



**January-
March
2023**

NATIONAL SUGAR INSTITUTE KANPUR – 208017 (U.P.) INDIA



With an estimated diversion of 45 MMT, the overall sugar production during the current year is estimated to be around 33 MMT. Maharashtra is likely to remain at top with a sugar production of 11.4 MMT followed by Uttar Pradesh with expected 10.4 MMT of sugar production. The yield of sugarcane and recovery of sugar got adversely effected in U.P. due to dominant sugarcane variety Co -0238 been hit by Red Rot.

Institute faculty remained occupied and visited many sugar producing states to render technical advice on various important matters, validate process of diversion of sugar and effluent treatment. Delegates from many countries also visited institute for possible collaborative work in future.

While institute organized an International Conference jointly with Assiut University at Luxor, Egypt, it also conducted training programmes for technical personnel from Nigeria and Indonesia. With its vast expansion in activities, institute could generate all time high revenue as well.

Narendra Mohan
Director

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ONE DAY NATIONAL SEMINAR ORGANIZED:

National Sugar Institute, Kanpur organized one day National seminar on **“Safety Protocol for Sugar Industry”** on 18th January 2023. Deputy Director (Medical) and Head Ministry of Labour and Employment, Kanpur, Dr. Arkaprabhu Sau, while addressing on risk and hazards, highlighted physical, chemical, biological, mechanical and psychological risk factors which prevailed in sugar industry. Director, NSI laid emphasis on **“Safety First”** to avoid any loss of man and material. Large no. of delegates from various sugar producing states joined the seminar.



Presentations were made on safety protocols to be implemented.

ONE-WEEK TRAINING PROGRAMME ORGANIZED:

National Sugar Institute, Kanpur organized one-week training programme for the Excise Chemical Examiners of Bihar State on analysis of alcohols and molasses at the institute which was completed on 13th January 2023. The training was considered essential by the state government after the hooch tragedy in Bihar.



TRAINING PROGRAMME FOR INDONESIAN OFFICIALS:

The training programme for the technical officers of PT PG Rajawali Group of Sugar Factories, Indonesia was organized at National Sugar Institute, Kanpur during the second week of March 2023. The programme

was attended by twenty senior officers including Director (Operations) and Heads of Production, Engineering and Quality Control. Know-how was imparted to the participants on energy conservation, efficiency improvement, quality control and on producing value added products to enhance income streams for making the sugar units viable. During the training programme, apart from theoretical training, practical exposure was also provided to the participants in the nearby sugar factory.

University, Egypt from 12th-14th February 2023 at Luxor, Egypt. The conference was attended by more than 200 delegates from India, Egypt, America, France, Germany, Nigeria, Austria, Brazil and other countries. Director, NSI Kanpur addressing the meet as the Conference Chairman discussed the changes in business model to be practiced by the sugar industry. He stressed on innovations and added that only innovative process and products can make sugar industry competitive, viable and sustainable.



INTERNATIONAL CONFERENCE ORGANIZED:

10th international conference on **“Sugar & Integrated industries”** was organized jointly by National Sugar Institute, Kanpur and Assiut

VISIT OF OFFICIALS OF DEPARTMENT OF FOOD & PUBLIC DISTRIBUTION TO THE INSTITUTE:

Fifteen Assistant Section Officers of Department of Food & Public

Distribution visited National Sugar Institute, Kanpur for undertaking Field Exposure on 28th March 2023. During the interactive sessions and visit to various divisions, knowledge was imparted to them about sugar and ethanol production, by-product utilization and way forward.



RESEARCH WORK:

1. Studies on Sweet Sorghum bagasse value addition: After purification of SSB components, experiment to synthesize vanillin from lignin has been completed. Purification of extracted vanillin from Sweet Sorghum Bagasse derived lignin has been completed. An yield of about 0.9% w/w of dry SSB was obtained.

2. Comparative study of five varieties of sweet sorghum for production & ethanol yield:

Combined report of Agriculture & Biochemistry Division prepared during the months. Studies indicate yield of five sweet sorghum varieties tested at the institute to be 40 to 50 tonnes/hectare with maximum ethanol yield of 45 litter/ton. Further studies shall be taken up during next harvest.

3. Cane juice syrup study for shelf-life and production of alcohol:

Syrup Samples were collected from three different factories viz; M/s Dalmia Bharat Sugar & Ind. Ltd., Unit - Jawaharpur, M/s Dalmia Bharat Sugar & Ind. Ltd. Unit - Nigohi, & M/s DCM Shriram Ltd. Unit - Ajbapur after recording initial parameters like °brix, Pol, purity & TRS etc. The samples are kept at room temperature in Biochemistry laboratory to assess the shelf life of the syrup. No changes were recorded in one month of storage in TRS & °brix.

4. Study of Sugar beet lines for ethanol production:

Six sugar beet germplasm lines, viz., IISR Comp 1, LS 6, LKC HB, LKC 2020, LKC LB, LKC 2006 have been sown by agriculture division and will be harvested in the month of April. Thereafter these different sugar beet varieties will be evaluated for yield, sugar content, ethanol production potential upon harvest and for other parameters.

5. Study of B Heavy molasses for different parameters for use as edible molasses:

Analysis report of centrifuged B heavy molasses samples from out sourced agency is awaited. Analysis of 02 B heavy molasses samples (before and after centrifugation) collected from refined sugar plant is in progress for various parameters including heavy metals.

6. Production of Invert syrup directly from sugarcane juice:

Initial trials on production of medium invert syrup directly from sugarcane juice were carried out at laboratory level. Presently, such kind of invert syrup is produced using sugar as raw material. The process involves in situ purification of sugarcane juice without addition of any chemicals. Different techniques of high level filtration and inversion are being tried. Samples of such invert syrup were analyzed for quality parameters, such as, Brix, Purity, TRS, Colour etc. and shelf life periodically. The study shall be extended on different sugarcane varieties with use of natural clarificants to improve quality of the final liquid sugar.

7. Production of Low Glycemic Index Sugar:

The so produced medium invert liquid sugar was divided in two groups in order to produce Low G.I. sugar. For this Monk Fruit extract (98 % purity) & Stevia extract (99 % purity) were selected to be dosed to the sugar to produce Low GI sugar.

To further calculate the G.I. value of the produced sugar a mathematical approach has been adopted which is carried out jointly with HBTU. For the same approach, GOPOD kit along with its chemicals have been received and some are under process of procurement. The calculation and formulation process for determining G.I. value is under process.



8. Production of Bio-Char from sweet sorghum bagasse:

The optimization of efficiency of prepared bio-char, at 550°C for 60 minutes in a fixed reaction condition is going on, using sugar syrup/melt of 65° brix with different doses of bio-char (SSBAC). Preliminary result indicate colour removal to the extent of 70-75 % in the sugar melt.

9. Conversion of wastewater into usable water through Bioremediation Technique:

Water hyacinth has been tried for the treatment of waste waters under Phytoremediation technique. Trials are being conducted on above technique for treatment of condensates to improve their

quality. In future trials shall also be taken up for the purification of effluents using bio-filter and water hyacinth along with tertiary treatment units.



10. Shelf life study of press mud / filter cake upon storage:

10 samples of press mud collected from various geographical locations such as UP, Bihar, Haryana and Chhattisgarh and were stored keeping the environment as a replica of what is at the factory front. 20 samples of each factory (10 BLANK + 10 TREATED) have been analysed for pH, Total Solids (moisture content), Ash content, Total volatile solids (TVS), Lignin and Total Convertible Volatile Solids (TCVS) on monthly basis. The studies have been taken up jointly with M/s Praj Industries Ltd.

RESEARCH PAPERS:

1. A research paper entitled **“An Improved Electric Drive for Sugarcane Preparatory Devices”** by Vinay Kumar, D Swain, Narendra Mohan sent for publication in 95th

SASTA Congress to be held at Durban, South Africa from 15th – 17th August 2023.

2. A research paper entitled **“Measure to Reduce Consumption of Process Chemicals in Sugar Factories”** by S. K. Trivedi & Narendra Mohan, sent for publication in National Federation of Co-operative Sugar Factories Limited.
3. A research paper entitled **“Augmentation of Alcohol Based Hand Sanitizer Production Capacities in India- A Success Story”** by Narendra Mohan & Vishnu Prabahakar Srivastava, sent for publication in SHARKARA (January – March 2023) of National Sugar Institute, Kanpur.
4. A research paper entitled **“Problems and Challenges for Sugarcane farmers in Northern India / Sub-Tropical India- A case study”** by Anshika Pandey, Sharad Babu, Lokesh Babar, Ashok Kumar and Narendra Mohan published in Indian Sugar Journal, February 2023.

CONSULTANCY:

Request for availing consultancy services of the institute were received and also provided to various sugar factories ethanol & other allied units on various technical matters relating to diversion of B Heavy molasses/syrup, validation of ETP's, preparation of DPR's, validation of no increase in pollution loads in ethanol units upon

enhancement in capacity and to conduct technical audit etc.

1	M/s Avadh Sugar & Energy Ltd., Unit - Rosa Sugar Works, Shahjahanpur, U.P.
2	M/s Doon Valley Distillers Kuanwala, Dehradun, U.K.
3	M/s Magadh Sugar & Energy Ltd., Unit - Bharat Sugar mills, Sidhwalia, Bihar
4	M/s Tikaula Sugar Mills Ltd., Unit - Tikuaula, Muzaffarnagar, U.P.
5	M/s Balrampur Chini Mills Ltd., Sugar Unit - Babhnan, Gonda, U.P.
6	M/s Aska Sugar Mills Ltd., Ganjam, Odisha
7	M/s M.R. Krishnamurthy Co-Op. Sugar Mills Ltd., Sethiathope, Tamil Nadu
8	M/s Rai Bahadur Narain Singh Sugar Mills, Laksar, U.P.
9	M/s Balrampur Chini Mills Ltd., Sugar Unit - Maizapur, Gonda, U.P.
10	M/s The Kallakurichi Co-operative Sugar Mills Ltd., Kallakurichi, Tamilnadu
11	M/s EID Parry (India) Limited, Andhra Pradesh
12	M/s Dalmia Bharat Sugar Mill Ltd., Unit -Ramgarh, Sitapur, U.P.
13	M/s Dhampur Sugar Mills Ltd., Unit - Dhampur, Bijnor, U.P.
14	M/s Simbhaoli Sugars Ltd., Unit - Chilwaria, Bahraich, U.P.
15	M/s Balrampur Chini Mills Ltd., Chemical Division, Balrampur, U.P.
16	M/s Bajaj Hindusthan Sugar Ltd., Unit - Gangnauli, Shahjahanpur, U.P.

17	M/s Majhaulia Sugar Industries Pvt. Ltd., Distillery Division, W. Champaran, Bihar
18	M/s Daurala Sugar Works (A unit of DCM Shriram Ind. Ltd.), Daurala, Meerut, U.P.
19	M/s U.P. State Sugar Corporation Ltd., Lucknow, U.P.
20	M/s HAFED Sugar Mill Assandh, Karnal, Haryana
21	M/s Tiruttani Cooperative Sugar Mills Ltd., Tamil Nadu
22	M/s Bajaj Hindusthan Sugar Ltd., Unit - Gola Gokharnath, Lakhimpur, U.P.
23	M/s Saraswati Sugar Mills , Sugar Unit - Yamunanagar, Haryana
24	M/s KLE Academy of Higher research, Belgavi, Karnataka
25	M/s Tamil Nadu cooperative sugar federation, Nandanam, Chennai
26	M/s Bajaj Hindusthan Sugar Ltd., Sugar Unit - Budhana, Muzaffarnagar, U.P.
27	M/s Uttam Sugar mills Ltd., Unit - Shaharanpur U.P.
28	M/s Simbhaoli Sugar Ltd., Unit-Brijnathpur, Hapur, U.P.
29	M/s Mawana Sugar Mills Ltd, Unit - Mawana, Meerut, U.P.
30	M/s Dhampur Sugar Mills, Unit - Rajpura, Sambhal, U.P.
31	M/s DCM Shriram Ltd., Sugar Unit-Loni, Hardoi, U.P.
32	M/s Uttam Sugar Mills Ltd., Unit-Shermau, Saharanpur, U.P.
33	M/s Dalmia Bharat Sugar & Industries Ltd., Unit- Jawahapur, Sitapur, U.P.
34	M/s HPCL Biofuels, Unit- Lauria, West Champaran, Bihar

35	M/s Dhampur Biofuels Ltd, Unit-Asmoli, Sambhal, U.P.	51	M/s Sri Someshwar Sahkari Karkhane Niyamit, Siddasamudar, Karnataka
36	M/s Balrampur Chini Mills Ltd., Sugar Unit- Balarampur, Balrampur, U.P.	52	M/s Office of Excise Chemical Examiner, Patna, Bihar
37	M/s DCM Shriram Ltd., Sugar Unit-Ajabapur, Lakhimpur Kheri, U.P.	53	M/s U.P. Co-operative Sugar Factories Federation Ltd., Lucknow, U.P.
38	M/s Shervani Sugar Syndicate Ltd., Kasganj, U.P.	54	M/s Wave Distillery & Breweries Ltd., Ambedpura, Aligarh, U.P.
39	M/s Dhampur Biofuels Ltd., Sugar Unit- Meerganj, Bareilly, U.P	55	M/s The Kaithal Cooperative Sugar Mills Ltd, Unit- Kaithal, Dist.- Kaithal, Haryana
40	M/s The Aska C operative Sugar Industry, Ganjam, Odisha	56	M/s Simbhaoli Sugar Mills Ltd., Unit- Simbhaoli, Gaziabad, U.P.
41	M/s The Ganga Kisan Sahkari Chini Mills Ltd, Sugar Unit – Muzaffarnagar, U.P.	57	M/s Parle Biscuits Pvt. Ltd., Unit- Parsendi, Baharaich, U.P.
42	M/s Magadh Sugar & Energy Ltd., Unit- Narkatiaganj, West Champaran, Bihar	58	M/s Upper Doab Sugar Mills Ltd., Unit of Sri Shadi Lal enterprises, Shamli, U.P.
43	M/s The Kallakuruchi Sugar Mills Ltd., Kallakuruchi, Tamil Nadu	59	M/s Triveni Energy & Industries Ltd., Unit- Khatuali, Muzaffarnagar, U.P.
44	M/s D. S. 7 M. R. Krishnamurthy Coop. Sugar Mills Ltd., Cuddalore, Tamil Nadu	60	M/s Bajaj Hindustan Sugar Mills Ltd., Unit- Palia Kalan, Lakhimpur Kheri, U.P.
45	M/s The Karnal Co-operative Sugar Mills Ltd., Karnal, Haryana	61	M/s Indian Sucrose Ltd., Mukerian, Distt.- Hoshiarpur, Punjab
46	M/s The Kisan Sahkari Chini Mills Ltd. Distillery Unit- Kaimganj, Farrukhabad, U.P.	62	M/s Gobind Sugar Mills, Aira (A Division of Zuari Industries), Lakhimpur Kheri, U.P.
47	M/s Wave Industries Pvt. Ltd., Unit- Dhanaura, Jyotiba Phule Nagar, U.P.	63	M/s Praj Industries Ltd., Hinjewadi, Pune, Maharashtra
48	M/s Trualt Bioenergy Ltd., Unit- Distillery Division Kulali Cross, Mudhol, Karnataka	64	M/s Dalmia Bharat Sugar & Ind. Ltd., Unit – Nigohi, Shahjahanpur, U.P.
49	M/s Kareli Sugar Mills Pvt. Ltd., Unit- Kareli, Narsinghpur, Madhya Pradesh		
50	M/s Dhampur Bio Organics, Unit- Mansurpur, Muzaffarnagar, U.P.		

ANALYTICAL SERVICES:

Besides analysis of sugar & sugar house products, ethanol and effluents

etc., Institute offers testing of Ethyl Alcohol based Sanitizer in its sophisticated, most modern NABL accredited analytical laboratory and other laboratories of the institute. Testing of bagasse for determination of GCV and lime for various constituents also taken up during the period. Analytical services were rendered to following:

1	M/s The Ganga Kisan Sahakari Chini Mills Ltd, Unit- Morna, Muzaffarnagar, U.P.
2	M/s Dhampur Bio Organics Ltd, Unit -Mansupur, Muzaffarnagar, U.P.
3	M/s Kisan Sahkari Chini Mills Ltd, Unit- Semikhera, Bareilly, U.P.
4	M/s The Kisan Sahkari Chini Mills Ltd, Unit- Kaimganj, Farrukhabad, U.P.
5	M/s Magadh Sugar & Energy Ltd, Unit- Narkatiaganj, West Champaran, Bihar
6	M/s Bajaj Hindustan Sugar Ltd, Unit- Gangnauli, Saharanpur, U.P.
7	M/s The Kisan Sahkari Chini Mills Ltd., Unit-Mahmudabad (Oudh), U.P.
8	M/s Doon Valley Distillery, Dehradun, U.K.
9	M/s Magadh Sugar & Energy Ltd., Unit- New Swadeshi, West Champaran, Bihar
10	M/s HPCL Biofuels Ltd., Unit- Sugauli, East Champaran, Bihar
11	M/s The Kisan Sahkari Chini mills Ltd., Saharanpur U.P.
12	M/s KSCM Ltd., Unit- Powayan, Shahjahanpur, U.P.

13	M/s HPCL Bio-Fuels, Unit- Lauriya, West Champaran, Bihar
14	M/s Wave Sugars Industries Ltd., Unit- Bijnor, U.P.
15	M/s The Nakodar Coop. Sugar Mills Ltd., Unit- Nakodar, Jalandhar, Punjab
16	M/s The KSCM Ltd., Unit- Sathiaon, Azamgarh, U.P.
17	M/s The Seksaria Biswan Sugar Factory, Sitapur, U.P.
18	M/s Dhampur Biofuels Ltd, Sugar Unit- Asmoli, Sambhal, U.P.
19	M/s Dhampur Biofuels Ltd., Sugar Unit- Meeraganj, Bareilly, U.P
20	M/s Triveni Industries Ltd., Sugar Unit - Khatauli, Muzaffarnagar, U.P.
21	M/s Triveni Engineering & Industries Ltd., Sugar Unit- Chandanpur, Amroha, U.P.
22	M/s Balrampur Chini Mills Ltd., Sugar Unit - Akbarpur, Ambedkarnagar, U.P.
23	M/s Bajaj Hindusthan Sugar Ltd., Sugar Unit - Maqsoodapur, Shahjahanpur, U.P.
24	M/s Triveni Engineering & Industries Ltd., Sugar Unit- Sabitgarh, Bulandshahar, U.P.
25	M/s LH Sugar Factory Ltd., Sugar Unit- Pilibhit, Pilibhit, U.P.
26	M/s Magadh Sugar & Ind. Ltd., Sidhawalia, (Unit of Bharat Sugar Mills), Gopalganj, Bihar
27	M/s Avadh Sugar & Energy Ltd., Sugar Unit - Seohara, Bijnor, U.P.
28	M/s Magadh Sugar & Energy Ltd., Sugar Unit- Narkatiaganj, West Champaran, Bihar

29	M/s Kisan Sahkari Chini Mills Ltd, Unit- Sultanpur, U.P.
30	M/s Magadh Sugar Works & Energy Ltd., Unit- Sidhawalia, Gopalganj, Bihar
31	M/s Triveni Engineering & Industries Ltd, Unit- Raninangal, Moradabad, U.P.
32	M/s Dhampuri District Cooperative Sugars Mills Ltd., Dhampuri, Tamil Nadu
33	M/s Shri ShantTukaramSahkariSakkarKarkhana, Pune, Maharashtra
34	M/s Magadh Sugar & Energy Ltd., Unit- Hasanpur, Samastipur, Bihar
35	M/s GM Sugar & Energy Ltd., Khangur, Karnataka
36	M/s Avadh Sugar Energy Ltd., Unit- Rosa, Shahjahapur, U.P.
37	M/s Balrampur Chini Mills Ltd., Unit- Balrampur, Distt.- Balrampur, U.P.
38	M/s Gobind Sugars Mills Ltd., Unit- Aira Estate, Lakhimpur Kheri, U.P.
39	M/s Rana Sugar Mills Ltd., Moradabad, U.P.

OUR OTHER ACTIVITIES:

1. National Sugar Institute, Kanpur continued its **“Swachhata Campaign”** on 3rd January 2023. Focusing of one personal hygiene, distribution of toothpaste, toothbrush, bath soap and towels was made by institute to the students of junior classes at Ram Krishna Mission. The students were

also educated on importance of personal hygiene.



2. Director National Sugar Institute, Kanpur, visited M/s Dalmia Bharat Sugar Mills Ltd., Unit- Jawaharpur, Sitapur and M/s Seksaria Biswan Sugars Ltd., Sitapur to observed working of distilleries producing ethanol from B Heavy molasses and rice (damaged food grain) respectively.



3. National Sugar Institute, Kanpur developed low cost and environment friendly technology for treatment of waste waters from sugar industry. The technology developed uses water hyacinths to purify the water employing phytoremediation principle in combination with tertiary treatment units.



4. National Sugar Institute, Kanpur helped to M/s Wave Sugar Industries Ltd., Unit – Dhanaura Mandi to conceptualize and operate their Integrated Sugar Refinery with 30% on cane steam consumption using **"Mechanical Vapour Recompression System"** & other modifications.



5. Director, National Sugar Institute, Kanpur, delivered lecture on the topic **"Towards Self Reliance for Sustainability of Indian Sugar Industry- Re-orienting towards Health & Energy"** on 2nd February 2023 at Belagavi organized by M/s Shiv Shakti Sugars Ltd. under the auspices of KLE Group, and presented views on production of

"Healthier Sugars", "Green Energy" and other "Value Added Products".



6. Statue of **Swami Vivekananda** unveiled at National Sugar Institute, Kanpur by Swami Atmashradhananda, Head, Ramkrishna Mission Ashram, Kanpur on 7th February 2023. Teachings of Swami Vivekananda have also been displayed around the statue to spread them among the students and staff.



7. Director, National Sugar Institute, Kanpur was honored for his exemplary contribution to sugar industry by **"UP Sugar Mills Association"** on the occasion of 120

years of sugar industry in Uttar Pradesh.



8. Director National Sugar Institute, Kanpur & other faculty members of the institute attended the XXXI-ISSCT Congress at Hyderabad which was being attended by over 500 delegates from 38 countries.

Director, NSI presented paper on "**Bio-ethanol- The Savior of Indian Sugar Industry**" on 20th February 2023 & addressed Plenary Session of XXXI ISSCT Congress was held at Hyderabad on the topic "**Importance of Diversification & Integrations in Indian Sugar Industry**"



9. Director National Sugar Institute, Kanpur conferred "**Excellence Award**" during the XXXI Congress of International Society of Sugar Cane Technologists held at Hyderabad from 20th -23rd February 2023. The award was given by Dr. Jean Claud Autrey, General Secretary, and International Society of Sugar Cane Technologists.



10. "**Swachhata Pakhwada**" was organized at National Sugar institute, Kanpur from 16th-28th February 2023 to create awareness amongst students.



During the Pakhwada students of primary school were made aware about the importance of "**Personal**

Hygiene" and distribution of tooth brush, tooth paste and soaps etc. by the institute.



Institute also organized **"Tree plantation"** & conducted **"Essay Competition"** for the students of institute under the Swachhata Pakhwada activities.



11. Director, National Sugar Institute, Kanpur had a meeting on 25th February 2023, with Shri Charan Jeeth Singh, Hon'ble Minister for Sugar Industry & Multi Ethnic Affair, Fiji for conducting customized training programmes for their in-service sugar industry personnel.



12. National Sugar Institute, Kanpur got another patent for developing technology for **"Electrolytic Clarification of Sugarcane Juice"** using the conducting polymer electrode. The technology has been developed by Dr. Sudhanshu Mohan, Scientific Officer of Physical Chemistry division. He developed novel electrode and used special type of cell, having a thin layer of poly pyrrole on the surface of graphite.



13. **"NATIONAL SCIENCE DAY-2023"** was celebrated at the National Sugar Institute, Kanpur, on the theme **"Global Science for Global Well Being"** on 28th February 2023.



14. National Sugar Institute, Kanpur organized a brain storming session to celebrate "**Women's Week**" under the theme "**Innovation and technology**" for gender equality on 6th March, 2023. Members of "**Jyoti Mahila Samiti**" and "**Khushhal Betiyan, Khushhal Samaaj**" were felicitated for their extraordinary work for helping the girls of weaker sections and making them self dependable.



15. हिंदी महोत्सव के दौरान राष्ट्रीय शर्करा संस्थान को राजभाषा नीति के उत्कृष्ट कार्यान्वयन के लिए दिनांक 13 मार्च 2023 को "**प्रथम पुरुस्कार**", सचिव (खाद्य एवं सार्वजनिक वितरण) भारत सरकार द्वारा प्रदान किया गया।



16. Director, NSI, Kanpur, attended function organized by Regional Agmark Laboratory as Chief Guest on the occasion of "**International Consumer Rights Day**" on 15th March 2023. Addressed on the theme "**Empowering Consumers through clean energy transition**". Role of Sugar Industry and contribution of N.S.I. was also highlighted.



17. Maize is going to become an important crop in pursuit of boosting ethanol production. So for the benefit of the farmers, booklets on disease and pest management in Maize crop were released by National Sugar Institute, Kanpur on 23rd March 2023. Booklets on potential new sugarcane varieties

and disease & pest management in sugarcane crop were also released.



18. संस्थान की राजभाषा कार्यान्वयन समिति की त्रैमासिक बैठक दिनांक 17 मार्च 2023 को संपन्न हुयी जिसमे हिंदी भाषा को बढ़ावा देने के विषय में वार्ता की गयी।



19. Republic Day Celebrated at National Sugar Institute, Kanpur.



On this day, awards were given to the winners of competitions held during "Swachhta Pakhwara", "Vigilance Awareness Week" and "Hindi Pakhwara". Director, NSI took the guard of honor and addressed the staff and students.

20. Statue of "Goddess of Knowledge- Maa Saraswati" unveiled at the institute on Republic Day by the Director, NSI.



21. Renovated Laboratory for "**Alcohol Technology**" course was inaugurated on 27th March 2023 by Shri Narendra Mohan, Director, NSI and Ms. Jyotsna Gupta, Deputy Secretary (Administration) Government of India.

