agricultural Sciences and technology Division of VSI has conducted special training for sugarcane growers from Solapur District of Maharashtra under National Agriculture Technology Management Agency (ATMA) during 8th to 11th March 2011 at VSI. District Superintending Agriculture Office (DSAO), Solapur sponsored the training program. The program was inaugurated on 8th March by Shri Abasaheb Sabale, Sub-Divisional Agriculture Officer, DSAO Office, Solapur in presence of Dr. Subhash Shinde, Principle Scientist and Head, Crop Production and Protection Division, Mr. Praveen Bhosale, Subject Matter Specialist, ATMA and scientists from VSI. Mr. Sabale, in his inaugural speech took review of sugarcane agriculture of Solapur district in particular and emphasized the need of training to the sugarcane growers for improvement in the sugarcane productivity and sugar recovery status. Dr. Subhash Shinde appealed to the farmers for accepting the

modern agriculture technologies in sugarcane agriculture and expected higher sugarcane productivity to the tune of 100 tonnes per acre. Thirty -three sugarcane growers from 5 Tahsils of Solapur district participated in 4 days residential training. Lectures were conducted on various topics like sugarcane scenario in Maharashtra, sugarcane varieties, seed nursery, tissue culture, planting methods, soil fertility management, irrigation water management, use of bio-fertilizers, farm mechanization, sugarcane economics, ratoon management, integrated disease & pest management with special emphasis on practicals and field demonstrations. In specially organized question – answer session, the trainees interacted



with the subject experts. In the concluding function the representative trainees expressed the utmost satisfaction about the training, lodging and boarding facilities.

Banded Chlorosis on Sugarcane

Occurrence of Banded Chlorosis on sugarcane in Maharashtra State of India



The banded chlorosis/ cold chlorosis/ cold injury - a physiological disorder / an abnormality have been noticed in Maharashtra State of India since 2nd week of March 2011. The typical symptoms of this abnormality are light-green to white or yellow horizontal patches/ bands on younger leaves (1st, 2nd and 3rd leaf from top). (Fig.1). The single patch of 2 to 3 inch length was observed on individual leaf. The commercial cultivars viz., Co 86032 and CoC 671 suffered more. Drying of whole leaves or stalks was not observed anywhere. But, in a few affected leaves, necrosis and thereby shredding is noticed within the patches/ bands. (Fig.2). The affected plot can be identified from a distance because of the patches on a parallel height of the cane. (Fig.3). During winter season of 2010-11, the minimum temperature ranged from 10°C to 12°C in throughout January 2011, which resulted in such an abnormality. This abnormality is uncommon and is observed in a prominent way for the first time in the state especially in the sugarcane plots planted in July and August 2010 (Adsali Season), while; the crop planted

/ ratooned after August 2010 is free from this abnormality. This abnormality is also observed in a rare manner in matured crop. The plots in up-land areas are affected more than plots in the low lands. The shorter canes within the affected plots are also free from this abnormality. The border canes/stalks of the plots facing wind/cold waves are affected more than the inside stools. The plots nearer to water bodies are free from this abnormality. Though visible losses in cane yield are not noticed at this stage, it could be a matter of concern under changing climatic conditions

Visitors to VSI



Mr. Ramakant Shitole, a progressive farmer in the State visited VSI, especially to see the tissue culture facilities and activities. Mr. P N Tawar, Head, Tissue Culture explained the activities of tissue cultured micro-propagation of Sugarcane, Banana and Potato.

Following organizations, Board of Director, Officers, farmers and students have visited to Vasantdada Sugar Institute, Pune and seen new innovative technologies developed by VSI and plots of experimental fields during last three months (Jan -2011 to Mar -2011)

Month	Name of Institution	Visitors	Number
January 2011	Rahata Taluka Agriculture Office, Dist: Ahmednagar	Officers and Farmer	47
	Sadguru Gadage Maharaj College, Karad, Dist : satara	Teachers and Student	53
	Modern College of Arts, Science & Commerece, Shivajinagar, Pune - 5	Teachers and Student	48
	SIES College of Arts, Science & Commerce, Sion (West), Mumbai – 22	Teachers and Student	37
	Taluka Agriculture Office, BasmatDist: Hingoli	Officers and Farmers	54
	Rena SSk Ltd., Tal : Renapur, Dist : latur	Farmers	2
	Marathwada Mitra Mandals,College of Farmacy,Pune	Teachers and Students	61
	Yeshwantrao Chavan College of Science, Karad,Dist: Satara	Teacher and Students	11
	Deputy Director of Agriculture Kisan Kalyan & Krishi Vikas Vibhag OfficeDist: BalaghtState : Madyapradesh	Officers and Farmers (chairman Atma)	14
	Bhavan'S College, Department of Microbiology, Bombay	Teachers and Students	25
	D.B.J.College Chiplun, A/p: Chiplun	Teachers and Students	28
	Sindhkheda Taluka Agriculture Office,Dist: Dhule	Officers and Farmers	54
	Mitcon Consultancy & Engineering, Pune Trainee	Faculty member and	26
	Pathardi Taluka Agriculture Office,Dist : Ahmednagar	Officers and Farmers	135
	Shirol Taluka Agriculture Office,Dist: Kolhapur	Officers and Farmers	36



Month	Name of Institution	Visitors	Number
	WWF – India Aurangabad	Officers and Farmers	62
	Devala Taluka Agriculture Office, Dist: Nashik	Officers and Farmers	95
	Yeshwantrao Chavan Institute of Science Satara	Teachers and Students	86
	Office of Deputy Director of Agriculture, Chindwada State: Madhya Pradesh	Officers	10
February 2011	Office of Deputy Director of Farmers Welfare and Agriculture Development Shivpuri Dist: Shivpuri	Officers and Farmers	19
	Junnar Taluka Agriculture Office, Dist: Pune	Officers and Farmers	52
	Office of Divisional Superintendent of Agriculture Dist: Nasik	Officers and Farmers	52
	New Arts, Commerce and Science College Dist : Ahmednagar	Teachers and Students	22
	Umarkhed Taluka Agriculture Office, Dist: Yeotmal	Officers and Farmers	36
	Kannad Taluka Agriculture Office, Dist: Aurangabad	Officers and Farmers	36
	Khultabad Agriculture Office Dist: Aurangabad	Officers and Farmers	47
	Maharani Lakshmi Ammanni College For Women, Science P.O., Malleshwaram, Bangalore State : Karnataka	Officers and Farmers	34
	Sinhgad College of Science, Ambegaon (Bk.), Pune – 411 041	Teachers and Students	38
	Joint cane & Sugar Commissionerate Uttarakhand	Scientist, Cane Inspector and Farmers	16
	The Deputy Directorate Agriculture and Kisan Kalyan, Gwalior, State : Madhya Pradesh	Officers	10
	Niphad Taluka Agriculture Office, Dist: Nasik	Officers and Farmers	84
	District Superintendent Agriculture Office, Dist : Dhule	Officers and Farmers	32
	Nanded Taluka Agriculture Office, Dist: Nanded	Officers and Farmers	42
Chopda SSK Ltd, Chahadri, Tal: Copda Dist: Jalgaon	Board of Directors	10	
March 2010	WWF –India Aurangabad Field Office, Aurangabad	Officers and Farmers	50
	The Deputy Directorate Agriculture and Kisan Kalyan, Gwalior, State : Madhya Pradesh	Officers	10
	Sharad SSK Ltd., Post: Narande, Tal: Hatkanagle, Dist: Kolhapur	Farmers	4
	Sugarcane Research training Lucknow, State : Uttar Pradesh	Officers and Farmers	48
	Sangamner Taluka Agriculture Office, Dist : Ahmednagar Patan Taluka Agriculture Office, Dist : Satara	Officers and Farmers Officers and Farmers	48 38



Month	Name of Institution	Visitors	Number
	The Deputy Directorate Agriculture and Kisan Kalyan , Dist: BaitulState : Madhya Pradesh	Officers	10
	India Metrological DepartmentShivajinagar, Pune – 411 005	Director, Officers and Officers Trainee	30
	National Research Centre for GrapesManjari Farm, Pune – 412 307	Officer	1
	Ambegaon Taluka Agriculture Office,Dist : Pune	Officers and Farmers	48
	The Deputy Directorate Agriculture and Kisan Kalyan, Dist: ShahadolState : Madhya Pradesh	Officers	10
	Manjara SSK Ltd., Latur	Farmers	8
	Wai taluka Agriculture Office,Dist: Satara	Officers and Farmers	50
	Jawahar Taluka Agriculture Office,Dist: Thane	Officers and Farmers	80
	Chandgad Taluka Agriculture Office,Dist: kolhapur	Officers and Farmers	50
	Chopda Taluka Agriculture Office,Dist: Jalgaon	Officers and Farmers	41
	Shahada Taluka Agriculture Office, Dist : Nandurbar	Officers and Farmers	47
	Latur Sub Disional Agriculture Office,Dist: Latur	Officers and Farmers	50
	K.K.Wagh College of Agricultural Bio-Technology Panchvati, Nashik	Teachersand Student	30
	Osmanabad Agriculture Development Office, Dist: Osmanabad	Officers and Farmers	24
	Karjat Taluka Agriculture Office,Dist : Ahmednagar	Officers and Farmers	80
	Agriculture College, Kolhapur	Teachersand Student	24
	Dindori Taluka Agriculture Office,Dist : Nasik	Officers and Farmers	37
	Walwa Taluka Agriculture Office,Dist: Sangli	Officers and Farmers	100
	Malshiras Agriculture Office,Dist : Solapur	Officers and Farmers	67
	Bhavani Industries,Vasavad Road, Babra Dist: Amreli, State : Gujrat	Farmers	3
	Karvir Taluka Agriculture Office,Dist: Kolhapur	Officers and Farmers	23
	Parli Vaijyanath Taluka Agriculture OfficeDist: Beed	Officers and Farmers	50
	Parli Vaijyanath Bachatgat Dist: Beed	Officers and Farmers	52
	Beed Taluka Agriculture Office,Dist: Beed	Officers and Farmers	42
	Total Visits:	71	2569

Library Updates (January 2011 - March 2011)

- 1) Regional Centre for Urban Environmental Studies: Solid waste management - An insight.
- 2) Bhasha Sanchalanalaya Vanijya Shastra Paribhasha Kosh
- 3) Tata energy research institute TERI Energy data directory and yearbook 2010
- 4) Sanwaria, F.S.S. Auditing.
- 5) Karne, T.M. Mill Operation & Maintenance
- 6) F.O.Lichts World Sugar Yearbook F.O 2011
- 7) F.O.Lichts World Sugar Statistics 2011
- 8) Sugarcane Breeding Institute & ICAR Annual Report 2008-09
- 9) Garg, S.K. Environmental Engineering (Vol.1) ; Water Supply Engineering
- 10) Joshi, V.K. Handbook of enology: Principles, practices and recent innovations - Vol. I -Introduction to Vine and Wine
- 11) Joshi, V.K. Handbook of enology: Principles, practices and recent innovations - Vol. II -Principles and practices
- 12) Joshi, V.K. Handbook of enology: Principles, practices and recent innovations – Vol. II -Technology of production and quality control
- 13) Central Pollution Control Board & VSI Training Program on Pollution Control and water management in Sugar and Distillery Units
- 14) Ingalhalikar, Shrikant Further flowers of Sahyadri. [Field guide to additional 1200 flowers of North Western-ghats of India]
- 15) Pandey, S.K. & Chakrabarti, S.K. Twenty steps towards hidden treasure - Technologies that triggered potato revolution in India
- 16) Thakur, K.C. & Naik, P.S. Eco-friendly approaches for sustainable management of potato pests
- 17) Naik, Prakash S. & Lal, Shiv Shanker Region specific technologies for potato production in India
- 18) Verma, K.D. & Chandla, V.K. Potato aphids and their management
- 19) Singh, B.P., Arora, R.K. & Paul Khurana, S.M. Soil and tuber borne diseases of potato
- 20) Chandla, V.K., Paul Khurana, S.M. Garg, I.D. Aphids, their importance, monitoring and management in seed potato crop
- 21) Chandel, R.S., Chandla, V.K. & Singh, B.P. Potato tuber moth phthorimaea operculella (Zeller)
- 22) Shekhawat, G.S., Gadewar, A.V. Chakravarti, S.K. Potato bacterial wilt in India
- 23) Singh, B.P. & Shekhawat, G.S. Potato late blight in India
- 24) Paul Khurana, S.M., Bhale, Usha & Pau Garg, I.D. Stem necrosis disease of potato
- 25) Trehan, S.P. & Sharma, R.C. Micronutrient requirements of potato
- 26) NFCSF Ltd. & S.Nijalingappa Sugar Institute, Karnataka One Day Seminar on “Production of Sulphurless Sugar” on Jan. 28, 2011
- 27) Indian Sugar Mills Association & Rao M.N. Indian Sugar Year Book 2008-2009 Vol.I
- 28) Indian Sugar Mills Association & Jain, S.L. Indian Sugar Year ISM Book 2007-2008 Vol.II