

THE NEWS LETTER

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January - March
2022



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



Indian Sugar Industry is all set to create new records for highest ever sugar production. As per the revised estimates even after discounting sugar diverted for ethanol production, the approximate sugar production shall be about 33.5 MMT. However, looking to the global scenario and probable export of about 8.0 MMT of sugar, the prices are stable and firm.

On ethanol front, the performance is again going to be exemplary and the industry is likely to achieve desired blending targets of 10% during the current alcohol year which stands 9.6% till March 2022. The country has now ethanol capacity of more than 850 crore litre per annum to cope up with the requirement.

Another welcome move by the Indian Sugar Industry is for converting Double Sulphitation Plants to Raw-Refined Sugar Plants about which NSI, Kanpur was trying to create awareness from last couple of years

Narendra Mohan
Director



NATIONAL CONFERENCE & EXPO:

National Conference & Expo "**MEETHA-2022**" on "**Sugar & Health- Myth & Realities**" organized jointly by National Sugar Institute (NSI), Kanpur and Indian Sugar Mill Association (ISMA) at the Institute on 8th March 2022. Conference was graced by the Secretary (Food & Public Distribution), Joint Secretary (Sugar & Admn.) & Managing Director, Bajaj Hindusthan Sugar Ltd.



Institute emphasised upon conducting awareness programmes to bring forth the reality as to whether sugar is the only culprit for diabetes, obesity and other health issues or it is attributed to lack of physical workouts and balanced diet.



BRAIN STORMING SESSION:

Brain storming session was organized on "**World Water Day**" at National Sugar Institute, Kanpur on 22nd March 2022 to discuss the ways and means to minimize fresh water consumption in sugar and allied industries for replenishing the ground water.





The event whose theme was **“Groundwater –Making the invisible, visible”** was held in the hybrid mode. It was attended by a large number of delegates from the sugar and ethanol industry from various sugar producing states of the country.

BOOK RELEASE:

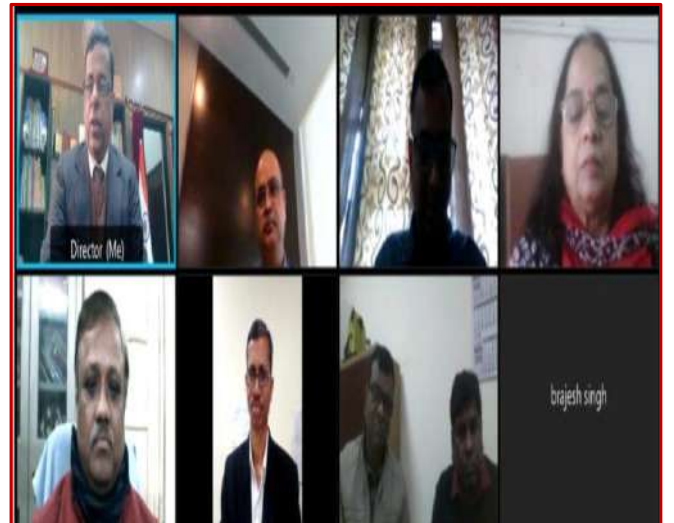
हिंदी भाषा में लिखी पुस्तक "चीनी उद्योग में क्रिस्टलीकरण एवं अपकेंद्रण की तकनीक" (Techniques of Crystallization and Centrifugation in Sugar Industry) का विमोचन 4 जनवरी 2022, हरकोर्ट बटलर टेक्निकल यूनिवर्सिटी, कानपुर के कुलपति प्रो. समशेर द्वारा संस्थान में किया गया। यह पुस्तक शुगर बॉयलिंग स्टेशन पर कार्यरत टेक्निकल स्टाफ को ध्यान में रखते हुए हिंदी में लिखी गयी है।



ये पुस्तक विशेषकर "शुगर बॉयलिंग सर्टिफिकेट कोर्स" के विद्यार्थियों एवं चीनी उद्योग में शुगर बॉयलिंग के क्रिस्टलीकरण तथा चीनी एवं शीरे के सेपरेशन की तकनीकों व प्रयुक्त मशीनरी का व्यावहारिक ज्ञान दे सकेगी।

ONLINE MEETING OF SUGAR INDUSTRY SECTIONAL COMMITTEE OF BIS:

An online meeting of Sugar Industry Sectional Committee of BIS was held on 25th January 2022, under the Chairmanship of Director, National Sugar Institute, Kanpur. Various standards for lay out plan of factories, hygienic conditions, industrial screens, steel tubes for heat exchangers, Jaggery and Misri etc. were taken up for revision.



MoA SIGNED:

National Sugar Institute, Kanpur on 31st January 2022, signed a Memorandum of Agreement (MoA) with **M/s Suzalkem Technologies, Hyderabad**, for developing enzymes to prevent deterioration of B Heavy molasses and sugar syrup upon storage.



RESEARCH WORK:

1. Studies on isolation of Lignin from sugar industry based biomass and development of the process for the conversion of derived lignin and fermentable sugar to Value-added product – In order to execute the repeated experiments on 10 g scale (@ bagasse), initially preparation of bagasse (of current season) has been performed and then the experiments were performed to obtain

acid treated bagasse (first stage pre-treatment). Further experiments related to second stage pre-treatment with alkali are on-going.

2. Studies on synthesis of lactic acid from sugarcane bagasse hemicellulose

The results obtained from identification and purification of the desired synthesis of lactic acid from C-5 sugar of bagasse under new reaction condition were not fruitful. The yield was very low near to undetectable from UV-spectrophotometry. These were almost similar to earlier results obtained under this study. Thus, the topic may be dropped. Based on the gained experience while working on this topic, the preparation of a review paper is under preparation for submission in journal.

3. Studies on production of chloromethyl furfural from bagasse derived cellulose in biorefinery approach-

The experiments (four batches @ 1g treated bagasse) related to synthesize 5-(Chloromethyl) furfural (CMF) from bagasse were performed. The combined reaction mixtures were processed for isolating crude CMF. The purification and characterization of the bagasse derived CMF is ongoing.

4. Studies on value addition of Sweet Sorghum bagasse value addition

The experiments related to fractionization of individual components of the SSB has been completed. Observations on lignin content in this bagasse are not in conformity with literature value. Thus reanalysis of lignin content is on-going.

5. Studies on utilization of molasses for synthesis of 5-alkoxymethylfurfural ethers as promising biofuel candidates

- The literature survey on 5 -alkoxymethyl furfural ethers has been completed. The procurement process related required materials with reference to this study and others is in progress.

6. To study the impact on performance of mechanically coupled twin induction motor drives for Shredder/Fibrizer having unequal sharing of load and to design & develop dedicated drive for the application - The items related to the research work was taken to HBTU lab for interfacing, testing etc. The work is almost completed and the findings shall be published shortly.

7. Utilization of Potash Rich ash for production of valuable bio fertilizer - Sugar cane samples were analysed for Brix, RS%, TRS% and ethanol yield. Data compiled and will be submitted in form of paper for publication.

8. Comparative study of Nine varieties of sweet sorghum for production of ethanol yield - Five varieties namely CSH 22SS, SSV 84, SSV 74, ICSSH-28 and Phule Vasundhara gave satisfactory results for production of ethanol in lab as well as on ethanol pilot plant. The average ethanol yield was to be 40-45 litres/ ton of sweet sorghum stalk.

9. Comparative study on polarization by using lead, non-lead, non-lead clarificants and NIR polarimetry - Polarimeter workable in NIR region has been procured and its demonstration & other training related to operation of Polarimeter has been taken up. Procurement of Carrez reagents is in progress. The study shall be taken by polarising samples at 589 & 880mm wavelengths.

10. Study of B Heavy molasses for use as edible molasses - Analysis of collected 3 Nos. BHy molasses samples from refined sugar plants completed in sugar technology laboratory and further analysis of these BHy molasses samples for other concerned parameters samples is being carried out in Bio Chemistry laboratory.

11. Use of Sodium Meta bi-sulphite for sugar cane juice clarification - Few sets of experiments were conducted on laboratory scale basis with various lime doses & Sodium Meta bi-sulphite as substitute of SO₂ gas. Their results were found encouraging. Trial f was also carried out at Experimental Sugar Factory of the institute with encouraging results.

12. Preservation of syrup and B-heavy molasses upon storage by the use of different chemicals - The dosing of EPA-I @ 10 ppm on solid basis (Enzyme was provided by M/s Catalyst Bio-Technologies Pvt. Ltd.) was carried out to prevent deterioration of B-Hy molasses. The analyses of these samples, along with untreated B-Hy molasses were carried out. No significant changes were observed in the quality of stored B heavy molasses. Further new samples from DS process & refined process have been stored in the tanks for more experiments.

13. "Concentration of clear juice by using Reverse Osmosis technology" - The study on the topic is being carried out by the institute jointly with M/s Hydranautics (Nitto Group Company). A visit of technical team headed by the Director was also paid for the pilot plant trial and some suggestions were given for improvement and further five days' trial is

being conducted for the same in the M/s BCML unit – Kumbhi. The analysis & observations are under progress.

RESEARCH PAPER:

1. A research paper entitled **“Bio-Ethanol-Saviour of Indian Sugar Industry”** by Narendra Mohan has been sent for publication in ISSCT XXXI Congress, 2023.
2. A research paper entitled **“Diversification & Integration-Business Model for Sugar Industry”** by Narendra Mohan & Anushka Agarwal has been sent for publication in ISSCT XXXI Congress, 2023.
3. A research paper entitled **“Nutritional and Healthier Dietary Fiber Enriched Cookies from Sugarcane Bagasse”** by Narendra Mohan & Anushka Agarwal has published in International Journal of Recent Advances in Multidisciplinary Topics, Volume3, Issue2, February 2022.
4. An abstract of a paper entitled **“A Bio-refinery Method for production of Chloro Methyl Furfural (CMF) and Vallin with Simultaneous fractionation of pentose Syrup and Lignin from Sugarcane Bagasse”** by Narendra Mohan, Dr. Vishnu Prabhakar Srivastava, Mrs. Chitra Yadav and Mamta Shukla has been sent for publication in ISSCT XXXI Congress, 2023.

CONSULTANCY:

The consultancy services of the institute were provided to the following 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 etc.

1.	M/s Harinagar Sugar Mills Limited, Distillery Unit, District – West Champaran, Bihar.
2.	M/s Avadh Sugar & Energy Limited, Hargaon, District – Sitapur.
3.	M/s Bajaj Hindusthan Sugar Limited, Golagokarnath, District – Lakhimpur Kheri, U.P.
4.	M/s Mawana Sugar Works, Mawana, District – Meerut, U.P.
5.	M/s Bajaj Hindusthan Sugars Limited, Gangnauli, District – Saharanpur, U.P.
6.	M/s Avadh Sugar & Energy Limited, Unit – Rosa Sugar Works, District – Saharanpur, U.P.
7.	M/s Bajaj Hindusthan Sugar Limited, Khambharkhera, District – Lakhimpur Kheri, U.P.
8.	M/s Dalmia Bharat Sugar & Industries Limited, Sugar Unit – Nigohi, Shahjahanpur, U.P.
9.	M/s DCM Shriram Limited, Sugar Unit – Rupapur, District – Hardoi, U.P.
10.	M/s Balrampur Chini Mills Limited, Unit – Kumbhi, District – Lakhimpur Kheri, U.P.
11.	M/s Nanglamal Sugar Complex, Distillery Division, District – Meerut, U.P.
12.	M/s EID Parry (India) Limited, Sankili, District – Srikakulam, Andhra Pradesh, U.P.

13.	M/s Shamli Distillery & Chemical Works, District – Shamli, U.P.
14.	M/s The Sugar Technologists Association of India, New Delhi.
15.	M/s Maa Mahamaya SSK, Maryadit, Ambikapur, District – Surajpur, Chhattisgarh.
16.	M/s Bajaj Hindusthan Sugar Limited, Unit – Barkhera, Pilibhit, District – Pilibhit, U.P.
17.	M/s Triveni Engineering & Industries Limited, Khatauli, District – Muzaffarnagar, U.P.
18.	M/s Dwarikesh Sugar Industries Limited, Dwarikesh Nagar, District – Bijnor, U.P.
19.	M/s Bajaj Hindusthan Sugar Mills Limited, Budhana, District – Muzaffarnagar, U.P.
20.	M/s Sir Shadilal Distillery & Chemical Works, Mansurpur, District – Muzaffarnagar, U.P.
21.	M/s Gobind Sugar Mills Limited, Aira, District – Kheri, U.P.
22.	M/s Dhampur Sugar Mills Limited, Dhampur, District – Bijnor, U.P.
23.	M/s DCM Shriram Limited, Sugar Unit – Hariawan, District – Hardoi, U.P.
24.	M/s Daurala Sugar Works, Daurala, District – Meerut, U.P.
25.	M/s Uttam Suagr Mills Limited, Unit – Khaikheri, District – Muzaffarnagar, U.P.
26.	M/s Suzalken Technologies Private Limited, Hyderabad, Telangana.

27.	M/s Balrampur Chini Mills Limited, Unit – Gularia, District – Lakhimpur Kheri, U.P.
28.	M/s The Seksaria Biswan Sugar Factory Limited, District – Sitapur, U.P.
29.	M/s Wave Industries Private Limited, Unit – Bulandshahar, U.P.
30.	M/s DCM Shriram Limited, Sugar & Distillery, Unit – Hariawan, District – Hardoi, U.P.
31.	M/s Dalmia Bharat Sugar & Industries Ltd., Ramgarh, Sitapur, U.P.
32.	M/s Magadh Sugar & Energy Limited, Narkatiaganj, District – West Champaran, Bihar.
33.	M/s Shree Sangam SSK, Niyamit, Hidakaldam, District – Belagavi, Karnataka.
34.	M/s DCM Shriram Limited, Unit – Loni, District – Hardoi, U.P.
35.	M/s Avadh Sugar & Energy Limited, Unit – Hargaon, District – Sitapur, U.P.
36.	M/s Dhampur Sugar Mills Limited, Unit – Asmoli, District – Sambhal, U.P.
37.	M/s Dalmia Bharat Sugar & Industries Limited, Unit – Jawaharpur, District – Sitapur, U.P.
38.	M/s Wave Industries Private Limited, Unit – Dhanaura Mandi, District – Amroha, U.P.
39.	M/s Visited M/s Ugar Sugar Works Ltd., Belagavi, Karnataka.
40.	M/s Viswaraj Sugars Industries Ltd., B. Bagewadi, Karnataka.

41.	M/s Bajaj Hindustan Sugar Ltd., Unit – Kinauni, Meerut, U.P.
42.	M/s Bajaj Hindustan Sugar Ltd., Unit – Rudhauli, Basti, U.P.
43.	M/s Daya Sugar (A unit of B.K. Investment Services Pvt. Ltd.), Saharanpur, U.P.
44.	M/s Avadh Sugar & Energy Ltd., Unit – Seohara, Bijnor, U.P.
45.	M/s Avadh Sugar & Energy Ltd., Unit - Hargaon, Sitapur, U.P.
46.	M/s Dhampur Sugar Mills Ltd., Unit – Mansoorpur, Muzaffarnagar, U.P.
47.	M/s Wave Industries Pvt. Ltd., Unit – Bijnor, U.P.
48.	M/s Magadh Sugar & Energy Ltd., Unit – Bharat Sugar Mills, Sidhwalia, Gopalganj, Bihar
49.	M/s Triveni Engineering & Industries Ltd., Unit – Deoband, Saharanpur, U.P.
50.	M/s Kesar Enterprise Ltd., Sugar Unit – Baheri, Bareilly, U.P.
51.	M/s Mawana Sugar Works, Mawana, Meerut, U.P.
52.	M/s Uttam Sugar Mills Ltd., Sugar Unit – Libberheri, U.K.
53.	M/s Triveni Engineering & Industries Ltd., Unit – Khatauli, Muzaffarnagar, U.P.

ANALYTICAL SERVICES:

Besides analysis of sugar & sugar house products, Ethanol and effluents etc.

Institute started offering 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 also taken up during the period. Analytical services were rendered to following:

1.	M/s DCM Shriram Limited, Sugar Unit – Rupapur, District – Hardoi, U.P.
2.	M/s DCM Shriram Limited, Sugar Unit – Ajbapur, District – Lakhimpur Kheri, U.P.
3.	M/s DCM Shriram Limited, Sugar Unit – Hariawan, District – Hardoi, U.P.
4.	M/s Balrampur Chini Mills Limited, Babhnan, District – Gonda, U.P.
5.	M/s The Kisan Sahkari Chini Mills Limited, Sathiaon, District – Azamgarh, U.P.
6.	M/s The Kisan Sahkari Chini Mills Limited, Powayan, District – Shahjahanpur, U.P.
7.	M/s The Ganga Kisan Sahkari Chini Mills Limited, Morna, District – Muzaffarnagar, U.P.
8.	M/s K. M. Sugar Mills Limited, Motinagar, District – Faizabad, U.P.
9.	M/s Balrampur Chini Mills Limited, Balrampur, U.P.
10.	M/s Seksaria Biswan Sugar Factory Limited, Biswan, District – Sitapur, U.P.
11.	M/s Tirupati Sugars Limited, District – West Champaran, Bihar.
12.	M/s Balrampur Chini Mills Limited, Maizapur, District – Gonda, U.P.

13.	M/s Rudrabilas Kisan Sahkari Chini Mills Limited, Bilaspur, District – Rampur, U.P.	28.	M/s Balrampur Chini Mills Limited, Unit – Haidergarh, District – Barabanki, U.P.
14.	M/s Bisalpur Kisan Sahkari Chini Mills Limited, Pilibhit, U.P.	29.	M/s Dhampur Sugar Mills Limited, Meerganj, District – Bareilly, U.P.
15.	M/s Balrampur Chini Mills Limited, Kumbhi, District – Lakhimpur Kheri, U.P.	30.	M/s Dhampur Sugar Mills Limited, Asmoli, District – Sambhal, U.P.
16.	M/s The Kisan Sahkari Chini Mills Limited, Budaun, U.P.	31.	M/s Dhampur Sugar Mills Limited, Mankapur
17.	M/s Food Inspection Organization, (QMG Branch), Delhi.	32.	M/s Kisan Sahkari Chini Mills Limited, Tilhar, District – Shahjahanpur, U.P.
18.	M/s Dhampur Sugar Mills Limited, Unit – Asmoli, District – Moradabad, U.P.	33.	M/s Balrampur Chini Mills Limited, Gularia, District – Lakhimpur Kheri.
19.	M/s Dhampur Sugar Mills Limited, Unit - Meerganj, District – Bareilly, U.P.	34.	M/s Triveni Engineering & Industries Ltd., Unit – Khatauli, District – Muzaffarnagar, U.P.
20.	M/s Triveni Engineering & Industries Limited, Unit - Deoband, District – Saharanpur, U.P.	35.	M/s Avadh Sugar & Energy Limited, Seohara, District – Bijnor, U.P.
21.	M/s The Kisan Sahkari Chini Mills Limited, Gajraula, District – Amroha, U.P.	36.	M/s The Kisan Sahkari Chini Mills Limited, Sathiaon, District – Azamgarh, U.P.
22.	M/s Balrampur Chini Mills Limited, Rauzagaon	37.	M/s Govind Sugar Mills Ltd., Aira Estate, District Lakhimpur Kheri, U.P.
23.	M/s Avadh Sugar & Energy Limited, District – Shahjahanpur, U.P.	38.	M/s Triveni Engineering & Ind. Ltd., Raninangal,
24.	M/s Triveni Engineering & Industries Limited, Raninangal, District – Moradabad, U.P.	39.	M/s Dhampur Sugar Mills Ltd., Mansoorpur, District Muzaffarnagar, U.P.
25.	M/s Balrampur Chini Mills Limited, Unit – Akbarpur, District – Ambedkar Nagar, U.P.	40.	M/s Dhampur Sugar Mills Ltd., Asmoli, District Bheem Nagar, U.P.
26.	M/s Balrampur Chini Mills Limited, Unit – Tulsipur,	41.	M/s Dhampur Sugar Mills Ltd., Meerganj, District – Bareilly, U.P.
27.	M/s Triveni Engineering & Industries Ltd., Unit – Sabitgarh, District – Bulandshahar, U.P.	42.	M/s Magadh Sugar & Energy Ltd., Narkatiaganj, District West Champaran, Bihar

43.	M/s Sarjoo Sahkari Chini Mills Ltd., Belrayan, U.P.
44.	M/s Kisan Sahkari Chini Mills Ltd., Powayan, Pilibhit, U.P.
45.	M/s Viswaraj Sugar Industries Bagewadi, Karnataka
46.	M/s The Ganga Kisan Sahkari Chini Mills Ltd., Morna, U.P.
47.	M/s Shravasti Kisan Chini Mills, Nanpara, Bahraich, U.P.
48.	M/s Kisan Sahkari Chini Mills Ltd., Mahmudabad, U.P.
49.	M/s Balrampur Chini Mills Ltd., Unit - Babhnan, (Chemical Division), U.P.
50.	M/s Avadh Sugar & Energy Ltd., Unit - Seohara, U.P.
51.	M/s Triveni Engineering & Ind. Ltd., Sugar Unit - Chandanpur, Amroha, U.P.
52.	M/s Rasi Nutri Foods India Private Limited, Edayarpalayam, Coimbatore, Tamil Nadu
53.	M/s Kisan Sahkari Chini Mills Ltd., Unit - Kaimganj, Farrukhabad, U.P.
54.	M/s Wave Industries, Unit - Bijnor, U.P.
55.	M/s Wave Industries, Unit - Dhanaura, Amroha, U.P.
56.	M/s Wave Industries, Unit - Bulandshahar, U.P.
57.	M/s Avadh Sugar & Energy Ltd., Unit - Rosa Sugar Works Ltd., Sahajahanpur, U.P.
58.	M/s Triveni Engineering & Ind. Ltd., Sugar Unit - Deoband, U.P.
59.	M/s Bajaj Hindusthan Sugar Ltd., Unit - Barkhera, U.P.
60.	M/s Daya Sugar (A unit of B.K. Investment Services Pvt. Ltd.), Saharanpur, U.P.

61. M/s Dalmia Bharat Sugar Ltd., Unit - Jawaharpur, Sitapur, U.P.

SALE OF SUGAR STANDARDS:

Sale of sugar standard grades commenced from 1st October 2021 for the sugar season 2021-22. Standard grades can be procured online also. The details are available on our website <http://www.nsi.gov.in>. Institute has been sale out 1063 samples to the 226 sugar factories up to March 2022.

OUR OTHER ACTIVITIES:

1. राष्ट्रीय शर्करा संस्थान में हिंदी भाषा के प्रोत्साहन के लिए संस्थान के अधिकारियों एवं कर्मचारियों के मध्य एक स्लोगन प्रतियोगिता का आयोजन किया गया और 10 जनवरी विश्व हिंदी दिवस पर आयोजित स्लोगन प्रतियोगिता में विजेताओं को पुरुस्कृत किया गया।



2. National Sugar Institute, Kanpur organized a COVID-19 test camp for

employees and students on 12th January, 2022.



3. Looking to the growing no. of Corona cases, "**Isolation Centre**" has been made ready for the students and employees of the institute. Oxygen Cylinders, Oxygen Concentrators and other first aid material has also been provided on 13th January, 2022.



4. नाइजीरिया के नाइजीरियन शुगर इंस्टिट्यूट के चार शिक्षकों ने अपना एक वर्ष का फेकल्टी डेवलपमेंट प्रोग्राम राष्ट्रीय शर्करा संस्थान कानपूर से पूर्ण कर संस्थान से दिनांक 14 जनवरी 2022 को विदा ली ।



5. Boiler Pooja was organized at Experimental Sugar Factory (ESF) at the institute on 18th January 2022.



6. M/s Emami Ltd. has desired to seek assistance of National Sugar Institute, Kanpur for producing high quality jaggery and jaggery based healthcare products on 19th January, 2022.



7. National Sugar Institute, Kanpur has achieved success in producing **“Activated Bio-char”** from sugarcane bagasse. It can be used for de-colorizing sugar melts in sugar refineries and waste water treatment.



8. The Institute celebrated 73rd Republic Day on 26th January, 2022. On this occasion, Director hoisted the National Flag and took the salute from the security guards. Awards were also distributed to the winners of various competitions organized during **“Swachhta and Satarkata Pakhwada”**.



9. Crushing season of **Experimental Sugar Factory (ESF)** of National Sugar Institute, Kanpur commenced on 1st February 2022 to impart practical

training to the students of various courses. NSI, Kanpur being the only sugar institute across globe to have such facility for training of students. A trial of new technique of sugar juice clarification by floatation was also carried out during the month.



10. Dr. Naveen Prakash Singh, Chairman, Commission for Agriculture Cost and Prices (CACP), Government of India visited the National Sugar Institute, Kanpur on 11th February 2022 and discussed on diversification and value addition for economically sustainable Indian Sugar Industry. He also visited various research laboratories of the institute to see ongoing activities.



11. स्वच्छता पखवाड़े के अन्तर्गत, दिनांक 16-28 फरवरी तक मनाये जा रहे राष्ट्रीय शर्करा संस्थान में दिनांक 18.02.2022 को वृक्षारोपण कार्यक्रम का आयोजन किया गया।

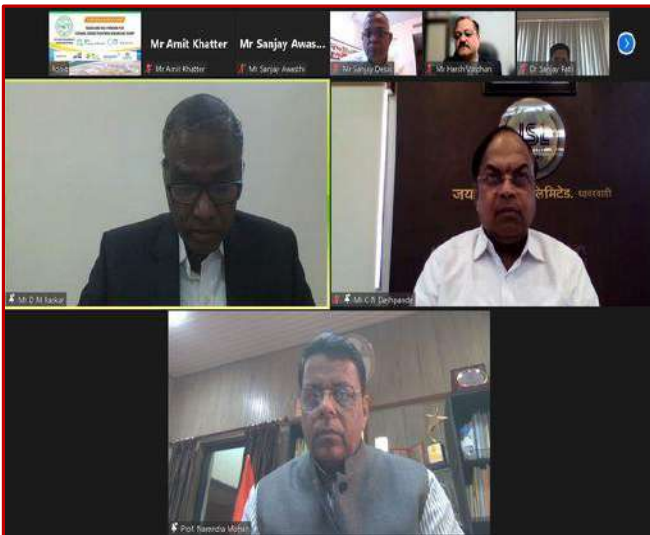


11. National Sugar Institute, Kanpur conducted trials of "**Floatation Technique**" for sugarcane juice clarification in its Experimental Sugar Factory in collaboration with STAI and M/s Chemical System Technologies. Preliminary results indicate a ray of hope for its adoption in raw sugar units or integrated refineries.





12. Director, National Sugar Institute, Kanpur addressed the webinar which was organized by The Sugar Technologists Association of India (STAI) on the topic **“Issues & Way Forward for Ethanol Production from Sugarcane Syrup”** on 24th February, 2022.



13. On the occasion of **“NATIONAL SCIENCE DAY-2022”** commissioning of Automatic Weather Station (AWS) at National Sugar Institute, Kanpur was carried out on 28th February, 2022. It to be used for real-time information on weather at the farm level. Hope this will help in conducting various experiments at institute farm.



14. National Safety Day celebrated at Experimental Sugar Factory (ESF) of National Sugar Institute, Kanpur on the theme **“Nurture Young Minds-Develop Safety Culture”** on 4th March 2022. Students, Staff & Officers were participated in the National Safety Day program with the goal of raising awareness and commitment to working safely.





15. Director National Sugar Institute, Kanpur attended 21st meeting of FSSAI's Scientific Panel on Sweets, Confectionery, Sweetener, Sugar and Honey on 15th March 2022. Long and very useful discussions were carried out on framing some new standards.




16. Director, National Sugar Institute, Kanpur participated in “Sugar & Ethanol Conference 2022” on 20th March 2022.




He actively participated through presentations and panel discussions on green energy, value addition, diversifications, sugar quality and sugar consumption patterns.

17. Director, National Sugar Institute, Kanpur delivered a lecture on "**Energy Management in view of current ethanol diversification in Indian Sugar Industry**" in the webinar organized by International Society of Sugarcane Technologists on 29th March 2022.



CONCLUSION

1. There is need for judiciously deciding capacities of etha and extent of co-generation for being self sustainable with to feed and fuel.
2. The energy savings hold the key for success.
3. Configuration of steam-power generating units, ev configurations and energy saving devices requiring att case of diversion of process intermediates.
4. Industry to keep on brainstorming and adopting innova other proven technologies.



18. Construction of a new "**Alcohol Technology Laboratory**" completed on 31th March 2022 to cope up with the requirement as the number of seats in "**Post Graduate Diploma Course in Industrial Fermentation and Alcohol Technology (DIFAT)**" are to be increased from academic session 2022-23.

