

# VSI BULLETIN



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## Foreword Foreword ...

During current season 2023-24, as on 15<sup>th</sup> January 2024, total 509 sugar mills are started their crushing operations. The sugar production is 14.87 million tonnes by the crushing of 156.30 million tonnes. The Indian sugar industry is having opening stock of 10.13 million tonnes of sugar for the season 2022-23. The sugar production (white value) was 32.97 million tonnes in the season 2022-23 which was 8.31% less than the past season (35.96 million tonnes). It happens mainly because of decrease in sugar production of major states viz. Karnataka (9.68%), Maharashtra (23.18%), Madhya Pradesh (7.41%) and Gujarat (18.22%). The country's sugar production is likely to 30.33 million tonnes in forthcoming season 2023-24, which is decline by 8% over previous season because of deficit in rainfall by 5.55% (820.00 mm) in comparison with normal rainfall (868.60 mm). The sugarcane production is also affected and which is expected to be 448.57 million tonnes during current season 2023-24 as compared to previous season's production of 472.00 million tonnes.

During the 2023-24 crushing season, in Maharashtra 197 sugar mills started their crushing season of which, 97 are in cooperative and 100 are in private sector. Maharashtra produced 5.53 million tonnes (white value) of sugar upto 15<sup>th</sup> January, 2024 which

was less by 10.66% as compared to same period of the previous season's sugar production of 6.19 million tonnes. It is forecasted that in 2023-24 season, state will likely produce 9.00 million tonnes of sugar by crushing of around 97.00 million tonnes of sugarcane. The reduction in production of sugarcane crop is due to unsatisfactory rainfall which affected decrease in area under sugarcane and cane yield in major sugarcane producing belts of the state viz, Kolhapur and Sangli.

Under the Ethanol Blending Program (EBP) of India, sugar mills in the countries were supplied 5590.80 million liters of ethanol with OMC for 2022-23 (Dec.-Nov.) with 11.75% achieved blending percentage. Around 1437.80 million liters has been produced from sugarcane syrup, 2414.70 million liters from B heavy molasses, 64.90 million liters from C molasses, 238.00 million liters from damaged grains. During season 2023-24, around 4.30 million tonnes of equivalent sugar is likely to be diverted for production of ethanol.

The various activities under taken by VSI during the period from Oct. to Dec., 2023 have been highlighted in this issue. We are happy to place this Bulletin in the hands of our readers and look forward to their suggestions for effecting further improvements in future.

  
(RM Devarumath)  
Editor



## EVENTS EVENTS

### National Seed Day

Under ICAR seed project Vasantdada sugar institute had organized National Seed Day on October 4, 2023. On this occasion a one day training programme was organized on “Sugarcane cane seed multiplication & production technology” for cane development officer, agriculture assistants of sugar mills & seed nursery farmers.

Mr. Vikas Patil, Director, Input and Quality, Commissionerate of Agriculture, Pune, Govt. of Maharashtra was the chief guest. The workshop was inaugurated by the lighting of lamp by auspicious hands of Mr. Vikas Patil, Mr. Sambhaji Kadupatil, Director General and Dr. AD Kadlag Principal Scientist. The welcome address was given by Mr. RN Gaiwad, Scientist. Dr. AD Kadlag guided to the participants regarding importance of three tier sugarcane seed system. He mentioned that three tier seed multiplication programme is helpful for adoption of varietal and seasonal planting in the operational areas of mills. He also stressed that improved cultivation techniques are needed to be adopted for enhancing per unit cane and sugar productivity.

Mr. Sambhaji Kadupatil, in his inaugural speech mentioned that the seed is most crucial inputs in

sugarcane farming. Those mills and farmers are using same seed material year after year hence, productivity is also decline. He highlighted the role played by VSI in production of breeder’s seed. He stressed upon the role of sugar mills and their contribution in the seed replacement in the state is very low (6%). It is most important to replace sugarcane seed once in three years. In view of this, institute raising breeder’s seed every year on 40 ha. area for distribution to mills. Very few mills lifting seed as per their demand. Most of mills are not aware about the importance of seed.

Mr. Vikas Patil in his talk highlighted the importance of inputs and quality related information of Govt. of Maharashtra guidelines to other crops.

During technical session Dr. JM Repale, Sr. Scientist, Plant Breeding section delivered the lecture on “Varietal scenario in the state, its planning and identification”. Mr. RN Gaiwad, scientist, farm section on “sugarcane cane seed multiplication & seed production technology” and Dr. RA Sawant, Scientist and Head, tissue culture, on “Sugarcane seed production through tissue culture”. An event was concluded with vote of thanks.



## Meeting on Artificial Intelligence (AI) at VSI, Pune

The meeting on collaboration between Oxford University and KVK, Baramati on 'Artificial intelligence in sugarcane agriculture' held at Vasantdada Sugar Institute, Pune on October 26, 2023 in presence of Mr. Sharad Pawar, Hon'ble President, Vasantdada Sugar Institute, Pune.

Mr. Prataprao Pawar, Trusty, ADT, Baramati, Prof. Nilesh Nalawade, CEO, ADT, Baramati, Dr. Yogesh Phatake, Asst. Prof. ADT, Baramati, Dr. Ajit Jaokar, Course Director, AI Cloud & Edge Implementations, University of Oxford, UK, Dr. Prashant Mishra, Founder and CEO of Click to Cloud, USA, Dr. Sarang Nerkar, Founder and CEO/ Innosapien Agro Technologies and Prof. Yogesh Dandawate, Professor and Dean Quality Assurance,

Department of Electronics and Telecommunication Engineering, Vishwakarma Institute of Information Technology, Prof. Shreenivas Londhe, Professor in Civil Engineering, Vishwakarma Institute of Information Technology Pune, Mr. Shivajirao Deshmukh, Advisor, VSI, Mr. Sambhaji Kadupatil, Director General, VSI and HODs & HOSs were present.

The presentation made on Crop health monitoring using drone technology, Development of model using artificial intelligence for identification of maturity of cane for harvesting. It is decided that the Vasantdada Sugar Institute will also collaborate in this research projects



## 48<sup>th</sup> Foundation Day of VSI

VSI celebrated 48<sup>th</sup> Foundation Day on November 19, 2022. On this occasion Mr. Sumit Malik, Information Commissioner, Maharashtra was present as Chief Guest. The event was inaugurated by the lighting of lamp by auspicious hands of Mr. Sumit Malik, Mr. Sambhaji Kadupatil, Director General, Mr. Shivajirao Deshmukh, Advisor and Dr. AD Kadlag Principal Scientist. Crop Protection & Crop Production AS & T. VSI staff members were present during the function.

Mr. Sambhaji Kadupatil welcomed dignitaries and VSI staff members. He felicitated and introduced the Chief Guest.

Mr. Sumit Malik in his speech shared his experiences while working with Govt. Sector. He also appreciated the R & D work and other activities being carried out in the VSI. Mr. Shivajirao Deshmukh, in his talk shared the various developments in VSI. The function concluded with vote of thanks by Mr. RS Gangele, Personal Manager, VSI.



## TRAINING TRAINING

### *Oos Sheti Dnyanyag and Oos Sheti Dnyanlaxmi*

In the memory of founder President of VSI late Padmabhushan Dr. Vasantdada Patil, residential training program of *Oos Sheti Dnyanyag* and *Oos Sheti Dnyanlaxmi* was organized for women and men

sugarcane growers of Maharashtra at VSI in the month of November and December 2023 in five batches. The detail of the particular of the programme has given in following table.

Batch No	Period	Area from which the farmers participated	No. of Participants	No. of sugar mills and individuals Participants
<b><i>Oos Sheti Dnyanylaxmi</i> programme (Women farmers)</b>				
I	Nov. 21 – 24, 2023	Women farmers from Maharashtra	138	Sugar mills : 07
<b><i>Oos Sheti Dnyanyag</i> programme (Men farmers)</b>				
II	Nov. 28 - 1 Dec., 2023	Kolhapur District and Vidarbha region	136	Sugar mills : 06 Individual : 04
III	Dec. 5 – 8, 2023	Sangli and Satara Districts	146	Sugar mills : 06
IV	Dec. 12 – 15, 2023	Pune, Ahmednagar and Nashik Districts	90	Sugar mills : 08
V	Dec. 19 – 22, 2023	Solapur District and Marathwada region	103	Sugar mills : 05 Individual : 01
<b>Total participants (Women +Men)</b>			<b>613</b>	

In *Oos Sheti Dnyanyag* and *Dnyanlaxmi* training programs total 613 sugarcane farmers (men & women) were participated from different parts of Maharashtra. Out of total sugarcane farmers, 05 sugarcane farmers were participated individually and rest of the farmers were deputed by 29 sugar mills from Maharashtra.

Under the guidance of Mr. Sambhaji Kadupatil, Director General, the training programs were conducted. Mr. BH Pawar, Senior Scientist & Head, Plant Pathology Section coordinated the program with the help of members of the different committees belongs to different disciplines of Agriculture Sciences & Technology Division.

Lectures on various topics related to sugarcane agriculture like varieties & varietal planning for planting & harvesting, seed nursery management, tissue culture use, modern planting techniques, weed management, soil fertility and fertilizer management, irrigation water

management, use of bio-fertilizers & bio-control agents, farm mechanization, economics of sugarcane cultivation, ratoon management and integrated disease & pest management were conducted by experts in respective subjects. More emphasis was given on practicals of field demonstrations. The information on different types of Agriculture inputs developed by VSI, importance of solar system in sugarcane farming and academic activities of VSI was also given to them.

In the concluding session of every batch, the trainees got their doubts cleared from the subject experts and the representative trainee farmers expressed their views and improvement if any about the training, lodging and boarding facilities and overall coordination of the training. The certificates along with group photos were distributed to the trainees and function concluded with vote of thanks.

Batch No. : I



Batch No. : II



### Batch No. : III



### Batch No. : IV



### Batch No. : V



## Advanced Technologies in Sugarcane Agriculture

The residential training programme was organized for officers and staff members of ATMA, Parbhani, Beed and Kolhapur sponsored training program on “Advanced Technologies in Sugarcane Agriculture” during December 28-30, 2023 at VSI. Total 165 participants from ATMA, Parbhani (100), ATMA, Beed (40) and ATMA, Kolhapur (25) Agriculture Officers, Agriculture Assistants and Agriculture supervisors were attended the training program.

The training was inaugurated by the Mr. BH Pawar, Training Coordinator and Senior Scientist and Head, Plant Pathology Section in presence of Heads of sections from Agriculture Sciences & Technology Division. Dr. GS Kotgire, Scientist, Plant Pathology section welcomed all the participants and briefed the about training programme.

Modern and scientific sugarcane cultivation technology was taught during the training period which

covered the lectures and practical’s on various topics like sugarcane varieties and varietal planning, seed nursery management, tissue culture, modern planting techniques, weed management, soil fertility and fertilizer management, irrigation water management, use of bio-fertilizers, farm mechanization, ratoon management and integrated disease and pest management during two days training program. All the agriculture scientists conducted theory lectures with the help of power point presentation. More emphasis on practical’s and field demonstrations was given during the programme.

In the plenary session, the participants resolved their doubts from the subject experts. In the concluding function, the representative trainees expressed their views about the training and event was concluded with vote of thanks.





## VSI PARTICIPATION VSI PARTICIPATION

### VSI Team Visit to Dr. Balasaheb Sawant Konkan Krishi Vidypeeth, Dapoli

A team of scientists under the leadership of Mr. Sambhaji Kadupatil, Director General of VSI, consisting Dr. AD Kadlag, Head, AST & D, Dr. KS Konde, Head & Advisor, Alcohol and Wine Technology, Mr. AB Kotkar, Sr. Advisor Sugar Technology and Dr. SG Dalvi, Scientist, Tissue culture section visited Dr. DBSKKV Dapoli on 10 October 2023 to review the progress of collaborative work under the MOU with the University and to see the infrastructure developments under the NAHEP project.

Dr. Sanjay Bhavé Hon'ble Vice Chancellor of the University, Dr. Prashant Boadke, Dean, Dr. Torne Director of Research, Dr. Pramod Sawant Director of Extension and Heads of different depts and faculties involved with collaborative research work were present for the meeting. Dr. Bodake presented an overview of research on different crops at DBSKKV under the MOU agenda, while Dr. AD Kadlag outlined the activities at VSI and Dr. Dalvi presented collaborative work at VSI along with proposed trials on different crops in the Konkan area.

The Vice Chancellor of the University praised the work done and expressed whole hearted support for extending the collaboration in sustainable agriculture. He suggested bringing non-utilized cultivable land under sugarcane cultivation and proposed discussions

on developing technologies for wine production from fruit crops in Konkan and exploring possibilities of ethanol production from short-duration grain crops in the Konkan area. Different faculties of the university proposed experiments on various crops to extend the applications of Vasant Urja for sustainable crop productivity. He also expressed full support for approving VSI faculties as postgraduate teachers and VSI laboratories and farm facilities for carrying out research work by Postgraduate and PhD students of the university.

Later, the team visited the virtual classroom developed under the National Agriculture Higher Education project. The Director General of VSI expressed deep interest in the unique infrastructure and indicated a willingness to develop a similar infrastructure for education and training activities for sugar industry students and staff at VSI.

Subsequently, the team also visited the field demonstration trials and laboratories at the Organic Crop Production Research Center. Dr. Prashant Bodake provided information on various trials on different crops with organic materials and strategies practically implemented by different experts working in organic crop production



## AICRP(S) Meeting at Dr. Rajendra Prasad Agriculture University, Pusa, Bihar

The team of five Scientists comprising Dr. JM Repale, Sr. Scientist, Plant Breeding, Mr. BH Pawar, Head & Sr. Scientist, Plant Pathology, Dr. AS Patil, Scientific Officer & I/c Head, Agronomy, Mr. RG Yadav, Head & Scientist, Entomology and Dr. SA Surwase, Scientific Officer, Soil Science had attended the AICRP(S) group meeting held at Dr. Rajendra Prasad Agriculture University, Pusa (Bihar) on 26<sup>th</sup> to 27<sup>th</sup> October, 2023.

The inauguration programme was chaired by Dr. DK Yadava, ADG (Seed) & ADG (CC), ICAR, New Delhi and Dr. PS Pandey, Vice- Chancellor, RPCAU, Pusa. On this occasion Dr. G Hemaprabha, Director, SBI, Coimbatore; Dr. R Viswanathan, Director, ICAR-IISR, Lucknow; Dr. AK Singh, Director, SRI & Director, Research, RPCAU, Pusa; Dr. Dinesh Singh, Project Coordinator, AICRP on Sugarcane ICAR-IISR, Lucknow were present.

Dr DK Yadava, in his speech highlighted the need of new sugarcane varieties for sustaining the present drought situation in Tropical and red-rot situation in Sub-tropical India. He also emphasized on development of early maturing sugar varieties and replacement for variety Co 0238 in Sub-tropical India. The seed mechanism should be improved to control the migration and increasing area under un-released varieties. He emphasized the need of attending the hybridization programme at National Hybridization Garden (NHG), Coimbatore by the experienced Scientists to use the parents available for different traits.

Dr. G Hemaprabha, in her speech told that the work of Artificial Intelligence (AI) and drone technologies should be under taken under the AICRP(S) to help the farmers to reduce the cost of cultivation, help in increase the yield and control of diseases.

Dr. R. Viswanathan, guided on the red-rot present situation in Sub-tropical India and care to be taken to control the disease.

Dr. PS Pandey, pointed out that the research output of the project handled by the scientists and its recommendation for farmers is important. He also told that the sugar industries in near future need mechanization from planting to harvesting looking to the scarcity of labors.

The crop improvement session was chaired by Dr. DK Yadava, and Co-chaired by Dr. G Hemaprabha. The Crop Improvement report for the year 2022-23 was presented by Dr. G Hemaprabha. In her report for the year 2022-23 she highlighted that a few centers should take care of raising of seedlings from fluff. She also mentioned that during the report year under zonal varietal trial in Peninsular zone two entries qualified under different trials (two plant and one ratoon crop) conducted at 17 centers. The entries qualified for cane and sugar yield are viz., Co 16006 and Co 16018.

This year from our Institute we had proposed two entries viz., CoVSI 19004 (Co 11004 GC) and VSI 16003 (Co 86002 PC) on the basis of their red-rot reactions received from RARS, Navsari. These two entries were accepted for their testing in IVT trial and allotted the IVT Nos. CoVSI 23121 and VSI 23122. The Crop Production and Crop Protection sections were attended by the respective scientists. The recommendation of plant pathology was accepted in the session. The recommendation is **“The brown spot disease of sugarcane caused by *Cercospora longipes* may be controlled by 3 sprays of Tebuconazole (0.1 %) and Propiconazole (0.1 %) at an interval of 15 days of after the initiation of the disease.”**

## National Sugar Institute (NSI) International Conference, Kanpur

National Sugar Institute (NSI) organized International conference & Expo on October 11-12, 2023 at NSI, Kanpur. The theme of the conference was Sugar Industry-Modernization & Diversification for Sustainability.

The conference was inaugurated by Mr. Sanjeev Chopra, Secretary (Food & Public Distribution), Govt. of India. Nearly 500 delegates were attended for the conference. out of which 350 delegates from sugar industry and 150 students from NSI.

Seven international speakers were attended for the conference from various countries List of the as per the list mentioned below. The experts brainstormed on multiple issues of converting sugar industry waste to wealth, production of green energy, technological

interventions for improving plant efficiency and sugar industry scenario in various countries. Total 50 Sponsors & Exhibitors were displayed their latest technologies during the Sugar Expo organized in parallel with the conference.

Dr. Rajeev Dani, Alumnus of the Institute attended the conference and received the '**Sharakarashri**' award for his exemplary services to the sugar industry. He also participated in the Panel discussion session was conducted on the topic "Future sugar scenario & Importance of diversification" on October 11, 2023. Total 28 technical papers were presented during the various sessions including Environmental Issue & Coproduct, Factory Engineering & Processing and Sugarcane agriculture during the two days' international conference.

## Visit of NABL Assessment Team to VSI's NABL Laboratory for Continuation of Accreditation

NABL team consisting of Mr. Deelip P Jadhav, Lead Assessor, Agriculture Dept. Government of Maharashtra, Latur, Mr. Amar R Supate, Retired Officer from Maharashtra Pollution Control Board, Mumbai, Mr. Atul Pujari, Sun Pharmaceuticals, Mumbai, Mr. Kirti D Trivedi, CIPET, Ahmedabad, Gujarat and Ms. Nitasha Kharti, Gujarat Environment Management Institute, Gandhinagar, Gujarat visited Institute on 4-5 November 2023 for assessment of Vasantdada Sugar Testing laboratory for continuation

of NABL accreditation. The team had an opening meeting with Mr. Sambhaji Kadupatil, Director General, Mr. PP Shinde, Quality Manager of the laboratory, Technical Managers of Sugar, Drip and sprinkler, Alcohol and biofuels and Environmental laboratories and Head of the departments of Sugar Tech, Alcohol and biofuels and Environment Sciences and Agriculture Sciences and Technology. After assessment the team has recommended continuation of accreditation for next two years.



## VISITORS TO VSI

### Visit of Mr. Avinash Rastogi

Mr. Avinash Rastogi - Under Secretary, Co-operative Department, Government of India, visited Vasantdada Sugar Institute on during October 11 – 13, 2023 and visited various departments of the Institute. Mr. Sambhaji Kadupatil, Director General warmly welcomed & felicitated to Mr. Avinash Rastogi and explained various activities of the institute.

On October 12, 2023 the study tour comprised of Mr. Avinash Rastogi, Dr. Ashok Kadlag, Principle Scientist, VSI and Mr. Rajendra Chandgude, Technical Advisor & Head of Sugar Engineering Department VSI, Pune visited VSI Farm at Lonarwadi and seen various activities regarding cane cultivation practices fertilizer application, crop protection, soil & water

management. Later they visited the Malegaon SSK Ltd, Baramati.



### Visit of Delegation from Philippines

The delegation of Chairman and Technical Officer of Victorious Milling Company, Philippines as comprising of Mr. Alvin Yu, Chairman & Owner of VMC; Mr. Arnel Amparo, Chief Manufacturing officer; Mr. Marlowe Bugador, Department Manager; Mr. Jarjolen Jamora, Unit Manager; Mr. Tabangcora, Unit Manager; Mr. Vidyadhar Sidnale, General Manager from Thyssenkrup Industries India Pvt. Ltd., Pune, visited VSI on November 20, 2023.

The VMC, Philippines is a 15000CD capacity sugar plant established at Nergos Island of Philippines and producing raw & refined sugar. Mr. Sambhaji Kadupatil, DG, welcomed delegates along with Heads of various department of the

Institute. VSI short was displayed. And DG explained various activities of the institute including academics, extension & advisory services, facilities & infrastructure, research and development, worldwide consultancy services at national & international level.

The delegates also discussed regarding various problems of their sugar mill with various heads of departments of VSI. Later they visited other departments. The delegates expressed satisfaction regarding hospitality, imparting technical discussion, innovations and research

development activities. They desired technical help for their plant and also regarding training for the staff at their sugar mill site.



## Visit of AICRP(S) Monitoring Team

The AICRP(S) monitoring team comprised of four scientists Dr. A Ramesh Sunder, Pathologist, ICAR-SBI, Coimbatore (Tamilnadu); Dr. Ravinder Kumar, Breeder, ICAR-SBI, Karnal (Haryana); Dr. SS Nooli, Agronomist, SRS, Sankeshwar (Karnataka) and Dr. SM Gangurde, Entomologist, Central Sugarcane Research Station, Padegaon (Maharashtra). They visited the VSI on December 4 – 5, 2023 to monitor the AICRP(S) research program at VSI location. The team visited the experiments conducted at research farm as per the technical programme 2023-24 of AICRP(S) by the Plant Breeding, Agronomy, Soil Science, Microbiology, Entomology and Plant Pathology.

They visited the plant breeding four Zonal Varietal Trials viz., Initial Varietal Trial, Advanced Varietal Trial-I Plant, Advanced Varietal Trial-II Plant and Advanced Varietal Trial-I Plant-Ratoon and one trial on 'B.III- Evaluation and identification of climate resilient ISH and IGH genetic stocks. They also visited the seedlings raised from fluff called Ground Nursery-II. The monitoring team appreciated the crop growth in the breeding experiments and progress under fluff supply programme.

The team visited the experiments conducted under AICRP(S) by Agronomy, Soil Science, Microbiology, Entomology and Plant Pathology section. The details of visit are as under-

The monitoring team member visited the Agronomy experiments AS 72: Agronomic evaluation of promising sugarcane varieties under varied fertilizer levels; AS 74: Evaluation of sugarcane varieties for drought tolerance and AS 79: Evaluation of new herbicide molecules for weed management in sugarcane. The team member visited the experiment AS77 conducted by Soil Science entitled Evaluation of liquid nanourea for its efficacy in enhancing N use efficiency and sugarcane growth and yield and observed the treatment differences. The experiment AS 78: Effect of application of consortium of agricultural beneficial microorganisms as soil health and endophytic nitrogen fixing bacterial liquid bioinoculant (Plant health) on yield and quality of sugarcane conducted by Microbiology was visited by team member and observed the treatments. The team member appreciated the progress of trials conducted by crop production group.

The monitoring team visited six trials in pathology viz., PP17 B- Evaluation of zonal varieties for resistance to smut disease, PP 17 D-Yellow leaf disease study (YLD), PP 17 E- Methodology for screening of varieties for brown rust, PP17 F- Screening of entries under AVT for Pokkah boeng; PP 22- Survey of sugarcane diseases naturally occurring in the area on important sugarcane varieties, PP-32-Management of brown spot



disease of sugarcane (A); PP- 33- Management of yellow leaf disease through meristem culture; PP34-I- Efficient delivery of fungicides and other agro inputs to manage major fungal disease in sugarcane, II.- Delivery of agro inputs to improve settling vigour in nurseries; PP34b-To demonstrate efficient delivery of plant protection chemicals through drone for effective management in sugarcane ecosystem; PP 35-Development of inoculation techniques for pokkah boeng disease of sugarcane.

The monitoring team member visited the Entomology trials viz., E 4.1.1- Evaluation of zonal varieties / genotypes for their reaction against major insect pests, E.30-Monitoring of insect pests and bio agents in sugarcane agro- ecosystem, E.34- Standardization of simple, cost effective techniques for mass multiplication of sugarcane Bioagents, E.40- Integrated approach to manage white grubs in sugarcane, E.41- Assessment of yield losses caused by borer pests of sugarcane under changing climate scenario. The team member appreciated the progress of trials.



## VSI COMMITTEE MEETINGS

Purchase committee meeting was held on October 29, 2023 and Investment committee meeting was held on November 25, 2023.

## VISITORS TO VSI

Following Visitors were visited VSI during (Oct. - Nov. - Dec., 2023)

Name of Institutions	Visitors	Total
<b>October - 2023</b>		
The Lexicon School, Hadapsar, Pune	Faculties and Students	208
K.K.Wagh College of Agricultural Biotechnology, Saraswatinagar, Panchvati, Nashik	Lecturers and Students	59
Mahatma Gandhi College of Agricultural Biotechnology, Pokharni, Dist: Nanded	Lecturers and Students	40
TAO Panhala (ATMA), Dist: Kolhapur	Officers and Farmers	37
Saikrupa College of Agriculture, Ghargaon, (RAWE) Tal: Shrigonda, Ahmednagar	Students	5
MGM, College of Agriculture Bitechology, Chh. Sambhajinagar, Aurangabad	Lecturers and Students	60
Individual Farmers from Maharashtra State	Farmers	<b>336</b>
<b>November - 2023</b>		
D.Y Patil College of Agriculture, Talasande, Tal: Hatkanangle, Dist: Kolhapur	Lecturers and Students	30
Viveknand Arts, Sardar Dilipsingh Commerce & Science College, Samarthnagar, Auragabad	Faculties and Students	<b>47</b>
		<b>274</b>
Individual Farmers from Maharashtra State	Farmers	
<b>December - 2023</b>		
MIT School Food Technology, Loni Kalbhor, Dist: Pune	Lecturers and Students	<b>35</b>
Vasandrao Naik College of Agricultural Biotechnology, Waghapur Road, Yavatmal, Dist: Yavatmal	Lectures and Students	<b>42</b>
Individual Farmers from Maharashtra State	Farmers	<b>405</b>
	<b>Total :</b>	<b>1578</b>

Total

2172

## LIBRARY NEWS LIBRARY NEWS

### October 2023 to December 2023

1. **Patil Sanjay Agatrao; Patil Sushma Agatrao; Patil Aparna Agatrao; Patil Amar Agatrao** (2022) *A. R. Patil- Maverick Maestro- Unique Research Papers of Sugar Industry* (1<sup>th</sup> ed.) Pune: Swayamdeep Prakashan, (p. 286).
2. **DSTA- Deccan Sugar Technologists' Association (India) Pune** (2023) *68<sup>th</sup> Annual Convention & Sugar Expo 2023- on 24<sup>th</sup> & 25<sup>th</sup> September, 2023 at J. W. Marriott, Pune*; Pune: DSTA, (p. 366).
3. **Deshpande Ajit Kumar; Kadlag Ashok; Durgude Anil; Todmal Sanjay; Kale Sangram; Farande Ashok** (2016) *Jamin Aarogya Vyavsthapan* (2<sup>nd</sup> ed.) Rahuri: Kiran Kokate, (p. 205).
4. **Somwanshi R. B.; Kadlag A. D.; Deshpande A. N.; Tamboli B. D.; Kadu P. P; Bhakare B. D.** (2012) *Laboratory Methods for Analysis of Soils, Irrigation Water and Plants*; Rahuri: Subhash Mehetre, (p. 307, i - xxi).
5. **SISSTA- South Indian Sugarcane & Sugar Technologists' Association** (2023) *Proceedings- SISSTA 52<sup>nd</sup> Annual Convention 29<sup>th</sup> & 30<sup>th</sup> September, 2023*, Chennai: SISSTA, (p. 592).
6. **Londhe M. B.** (2022) *Text Book- Training Manual for Cane Juice Clarification* (1<sup>st</sup> ed.) Belgavi; Director S. Nijalingappa Sugar Institute, (p. 257).
7. **Ravichandra N. G.** (2022) *Nanotechnology in Plant Pathology* (1<sup>st</sup> ed.) New Delhi: NIPA Genx Electronic Resources & Solutions P. Ltd, (p. 675).
8. **UP Sugar Mills Association; National Sugar Institute** (2023) *Proceedings of International Conference & Sugar Expo- Sugar Industry- Modernization & Diversification for Sustainability 11<sup>th</sup> -12<sup>th</sup> October, 2023* Kanpur: UPSMA- NSI (p. 219).
9. **UP Sugar Mills Association; National Sugar Institute** (2023) *Souvenir of International Conference & Sugar Expo- Sugar Industry- Modernization & Diversification for Sustainability 11<sup>th</sup> – 12<sup>th</sup> October, 2023*, Kanpur: UPSMA- NSI (p. 52).
10. **Allsopp Peter G.** – **ISSCT** (2023) *Abstract Book- XXXI ISSCT Reports & Abstracts of the Proceedings of the XXXI Congress 20<sup>th</sup> to 23<sup>rd</sup> February, 2023*, Hyderabad: STAI- ISSCT Congress (p. i – xxii, 99).
11. **STAI- The Sugar Technologists' Association of India** (2023) *Souvenir- 81<sup>st</sup> STAI Annual Convention & International Sugar Expo 6<sup>th</sup> – 8<sup>th</sup> September, 2023*, New Delhi: STAI (p. i – xxxiii, 140).
12. **STAI- The Sugar Technologists' Association of India** (2022) *Directory of cane sugar factories and refineries (India and other SAARC Countries) and distilleries (India, Nepal & Bhutan) 2018-19*. New Delhi: STAI. (p. 482)
13. **SISSTA- South Indian Sugarcane & Sugar Technologists' Association** (2016) *Proceedings 46<sup>th</sup> Annual Convention SISSTA- Sugar Journal 15<sup>th</sup> – 16<sup>th</sup> July, 2016*, Chennai: SISSTA (p. 424).
14. **SISSTA- South Indian Sugarcane & Sugar Technologists' Association** (2021) *Proceedings- SISSTA 50<sup>th</sup> Golden Jubilee Annual Convention- Eagleton- The Golf Resort 1<sup>st</sup> - 2<sup>nd</sup> October, 2021*, Chennai: SISSTA (p. 255).
15. **SISSTA- South Indian Sugarcane & Sugar Technologists' Association** (2023) *Joint Seminar on "Promotion of Ethanol Production in the Present Scenario of Indian Sugar Industry" at S. Nijalingappa Sugar Institute, Belgavi, Karnataka 1<sup>st</sup> April, 2023*, Chennai: SISSTA (p. 124).

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