

VSI

BULLETIN



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Foreword Foreword ...

India is the world's largest consumer and second-largest producer of sugar. Total sugar production is at 275.28 lakh tons, compared to 256.49 lakh tons on the corresponding date last year, i.e., around 7% higher. Maharashtra, Uttar Pradesh, and Karnataka are the top-producing states, with Maharashtra holding the highest number of sugar factories. During the most recent crushing season, all-India production reached approximately 27.5 million tonnes before large-scale mill closures. State-wise Breakdown: Maharashtra: Led the country with around 9.9 million tonnes; Uttar Pradesh: Followed closely with roughly 8.9 million tonnes and Karnataka: Produced around 4.7 million tonnes.

Ethanol Diversion: A significant portion of the sugarcane crop is diverted to produce ethanol to meet the country's 20% biofuel blending mandate, making the crop vital to both food and energy sectors.

Industry Dynamics: India's average sugar recovery rate has hovered around 9.5%. The industry is currently advocating for government revisions to the Minimum Selling Price (MSP) of sugar to help mills offset rising costs.

At the same time, increasing crude oil prices and evolving geopolitical dynamics underscore the strategic importance of accelerating ethanol blending. With an estimated production capacity of nearly 2,000 crore litres (including grain-based ethanol), there is a strong case for advancing a forward-looking roadmap beyond E20 towards higher blends such as E22, E25, E27, and E85/E100. This

should be complemented by an expedited rollout of flex-fuel vehicles (FFVs) and rationalization of GST to support wider adoption and demand creation.

Further, the absence of a timely revision in ethanol procurement prices for sugarcane-based feedstocks, along with lower allocation to the sector, has led to a growing mismatch between installed distillation capacity and domestic offtake. This has resulted in underutilisation of capacities, leading to financial distress and erosion of revenue stream for the industry. A prompt price revision is essential to maintain feedstock parity, improve capacity utilisation, and provide long-term policy certainty to investors and industry stakeholders, enabling them to clear cane dues of farmers on time.

Addressing these issues through timely and calibrated policy interventions will be crucial to optimise capacity utilisation, strengthen the financial health of mills, safeguard farmer interests, stabilise domestic sugar markets, and reinforce India's energy security and rural economy.

A look at the events, training, workshops, VSI's participation and MoU for research collaboration (National & International) reported in this issue will once again showcase the prominent role of VSI in capacity building through training on the domestic front. Visitors to VSI also do not fail to be impressed by its functions in research, extension and training as VSI's work has always related to sugarcane growers and industry's needs by trying to reduce the gap between the lab and land.

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

66th Maharashtra Day

VSI celebrated 66th Maharashtra Day commonly known as *Maharashtra Din* which is celebrated annually on May 1st to commemorating the formation of the Marathi speaking state of Maharashtra in India

from the division of the Bombay State on May 1, 1960. On this occasion National Flag was hoisted by Mr. Sambhaji Kadupatil, Director General at VSI campus, in presence of staff members and students of VSI.



National Technology Day

National Technology Day is celebrated every year to mark the technological advances made by India. The day is important for scientists, technologists, engineers and others who are involved in nation building. VSI too celebrates this day every year for motivating its scientists, engineers, researchers and students to instill within them the awareness about various technological developments taking place across the globe. This year's National Technology Day celebration was organized in the institute on May 11, 2026.

Mr. Achyut Godbole was the Chief guest for this event. He is known for his significant contributions to the IT industry and literature. The event was attended by the Director General Mr. Sambhaji Kadupatil, Shri Mangesh Titkare, MD, Maharashtra Cooperative Development Corporation, all staff and students of the Institute.

It commenced with a welcome by Ms. Mohini Gaikwad, Agriculture Engineering section, setting the tone for an engaging discussion. This was followed by lighting of the ceremonial lamp by the guest and dignitaries.

Dr. Deepali Nimbalkar, Head Department of Environmental Sciences introduced both the guests after which he was felicitated by the Director General. The Director General in his address highlighted the significance of National Technology Day, which commemorates India's successful nuclear tests conducted on May 11, 1998 at Pokhran. He also reflected on how technology has transformed our lives over the years from basic living conditions to a modern world shaped by smart phone's, satellites, online education and artificial intelligence.

Mr. Mangesh Titkare addressed the gathering. He talked about the various developments in the sugar





industry especially regarding fuel ethanol and bioenergy. He mentioned that the industry needed to adopt artificial intelligence for improving agricultural productivity and industrial processes.

Mr. Achyut Godbole began his talk on how artificial intelligence is now playing a major role in our lives, right from writing scripts, composing songs and music down to performing industrial activities. He also talked about the need for accurate data for the AI systems to give appropriate output and also the need for enhanced



data security. He discussed the merits and demerits of AI especially the energy requirement and environmental implications of huge data centres which will be needed for future AI systems. He also touched upon the necessity of adopting AI for improving agriculture productivity and automation in industries. The lecture proved to be very inspiring for staff and students.

The event concluded with a vote of thanks Dr. Abhinandan Pail, Head, Agronomy.

VSI Delegation Visits Sugar Research Australia to Strengthen Global Collaboration in Sugarcane Research

A delegation from Vasantdada Sugar Institute (VSI), Pune, India, visited Sugar Research Australia (SRA) from 27 April to 7 May 2026 to explore advanced technologies and strengthen bilateral collaboration in sugarcane research, Breeding, Genomics, Pathology, Phenomics, and Mill efficiency.

The VSI delegation included Hon. Shri Balasaheb Thorat Saheb, Member Governing Council, VSI; Hon. Shri Rajesh Tope Saheb, Member Governing Council, VSI; Dr. Ashok Kadlag, Principal Scientist (Crop Production & Protection); Dr. Kapil Sushir, Principal Scientist & Head, Plant Breeding Section; and Dr. Ashok Jagtap, Scientist, Molecular Biology & Genetic Engineering Section.

During the visit, the delegation interacted with several leading scientists of SRA including Mr. Mick Bartlett (CEO, SRA), Dr. Nathalie Piperidis (Leader Biotech &

Cytogeneticist), Dr. Garry Rosewarne, Dr. Yachin, Dr. Chuong Ngo, Dr. Vishu Wickramasinghe, Dr. Lihan Zhao, Dr. Lisa Elizabeth, Dr. Catherine Grof, and Shamsul Bhuiyan.

At the advanced IRIS (Innovative Research & Industry Services) Laboratories in Brisbane, the delegation observed state-of-the-art facilities for genomics, molecular biology, cytogenetics, quarantine diagnostics, Tissue Culture, Soil analysis, and Plant Pathology. Demonstrations included 48K SNP chip-based genotyping systems, FISH assays for chromosome analysis, automated robotic pipetting systems, PCR- and LAMP-based disease diagnostics, and advanced sugarcane tissue culture systems using moving liquid media technology.

The team also visited the Woodford Pathology Laboratory, where advanced screening of sugarcane diseases such

as smut, ratoon stunting disease, leaf scald and root-knot nematodes was demonstrated under controlled environmental conditions. Researchers also showcased innovative carbon dot technology for enhancing disease resistance in sugarcane.

At the Meringa Research Station near Cairns, the delegation explored one of the world's most advanced sugarcane breeding and photoperiod facilities. Scientists demonstrated controlled photoperiod chambers used to synchronize flowering and facilitate planned hybridization in sugarcane breeding programs. The delegation also visited crossing nurseries, seedling raising facilities, seed storage chambers, and phenomics research platforms.

The delegation further visited the speed breeding facilities at The University of Queensland, where controlled environment systems using extended photoperiods and LED-based growth chambers are being used to accelerate crop improvement and genomic selection.

At Western Sydney University, the team explored advanced hydroponics and controlled environment phenotyping facilities equipped with automated climate control, precision nutrient delivery, and sensor-based crop monitoring systems for high-throughput plant research.

The delegation also visited Rocky Point Sugar Mill, where Australian milling operations and highly efficient mechanized systems were demonstrated. The VSI team appreciated the advanced automation and efficient mill management practices adopted in Australia.

Both VSI and SRA agreed to strengthen future collaboration in sugarcane breeding, genomic selection, marker-assisted breeding, phenomics, germplasm exchange, scientific training, and joint research projects aimed at improving sugarcane productivity, sustainability, and disease resistance.

The visit marks an important milestone in expanding Indo-Australian scientific cooperation in sugarcane research and advanced agricultural biotechnology.



VSI team during technical discussion with SRA scientists



Field visit and discussion on sugarcane crop improvement and varietal performance



Controlled Photoperiod Chambers Used for Sugarcane Hybridization

Celebration of World Environment Day at VSI campus

Students of M.Sc. Environmental Science and Wine, Brewing & Alcohol Technology celebrated World Environment Day on June 05, 2026. On this occasion, students planted a few trees in the campus near the International Students Hostel and near Helipad.

Students were very excited and expressed their gratitude towards nature through plantation activity. Dr. RM Devarumath, Principal and teaching staff of both the subjects were actively involved in this tree plantation programme.



TRAINING

Advanced Technologies in Sugarcane Agriculture

Batch - I

The two days residential training programme was organized for staff members of Natural Sugar and Allied Industries Ltd, Dharashiv. The objective of the training was to train the participants about advanced technologies in sugarcane agriculture. The two days training programs were conducted during on April 27-28, 2026. Fifteen participants were attended the training program, consist of Cane Development Officer and Agriculture Supervisor from said sugar mills.

The training was inaugurated by the Mr. RG Yadav, Senior Scientist and Head, Crop Entomology section. Dr. GS Kotgire., Scientist, Plant Pathology section welcome all the participants and others. Modern and scientific sugarcane cultivation technology was taught during the training period which covered the lectures and practical's on various topics like Artificial Intelligence, sugarcane varieties and varietal planning, nursery management, modern planting techniques, soil fertility and fertilizer management,

irrigation water management, farm mechanization 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 was given on Artificial Intelligence with their application and importance of this technology during the program.

In the plenary session, the participants resolved their doubts from the subject experts. In the concluding function, the representative trainees expressed their satisfaction about the training, lodging and boarding facilities provided to them. Officials asked questions about Artificial Intelligence and appealed to scientists to focus on it. The certificates were distributed to the trainees. Mr. RG Yadav VSI discussed with participants during farewell function about the difficulties faced by them in sugarcane agriculture in their area and appealed them to adopt modern technologies in sugarcane. The training program concluded with Vote of thanks.



Batch - II

The three days residential training programs were organized for staff members and farmers from Kawardha, Chhattisgarh. The objective of the training

was to train the participants about advanced technologies in sugarcane agriculture. The three days training programs were conducted during on May 12-14, 2026. Total 100 participants from Lohpurush Sardar Vallabhbhai Patel Sugar mill,

Kawardha, Chhattisgarh (50) and Bhoramdev SSK Limited, Kawardha, Chhattisgarh (50) participated in this training program.

The training program was inaugurated by the Dr. AD Kadlag, Principal Scientist, Crop Production and Crop Protection. Dr. GS Kotgire., Scientist, Plant Pathology section welcome all the participants and others. 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, nursery management, tissue culture, modern planting techniques, soil fertility and fertilizer management, irrigation water management, use of bio-fertilizers, farm mechanization, ratoon management and integrated disease and pest management during three days training program. All the agriculture scientists conducted theory lectures

in Hindi with the help of power point presentation. More emphasis on practical's and field demonstrations was given during the program.

In the plenary session, the participants resolved their doubts from the subject experts. In the concluding function, the representative trainees expressed their satisfaction about the training, lodging and boarding facilities provided to them. Officials asked questions about organic sugarcane agriculture and appealed to scientists to focus on it. The certificates were distributed to the trainees. Dr. AD Kadlag, Principal Scientist, VSI discussed with participants during inaugural function about AI (Artificial Intelligence) technology and difficulties faced by them in sugarcane agriculture in their area and appealed them to adopt modern technologies in sugarcane. The program concluded with vote of thanks by Dr. GS Kotgire .



Short Term Training Programme – June 2026

The institute is largely concern to conduct many short term training programmes to the employees of the Sugar Factory to enhance their working knowledge, vision to adopt new technology and also guide the industries to reform their normal function of sugar and allied industries to gain their key objectives. This is a remarkable and significant achievement of VSI.

The genuine effectiveness and practical utility of these courses have been widely accepted and adopted by the industries. The training courses largely guide and assist the industries, in many factors. Many industries treat this training course as some essential criteria for granting promotion to higher grade to trained employees. The Short Term courses conducted

and the participants joined for the same from the period June 09 - 26, 2026 to is as given below;

Sr.No.	Name of Course	No. of Participant
1.	Juice Clarification & Evaporation (Sugar Tech)	85
2.	Pan Boiling & Centrifugal(Sugar Tech)	115
3.	DFFPD Guidelines for various feed stocks diversion for ethanol production & FRP Recovery calculation (ST)	17
4.	Special Analysis in Sugar Laboratory (Sugar Tech)	21
5.	Boiler Attendant(Sugar Engineering)	54
6.	Mill Foreman(Sugar Engineering)	49
7.	Fermentation & Distillation techniques in distillery(Alcohol Tech)	53
8.	Techniques in Analytical Instruments	02
9.	Repairs & Maintenance of Sugar Factory Instruments.	42
10.	Pollution Control and Environmental Management in Sugar Factories and distilleries	06
11.	ETP operation & maintenance	12
12.	Laboratory Analysis of Waste Water & Solid waste(Environment Science)	04
Total		460

VSI COMMITTEE MEETINGS

VSI Committee Meetings

Investment Committee meeting was held on April 4, 2026 followed by Governing Council meeting under the chairmanship of Hon. President of VSI Mr. Sharad Pawar at VSI campus. In this meeting various departmental reviews and developmental work was presented by technical officials. Building and Purchase committee meeting was held on May 30, 2026 and Governing Council meeting under the chairmanship of Hon. President of VSI

Mr. Sharad Pawar at Yashwantrao Chavan Centre, Mumbai on June 22, 2026. under the chairmanship of Mr. Sharad Pawar, Hon. President of VSI. In this review was presented from different departments present their work progress and apart from this, various developmental activities across all the VSI farms were discussed.



VSI PARTICIPATION

STAI Hosts International Workshop on Energy-Efficient Sulphur-Free Sugar Refineries in Bhutan

The Sugar Technologists' Association of India successfully organized the Workshop on Energy-Efficient Sulphur-Free Sugar Refineries from April 17-19, 2026 at the picturesque IHCL SeleQtions Thimphu, Bhutan. The three-day international workshop brought together eminent experts, technologists, and industry professionals to deliberate on advancements in sustainable and energy-efficient sugar refining technologies.

The workshop was inaugurated by the Chief Guest, Hon'ble Sambhaji Kadupatil. The event was attended by distinguished dignitaries, including Dr. Sanjay Awasthi, President of STAI, along with Mr. Anup Keshewani, Mr. Pramod Belesare, and

Dr. D. Sawin. A total of 38 delegates participated in the workshop, representing a broad spectrum of the sugar industry and contributing to a rich exchange of technical knowledge and practical experience.

In his inaugural address, Mr. Kadupatil underscored the critical importance of integrating advanced digital solutions, particularly Artificial Intelligence (AI), into the sugar industry. He highlighted that AI-driven technologies have the potential to significantly enhance operational efficiency, facilitate predictive maintenance, optimize process parameters, and improve the overall performance of sugar mills. He further emphasized the necessity of modernization and the adoption of data-driven decision-making



frameworks to ensure long-term sustainability and global competitiveness of the industry.

A key highlight of the workshop was the presentation of eight technical papers, each addressing innovative approaches to reducing sulphur usage and enhancing energy efficiency in sugar refineries. The sessions stimulated insightful discussions, with participants sharing practical experiences, operational challenges, and emerging best practices relevant to modern sugar processing.

During the technical deliberations, Mr. Rajendra Chandgude presented a comprehensive techno-economic analysis comparing sulphur-free sugar with plantation white sugar. His presentation provided an in-depth evaluation of cost structures, process efficiencies, product quality parameters, and

market acceptance, thereby offering valuable insights into the economic viability and long-term benefits of adopting sulphur-free refining technologies.

The technical sessions were ably chaired by Dr. D. Sawin, with Mr. Rajendra Chandgude serving as Co-Chair. Their leadership ensured structured deliberations, meaningful technical engagement, and the smooth conduct of the programme.

The workshop concluded on a highly successful note, reaffirming the industry's commitment to sustainability, environmental stewardship, and technological advancement. It served as an effective platform for knowledge dissemination, professional interaction, and collaborative dialogue, further strengthening the collective resolve of stakeholders toward achieving cleaner and more energy-efficient sugar production practices.

Visit to Dr. Rajendra Prasad Central Agricultural University, Pusa, Samastipur, Bihar

Mr. Sambhaji Kadupatil, Director General, and Dr. AD Kadlag, Principal Scientist (Crop Production and Protection) visited Dr. Rajendra Prasad Central Agricultural University (RPCAU), Pusa, Samastipur, Bihar during 19–21 May, 2026. During the visit, discussions were held with Dr. PS Pandey, Vice Chancellor of the University, regarding potential collaborative research projects. During the visit to the Sugarcane Research Institute (SRI), Pusa, the team visited the Heritage Museum of Agricultural Research and Education in India and sugarcane research fields.

In a meeting held at the College of Basic Sciences & Humanities, Pusa. The Dr. AK Singh, Director, Research, RPCAU; Dr. Amresh Chandra, Dean, College of Basic Sciences and humanities, Dr. Devendra Singh, Director, SRI, Pusa; Dr. BN Kamat, Associate Professor, SRI with other Scientists were

present. Dr. AD Kadlag delivered a presentation on the research activities of VSI. Further interactions with the scientists were held to discuss opportunities for collaborative research work.

Mr. Sambhaji Kadupatil and Dr. Ashok Kadlag, visited Dr. Rajendra Prasad Central Agricultural University (RPCAU), Pusa, Bihar and the Sugarcane Research Station, Samastipur, Bihar on May 19, 2026.

During the visit, discussions were held with Dr. PS Pandey, Vice Chancellor of the University regarding potential collaborative research projects. They also interacted with scientists and officials regarding advanced research facilities, sugarcane germplasm resources and ongoing research programmes related to crop improvement and sustainable sugarcane production. During the visit to the Sugarcane Research Institute (SRI), Pusa, the

team visited the Heritage Museum of Agricultural Research and Education in India and sugarcane

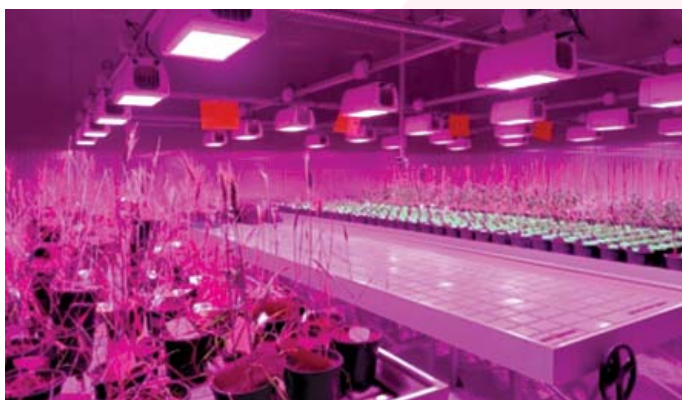
research fields .



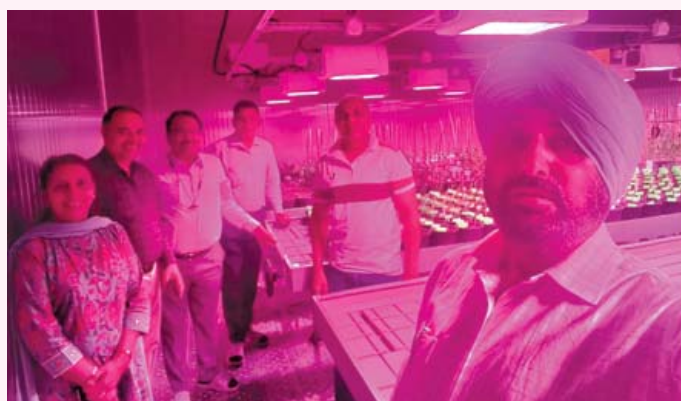
Subsequently, on 20 May 2026, Mr. Sambhaji Kadupatil, Director General and Dr. AD Kadlag, Principal Scientist (Crop Production and Protection), visited Punjab Agricultural University (PAU), Ludhiana, Punjab. During the visit, they toured the School of Agricultural Biotechnology, speed breeding facilities and the Department of Farm Machinery and Power Engineering. The meeting with the Vice-Chancellor of Punjab Agricultural University (PAU) Dr. Satbir Singh Gosal, Dr Yogesh Vikal, Director of School of Agricultural Biotechnology and Dr Dr Gulzar Singh Sanghera, Director, Regional Research Station, Kapurthala were held and discussed on advanced

molecular breeding approaches, modern phenotyping and genotyping platforms, genome-assisted crop improvement strategies and mechanization technologies relevant to sugarcane agriculture.

The visit provided valuable insights into emerging research technologies and infrastructure available at these premier agricultural institutions. It is expected that these interactions will strengthen future scientific collaboration between Vasantdada Sugar Institute and the respective institutions in the areas of molecular breeding, speed breeding, biotechnology, germplasm utilization, crop improvement and agricultural mechanization.



Advanced speed breeding facility at PAU, Ludhiana, enabling accelerated crop improvement through controlled environmental conditions and extended photoperiods.



Shri Sambhaji Kadupatil and Dr. Ashok D. Kadlag with scientists at the speed breeding facility of PAU, Ludhiana, during discussions on rapid generation advancement and modern breeding technologies

WISMA Sugar & Bioenergy Conference, Awards & Expo 2026

The WISMA Sugar & Bioenergy Conference, Awards & Expo 2026 was organized on May 30, 2026 at Hotel Westin, Pune, bringing together experts, researchers, industry professionals, and stakeholders from the sugar and bioenergy sectors to discuss emerging technologies and future opportunities in the industry.

The conference was attended by Mr. Sambhajirao Kadupatil, Director General, VSI, along with other VSI officials and delegates from various sugar industries and allied sectors. The event covered important topics related to Artificial Intelligence in sugar manufacturing, biofuels, green hydrogen technologies, bio-bitumen, carbon credits, and sustainable industrial practices.



One of the major highlights of the conference was the technical session by Dr. Anand Mahurkar (Findability Sciences, USA) on AI Technology in Sugar/Bioprocess Manufacturing, where concepts such as Enterprise AI, the ICUPP model, Predictive AI, Interpretive AI, Generative AI, and Consumer AI were discussed along with their industrial applications.

The conference provided exposure to advancements in digital transformation, sustainability initiatives, and innovative technologies aimed at improving operational efficiency and supporting the future growth of the sugar and bioenergy industry.

ET Now Machinist Super Shopfloor Awards (12th Edition)

The ET Now Machinist Super Shopfloor Awards are dedicated to celebrating excellence across India's manufacturing ecosystem. For over a decade, these awards have recognized outstanding achievements in areas such as Manufacturing Excellence, Innovation, Digital Transformation, ESG, Quality, and more-honoring the teams and leaders driving real impact on the shopfloor. Nominations are classified into three segments based on turnover: Large Enterprises (Rs 2,000 crore and above), Medium Enterprises

(Rs 500 crore to Rs 2,000 crore), MSMEs (Less than Rs 500 crore).



Dr. Deepali Nimbalkar, Senior Scientist & Head, Department of Environmental Sciences, VSI was invited as a jury member for evaluation of applications received for the 12th edition of these awards. The other jury members included

1. Amit Pendse, Former President, Electronica Plastic Machines Limited
2. Parag Alekar, Managing Director at Nicolas Correa India

3. Dr. Ravindra Utgikar, Vice President & SBU Head, Wilo Mather and Platt Pumps
4. Dr Sandeep Waykole, CEO & Director, Accolade Electronics Private Limited
5. Shailendra Goswami, Chairman and Managing Director of Pushkaraj Engineering Enterprises
6. Mr. Pravin Karve, Former President, Thermax Babcock & Wilcox Energy Solutions Ltd
7. Mr. Shrikant Wale, President - Execution, Praj Industries

8. Mr. Rajeev Mittal, Chief Information Officer (CIO), Endurance Technologies Ltd.
9. Mr. Abhijit Janugade, Director, Leidel & Kracht India Pvt Ltd

The jury meet was held on June 5, 2026 at Ibis, Pune and the award ceremony was held on June 25, 2026 at The Westin, Pune. Dr. Nimbalkar was invited to give away the awards for quality.

VSI Scientists Participate in Technical Consultation on Establishment of Centre of Excellence in Sugarcane Genomics and Gene Editing

Dr. Ashok Kadlag, Principal Scientist (Crop Production and Protection) and Dr. Ashok Jagtap, Scientist (Molecular Biology and Genetic Engineering), Vasantdada Sugar Institute (VSI), Pune, participated in the Technical Consultation Meeting on the Establishment of the Centre of Excellence in Sugarcane Genomics and Gene Editing, held on June 30, 2026 at The Oberoi, New Delhi. The meeting was jointly organized by the National Federation of Cooperative Sugar Factories Ltd. (NFCSF) and the Indian Sugar & Bio-Energy Manufacturers Association (ISMA).

The programme commenced with a welcome address by Mr. Niraj Shirgaokar, President, ISMA, who welcomed the distinguished scientists, policymakers and industry representatives and highlighted the importance of collaborative efforts to strengthen India's sugarcane research ecosystem. This was followed by the keynote address of Mr. Ashwini Srivastava, Joint Secretary (Sugar), Department of Food and Public Distribution, Government of India, who emphasized the strategic importance of advanced technologies and institutional partnerships in enhancing sugarcane productivity and supporting the country's bio-energy and ethanol missions.

Hon. Harshvardhan Patil, President, NFCSF, delivered the presidential address, recalling the remarkable contribution of the sugarcane variety Co 86032 to Indian sugarcane farming. He emphasized that future breakthroughs in sugarcane improvement can be achieved only through collaborative research under the proposed Centre of Excellence. He further highlighted that VSI's recent collaborations with CTC, Brazil, and Sugar Research Australia (SRA) would provide valuable international expertise and significantly contribute to the success of the proposed Centre.

Mr. Deepak Ballani, Director General, ISMA, presented the background, objectives and outcomes of the earlier brainstorming sessions on enhancing sugarcane productivity, outlining the vision behind establishing the Centre of Excellence.

The technical proposal was presented by Dr. P. Govindaraj, Director, ICAR-Sugarcane Breeding Institute (SBI), Coimbatore. The proposed Centre aims to accelerate the development of high-yielding, climate-resilient, water-efficient and disease-resistant sugarcane varieties using advanced technologies such as genome sequencing, genome editing, high-throughput breeding, phenomics, bioinformatics and



precision seed technologies. The initiative is expected to improve sugar recovery, enhance productivity, strengthen disease resistance and promote sustainable growth of the sugar and bio-energy sectors.

Eminent scientists Dr. TR Sharma, National Professor (BP Pal Chair), ICAR-IARI, New Delhi and Dr. KC Bansal, Former Director, ICAR–National Bureau of Plant Genetic Resources (NBPGR), New Delhi, appreciated the proposal and offered valuable scientific suggestions to further strengthen the initiative.

During the technical deliberations, Dr. Ashok Kadlag, Principal Scientist, VSI, observed that the proposed

Centre of Excellence would significantly contribute to the long-term sustainability of sugarcane cultivation by integrating advanced genomics with crop improvement and production technologies. The meeting concluded with a vote of thanks by Mr. Madhav B. Shriram.

The participation of VSI scientists in this national consultation reflects the Institute's continued commitment to advancing sugarcane research through innovation, strategic collaborations, and modern genomic technologies for the benefit of farmers and the Indian sugar industry.



MEMORANDUM OF UNDERSTANDING (MoU)

AI-Driven Sugarcane Research Collaboration between VSI and KJ Somaiya Mumbai

Vasantdada Sugar Institute (VSI), Pune, and KJ Somaiya School of Engineering (KJS), Mumbai, signed a Memorandum of Understanding (MoU) on 3 June 2026 to establish a collaborative research partnership aimed at leveraging Artificial Intelligence (AI) and digital technologies for sustainable and profitable sugarcane farming.



related to sugarcane cultivation, while KJS will function as the technology partner, developing innovative AI-based solutions and farmer-centric decision-support models.

The collaboration will focus on the development of low-cost, scalable, and user-friendly technologies

for sugarcane farmers.

The MoU will also facilitate interdisciplinary research, student engagement, capacity building, and the development of practical digital solutions tailored to the needs of the sugarcane sector. Through this initiative, both institutions aspire to accelerate the digital transformation of sugarcane agriculture and contribute towards the creation of smart, data-driven, and sustainable farming systems.

MoU with Sugarcane Industries Department, Patna (Bihar)

The MoU between Vasantdada Sugar Institute, Pune and Sugarcane Industries Department, Patna (Bihar) was signed on June 3, 2026 at Patna (Bihar). At the time of signing, Shri Sanjay Kumar, Hon'ble Minister for Sugarcane Industries Department, Government of Bihar; Shri Vedvrat



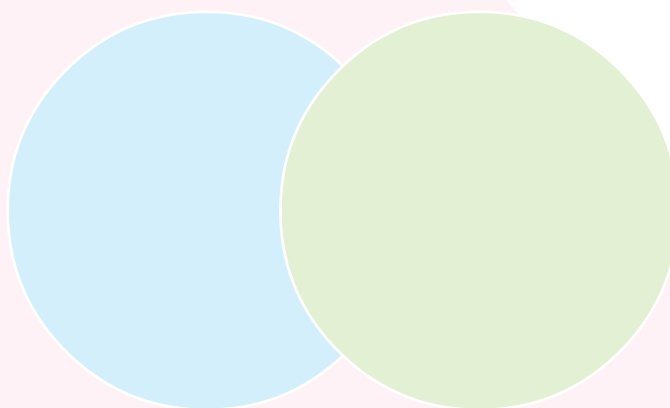
Kumar, Deputy Commissioner, Sugarcane Industries Department, Bihar Government and Mr. Sambhaji Kadupatil, Director General, VSI, Pune and Dr. AD Kadlag, Principal Scientist (Crop Production and Protection) were present from the institute.

The MOU will be helpful to the sugarcane growers in Bihar to empower through modern technologies and training, ensuring the availability of high-yielding sugarcane varieties, adoption of advanced water and nutrient management practices, reduction in production costs and mechanization through comprehensive technical guidance.

To achieve the institutional objectives, VSI will work in close coordination with sugar factories from Bihar state to promote the overall development of the sugar industry in Bihar, strengthen the technical capabilities

of sugar factories and provide guidance for implementing sustainable sugarcane cultivation practices.

In this regard an action is initiated through the Government of Bihar for getting the high-quality sugarcane seedlings and the institute will be supplying the demand in a short time. The preparation of seedlings of the popular Bihar sugarcane varieties CoP 9301 and Rajendra Ganna-2 is underway and about 125,000 seedlings will be supplied in September, 2026.



VISITORS TO VSI

Visit of Indonesia's Delegates

Indonesia's Rajawali Group organized by IMCO Alloys Pvt. Ltd., visit to VSI on April 09, 2026. The following members viz; Pak Aris Arsandi, Pak Tri Wahyu Dewanto Budi Pinilih, Pak Aji Humantoro, Pak Medhitya Revino Prastyono, Pak Mochamad Virman Septyono, Pak Saehul Akbar, Pak Andrew and Pak Sean were present in the meeting in presence of HODs/HOSs of the Agriculture as well as technology Departments. Later they visited different sections to know more about VSI's activity as extension, Training and Research & Development.



Visit of Hon. Minister Mr. Sanjay Kumar, Sugarcane Industries Department, Patna (Bihar)

The Hon'ble Minister Shri Sanjay Kumar, Sugarcane Industries Department, Government of Bihar visited the institute on June 21, 2026. He was accompanied by Shri Anil Kumar Jha, IAS, Cane Commissioner; Shri Vedvrat Kumar, Deputy Cane Commissioner; Shri. Hemant Jha, Joint Director, Cane Development and Dr. Balwant Kumar, Senior Scientist (Pl. Br.), Sugarcane Research Institute, Pusa.

Mr. Sambhaji Kadupatil, Director General, felicitated the dignitaries and Dr. AD Kadlag, Principal Scientist (Crop Production and Protection) briefed them about the activities of the institute. Discussions were held

on collaborative initiatives to be undertaken for the improvement of the sugar industry in Bihar.

The guests visited the laboratories of Tissue Culture and Alcohol Technology & Bio-Fuel Departments. They visited the Plant Breeding greenhouse, field of sugarcane varieties and the took the information on various sugarcane varieties developed by the institute.

The dignitaries also visited the Daund Sugar Ltd., Pune and Hi-Tech Jaggery Unit at Vadgaon Rasai village along with Dr. AD Kadlag, Principal Scientist.





Visit of delegates from Clariant, United States of America and Germany

The delegates, Dr. Chandra Ratnaswamy, Vice President and Head of Applied Catalyst Technologies, Clariant, United States of America; Dr. Andreas Bachmeier, Head of Business Development & Energy Transition, Clariant, Germany, Dr. Srinivas PAES, General Manager - Technical and Business Development, Süd-Chemie, India, Dr. Mohan Donagre, Retd. Scientist, CSIR-National Chemical Laboratory, Pune visited Vasantdada Sugar Institute (VSI), Pune on April 3, 2026 to discuss about opportunities for sugar industry-based feedstocks valorisation through Ethanol to Sustainable Aviation

Fuel (SAF); Methane to Methanol; Methane to Green hydrogen and Pentose sugar (C5) to Ethanol.



Mr. Sambhaji Kadupatil, Director General, VSI welcomed the delegates and discussed the importance of a product diversification for sugar industry. Dr. Andreas Bachmeier discussed various technologies available with Clariant for

above mentioned products. Prof. VV Mahajani, Mentor, Department of Alcohol Technology and Biofuels was also present in the meeting. During the visit, delegates visited Department of Alcohol Technology & Biofuels, Pilot plant facilities and Tissue Culture Section.

Visit of Ex-President SISSTA to Institute

Mr. Chinnappa, Ex-President of SISSTA, along with Mr. Chenthilrajan, Managing Director, Dhamelakshmi Sugar, Tamil Nadu, and Dr. Menemekalai, Principal Scientist, SBI, Coimbatore, visited the Institute on April 27, 2026.

Mr. Sambhaji Kadupatil, Director General, warmly welcomed the dignitaries. During their visit, the

guests interacted with the scientists and visited various laboratories under the Agriculture Science & Technology Division, including Plant Breeding, Tissue Culture, Molecular Biology, Agronomy, Agricultural Engineering and Microbiology. They were briefed on the ongoing research activities and technologies developed by the Institute. The team showed keen



interest in varietal development and agreed to procure seed material of the variety VSI 08005 (VSI 12121) for trial purposes in Tamil Nadu. They also appreciated

the Institute's work on Artificial Intelligence (AI)-based projects.

Further, the team held discussions with the Head of the Alcohol Technology Department and obtained detailed information on the technologies developed and those under progress for commercialization. They also visited the laboratories of the Alcohol Technology Department. The visiting team expressed their appreciation for the Institute's research efforts and conveyed that such work would significantly contribute to enhancing sugarcane productivity and sugar recovery, thereby supporting the sustainability of the agricultural sector.

Technical Visit of Sidel System USA & SMAR Technology Company, Brazil to VSI

The delegates, Mr. Sid Abma, CEO; Mr. Michael, Director; and Mr. Parthosarothy K. Mukherji, CEO of Sidel System USA. Also Mr. Octavio Francisco from SMAR Technology Company, Brazil, visited Vasantdada Sugar Institute (VSI), Pune, on May 15, 2026.

The delegates were welcomed by Mr. Sambhaji Kadupatil, Director General, VSI, who briefed them about the various activities of the institute. All Heads of Departments (HODs) and technical staff of the institute were present during the presentation.

Representatives from Sidel System USA discussed the reduction of cooling/circulation water consumption from the current ratio of 40 tons of water per ton of vapour condensed to less than 10 tons of water per ton of vapour. They also discussed increasing power

output by 5 MW through the recovery of low-grade waste heat and its conversion into power, as well as reducing captive power consumption of plants by 10%.



Mr. Octavio Francisco discussed the instrumentation and automation systems implemented in the Brazilian sugar industry. He also elaborated on

field instruments such as density transmitters, field instrumentation, control technologies, PLC/SCADA systems, and Profibus & Fieldbus communication systems. He mentioned that SMAR has installations in Indian sugar plants, such as Dalmia Sugars.

During the visit, the delegates also visited the Department of Sugar Engineering and Renewable Energy, Alcohol Technology & Biofuels, Sugar Technology, and the Tissue Culture Section at VSI.

Following institutions Boards Director, Officers, farmers and students visited to Vasantdada Sugar Institute, Pune, during last three months (APRIL-MAY-JUNE, 2026).

Name of Institutions	Visitors	No. of Visitors	Total
April - 2026			
MIT School of Engineering & Science, Loni-Kalbhori, Pune	Students & Faculties	45+5	50
Indonesia's Rajawali Group organized by IMCO Alloys Pvt. Ltd.	Team Members & Representative	8+1	9
Annasaheb Magar Mahavidyalay, Manjari Bk., Pune	Students & Faculties	25+3	28
Poona College of Pharmacy, Pune	Students & Faculties	18+2	20
Individual Farmers from Maharashtra State	Farmers	58+75+57+72	262
MAY-2026			
Farmers from Savadatti, Dist. Belgavi under Aatma Project	Farmers	16	16
Individual Farmers from Maharashtra State	Farmers	73+61++61+58 +77	330
JUNE – 2026			
Dr. Sharadchandra Pawar College of Agriculture, Baramati	RAWE Students	15	15
Individual Farmers from Maharashtra State	Farmers	75+78+98++82	333
Total :			1063



अवर्षणग्रस्त परिस्थितीत ऊस पिकाचे व्यवस्थापन

राज्यातील सध्याचा उन्हाळी हंगाम, त्यामुळे वाढत असलेले तापमान, बाष्पीभवनाचा तसेच उत्सर्जनाचा वाढणारा वेग, पिक वाढीची जोमदार अवस्था, पाण्याचे दुर्भिक्ष आणि पिकाला पडत असलेला ताण या सर्व बाबींमुळे उभे ऊस पिक जगविणे शेतकऱ्यांना कठीण होवून बसले आहे. पुढील गळीत हंगामासाठी पुरेशी ऊस उपलब्धतता होण्याच्या दृष्टीकोनातून उभ्या उसाचे उत्पादन कमी न होण्यासाठी उपलब्ध तंत्रज्ञानाचा मोठ्या प्रमाणावर त्वरीत अवलंब करणे आवश्यक आहे.

राज्यातील सध्याची परिस्थिती

- बहुतांश भागातील तापमान ४० सेल्सियस किंवा त्यापेक्षाही जास्त हवेतील कोरडेपणा आणि वाऱ्याचा वेग जास्त असल्याने जमिनीतील तसेच ऊस पिकाच्या शरीरातील ओलाव्यात झपाट्याने होणारी घट
- जमिनीतून होणाऱ्या बाष्पीभवनाचा वाढलेला वेग मार्च ते जून या कालावधीत वर्षभरातील ४५ ते ५० टक्के बाष्पीभवन होते.
- दिवसाचा वाढलेला कालावधी आणि दिवस व रात्रीच्या तापमानातील कमी असणारा फरक
- भुगर्भातील पाण्याची झपाट्याने खालावणारी पातळी
- कॅनल आणि उपसा जलसिंचन योजनांखालील पाण्याच्या पाळीत वाढत जाणारे अंतर
- वीजेचा कमी प्रमाणात पुरवठा आणि पडत असलेला खंड

वरील परिस्थितीमुळे ऊस पिकाच्या वाढीवर

खालीलप्रमाणे अनिष्ट परिणाम होत आहेत

- पिकाच्या मुळांची पाणी आणि अन्नद्रव्ये शोषण्याच्या कार्यक्षमतेत घट होते.
- उसाची पाने सुकून वाळत आहेत.
- पिकाची प्रकाशसंश्लेषणाची प्रक्रिया मंदावते
- अन्नरसाचे पिकाच्या विविध भागांना होणारे वहन कमी होते.
- पानांतील हरितद्रव्यांचे प्रमाण घटते.
- उसातील तंतूमय पदार्थांचे प्रमाण वाढून उसातील दशीचे प्रमाण वाढते.

- एकुण 'बाष्पीभवनाच्या सुरू हंगामात लागण केलेल्या तसेच खोडवा पिकात फुटव्यांचे प्रमाण कमी होवून गाळपालायक उसाच्या संख्येत घट झाल्याने ऊस उत्पादन घटते.
- पूर्वहंगामी व आडसाली उसाची वाढ खुंटून कांड्याची लांबी व जाडी कमी होते.

या परिस्थितीत ऊस उत्पादनात घट होवू नये म्हणून खालील उपाययोजनांचा अवलंब आपल्या कारखाना कार्यक्षेत्रात त्वरीत करणे आवश्यक आहे.

- उपलब्ध पाण्याचा कार्यक्षम वापर करणेसाठी लांबसरी, एक आड एक सरी किंवा जोडओळ पट्टा पद्धतीचा वापर करावा.
- प्रवाही सिंचनाचे मुख्य पाट व दांड स्वच्छ ठेवावे.
- मे महिन्यातील उपलब्ध पाणी विचारात घेऊनच उसाचे क्षेत्र ठरवावे.
- लांब सरी पद्धतीमध्ये दोन पाण्याच्या पाळीतील अंतर कमी ठेवावे.
- जास्त खोलीच्या भारी, मध्यम आणि हलक्या जमिनीत प्रत्येक सरी मधून उपलब्ध पाण्याचा प्रवाह अनुक्रमे १ ते १.५, २ ते २.५ आणि २.५ ते ३ लि. / सेंकदचा प्रवाह विभागून द्यावा.
- शक्य तेथे पाणी नेहमीच्या पाटाने पाणी देण्याच्या पद्धतीऐवजी ठिबक व तुषार सिंचन पद्धतीचा पद्धतीचा अवलंब करावा.
- रासायनिक खते ठिबक सिंचनाद्वारेच द्यावीत.
- ऊस पिकाची खालची वाळलेली पाने काढून ती आच्छादन म्हणून सरीत पसरावीत.
- पाचट आच्छादनाने दोन पाळ्यांच्या पाण्याच्या पाळीतील अंतर वाढविता येते व ४ ते ६ पाण्याच्या पाळ्यामध्ये बचत होते.
- शेताच्या बाहेरच्या बाजूस साधारणपणे एक मीटर पट्ट्याचे पाचट काढू नये.
- पीक नेहमी तण विरहीत ठेवावे म्हणजे उपलब्ध असलेल्या

पाण्यात तण वाटेकरी होणार नाही आणि दिलेल्या पाण्याचा पूरेपूर उपयोग होईल.

- सेंद्रिय व जैविक (अॅसिटोबॅक्टर, पी.एस.बी.) खतांचा वापर करावा आणि पाण्याची उपलब्धता पाहूनच रासायनिक खतांचा वापर करावा.
- पिकाला पोटॅश खताची २५ टक्के मात्रा अधिक द्यावी. तसेच दर २१ दिवसांनी दोन टक्के म्युरेट ऑफ पोटॅश + दोन टक्के युरिया यांचे मिश्रण करून फवारणी करावी.
- अश्या परिस्थितीत रासायनिक खतांचा वापर जमिनीतून करण्याऐवजी मल्टीन्यूट्रियंट (मॅक्रो आणि मायक्रो) द्रवरूप खतांच्या १ टक्के या प्रमाणात १ महिन्यांच्या अंतराने तीन फवारण्या कराव्यात.
- पिकास जैविक तसेच अजैविक ताण सहन करण्याची क्षमता वाढविण्यासाठी कायटोसानयुक्त तसेच सिलिकॉनयुक्त कृषिउत्पादनाचा वापर करावा.
- पट्टा किंवा जास्त अंतरावरील सरी लागण पद्धतीत मधल्या पट्ट्यात हलकी आंतरमशागत (कुळवणी करावी).
- या परिस्थितीत काणी व गवतीवाढ या रोगांचा तसेच खोडकिड, कांडी किड इत्यादी किडींचा प्रादुर्भाव वाढतो.
- काणी व गवतीवाढ रोगग्रस्त बेटे मुळासहीत काढून नष्ट करावीत.



- खोडकिडीच्या नियंत्रणासाठी ट्रायकोग्रामा चिलोनीस या मित्रकिडीचा अथवा कामगंध सापळे यांचा वापर करावा.
- याशिवाय फिप्रोनिलयुक्त (रिजेंट) किटकनाशकाचा वापर एकरी १० किलो या प्रमाणात वापर करावा.
- यापुढील काळात उसाची लागण न करता तुटणाऱ्या उसाच्या खोडवा पिकाचे योग्य व्यवस्थापन उदा. पाचट आच्छादन, पाचट प्रक्रिया (युरिया, सिंगल सुपर फॉस्फेट आणि पाचट कुजविणारे जीवाणूंचा वापर), बुंध्यांची जमिनीलगत छाटणी, नांग्या भरणे, मल्टीन्यूट्रियंट द्रवरूप खतांची फवारणी ही कामे करावीत.

कारखान्यांच्या कृषि आणि ऊस विकास विभागामार्फत कार्यक्षेत्रातील सर्व गटांमध्ये शेतकऱ्यांच्या शेतांवर वरील उपाययोजनांची अंमलबजावणी जास्तीतजास्त क्षेत्रावर करून घ्यावी आणि पुढील गळीत हंगामासाठी पुरेसा ऊस उपलब्ध होण्यासाठी प्रयत्न करावेत.

डॉ. गणेश कोटगिरे, शास्त्रज्ञ

मो.: ९९६०८३३३०१/८७८८१५३३३२

डॉ. ए.डी. कडलग, प्रमुख शास्त्रज्ञ

श्री. जी.ई. आत्रे, शास्त्रज्ञ

ऊसरोग शास्त्र विभाग,

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LIBRARY NEWS
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Adviser : Mr. Sambhaji Kadupatil
Editor : Dr. RM Devarumath
Layout & Photography : Mr. Sanjay A Dawari

Committee :
Mr. RA Chandgude, Dr. KS Konde, Dr. PS Deshmukh,
Dr. GS Kotgire, Mr. US Manjul, Mr. RB Bhoite

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