



सत्यमेव जयते

JANUARY-MARCH 2016

NEWSLETTER

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

VISIT OF HON'BLE MINISTER:

Shri Ram Vilas Paswan, Hon'ble Minister, Consumer Affairs, Food & Public Distribution, Government of India visited the National Sugar Institute, Kanpur on 7th January, 2016 to inaugurate newly constructed boy's hostel at the Institute. He also inspected the working of the Institute, particularly, academic & research work undertaken by the institute.



He took keen interest in R & D work being carried out by the institute in the area of “Production of Ethanol from various feed stocks”, “Water conservation in Sugar Industry” and on “Development of alternate process for sulphur free sugar production”. In his address to the staff & students he desired to convert the Institute as an “Institute of Eminence” by upgrading the teaching & research facilities.

VISIT OF SPECIAL SECRETARY & FINANCIAL ADVISOR:

Shri P.K. Jha, Special Secretary & Financial Advisor, Department of Food & Public Distribution, Ministry of Consumer Affairs, Food & Public Distribution visited the Institute on 2nd March, 2016. He visited various Research Laboratories, Smart Classrooms, Students Laboratories, ESF, Farm, New Hostels, and Library and also



reviewed the action plan for converting the Institute as an “Institute of Eminence”.

He took keen interest in the research work being carried out by the institute on the issues of developing a environment friendly process for production of sulphur-free sugar, production of graphene oxide from bagasse, use of fly ash as adsorbent and use of alternate feed stocks for ethanol production.



PARTICIPATION IN SEMINAR, CONFERENCE & EXTENSION LECTURES :

1. Director, delivered lecture on “**Prospects of Ethanol and its Costing**” during the workshop organized by ISMA on 22nd January 2016, at New Delhi.



2. Director delivered a lecture on “**Energy Conservation**” to the Indonesian delegates at M/s Simbhaoli Sugar Mills Ltd., Simbhaoli, Ghaziabad on 12th March, 2016.





TRAINING PROGRAMME:

Institute going global



(i) For M/s West Kenya Sugar Company Ltd., Kakamega, Kenya

On the request of M/s West Kenya Sugar Company Ltd., Kakamega, Kenya the institute organized three weeks technical training programme for their Sugar Technologists / Sugar Engineers at their factory site at Kakamega, Kenya. The theoretical and practical training was imparted in a manner that the technical persons already working in the sugar mill may acquire knowledge about latest technology of sugar manufacturing, utilization of by products and environmental protection.



During the training programmes lectures were delivered by Shri Narendra Mohan, Director, Shri D.Swain, Prof. Sugar Engineering, Dr. Ashutosh Bajpai, Prof. Sugar Technology, Shri J.P.Srivastva, Chief Design Engineer, Shri Jitendra Singh, Asstt. Prof. Sugar Technology, Shri Brajesh Singh, Technical Officer (Instrumentation).



(ii) For M/s Parris Sugar Refinery, Silk Road, Kakinada, Telangana

Two weeks accredited training programme was organized by the Institute at M/s Parris Sugar Refinery, Silk Road, Kakinada, Telangana for the technical personnel of the refinery.



During the programme, practical concepts of various unit operations of raw sugar handling,



melting, clarification, de-colorization, crystallization, centrifugation & bagging etc. carried out in a sugar refinery were made clear to the participants.

RESEARCH:

The Institute during the period took up R&D work on the following:

1. Alcohol from Cassava- The conversion of cassava powder to fermentable sugars using high concentration of cassava powder and high concentration of enzymes has been done and by using enzymes from Novozyme 100% conversion of cassava starch into fermentable sugars was obtained. The studies shall be conducted by using other set of enzymes at lower and higher concentration of cassava and enzymes.

2. An investigation of deterioration pattern fermentability of B-heavy & Final molasses for sustainable ethanol production – The study has been taken up to assess potential of ethanol production through B-Heavy route and to compare economics of ethanol production through B-Heavy vis a vis Final molasses(C-molasses)route. Pattern of B-Heavy molasses deterioration shall be studied under different climatic conditions.

3. Production of invert syrup from Cane Juice, Molasses, Sweet Sorghum, Sugar Beet Juice –

The work has been initiated using organic clarificants like deola, aloevera. The dosage of different clarificants & other parameters were optimized & efficiency of each was assessed.

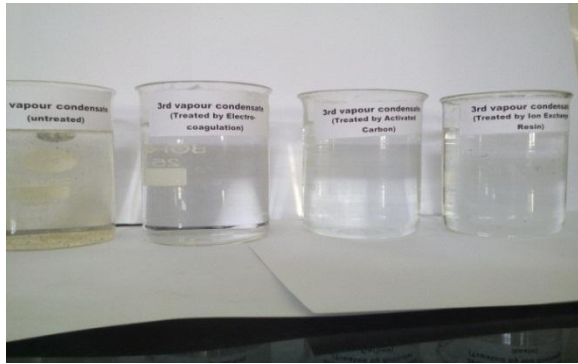


Further, production of invert syrup from cane juice shall be carried out using ion exchange resins.

4. Zeolite from bagasse fly ash : synthesis and its utilization in catalysis – The identification and characterization of the synthesized dihydro pyrimidione utilizing fly ash derived-Zeolite as a catalyst is under process in the Organic Chemistry laboratory of the institute.

5. Study of fly ash as low cost colour adsorbent – Some experiments have been performed to evaluate fly ash as an adsorbent in sugar industry waste water.





Treatment carried out at M/s Dalmia Chini Mills, Unit Ramgarh, Sitapur and at experimental sugar factory of the institute show encouraging results.

6. Graphene Oxide from bagasse: synthesis and its utilization in carbo-catalysis – An effort has been made to evaluate the synthetic efficacy of bagasse dried Graphene Oxide as Carbocatalyst. A manuscript entitled “ Graphene oxide from bagasse : synthesis and its utilization in carbocatalysis has been communicated for publication / presentation as a full paper under technical session, “ Co-product at ISSCT Congress, 2016.

7. Development of alternate methods for determination of Phosphate in cane juice - Some preliminary experimental work have been carried out towards spectrophotometric determination of phosphate in cane juice based on formation of molybdophosphate in ethylene glycol-water mix solution.



Preparation of standards and calibration graph towards spectrophotometric determination of

phosphate in cane juice based on formation of molybdophosphate in ethylene glycol-water mixed solution is under process.

8. Cane Juice Clarification by fermenter gases for production of sulphurless sugar- On the basis of the results achieved from experiments carried out at NSI laboratory and in commercial sugar factories, a research paper has been prepared and sent for publication in the ISSCT Congress, 2016. The process envisages production of direct consumption plantation white sugar using CO₂ gas from distillery Fermenters.

RESEARCH PAPERS PUBLISHED / SENT FOR PUBLICATION:

1. “Use of Decanter in cane sugar processing retrospective & future prospects” by Narendra Mohan, Jahar Singh & A.K.Garg published in the proceedings of All India Seminar on “Energy Efficient Options for treatment of clarifier under flow” organized by STAI on 29th January, 2016 at Noida, U.P.
2. “Challenges, Future Requirements of Sugarcane Production and Productivity in India” by Lokesh Babar & Ashok Kumar, published in Indian Sugar, January 2016.
3. “Real Time Data Monitoring for Effluent Treatment Plant of Sugar Industry : A Study” by M.K. Banerjee sent for publication in All India Seminar on “Water Management & Meeting the CPCB Guidelines” to be held on 12th May, 2016 at National Sugar Institute, Kanpur, U.P.
4. “ Effect of Potassium- Zinc- Sulphur on Morphological, Yield Attributes and Biochemical Traits of Sugar Beet on Ethanol Production” sent publication in the Annual Convention of North Indian

Sugarcane & Sugar Technologist Association to be held in April, 2016, At Lucknow.

CONSULTANCY SERVICES:

During the period January 2016 to March 2016, Consultancy Services were provided to following:

Overseas:

1. M/s Kibos Sugar Refinery Ltd., Kisumu, Kenya.



India:

2. M/s Om Sugar Ltd., Belagavi, Karnataka.
3. M/s Ajnala Coop.Sugar Mills Ltd., Punjab.



4. M/s Gurdaspur Coop. Sugar Mills Ltd., Punjab.
5. M/s LH Sugar Factories Ltd., Pilibhit, U.P.
6. M/s U.P. State Sugar Corporation Ltd., Unit- Mohiduddinpur, U.P.
7. M/s EID Parry (India) Ltd., Haliyal, Karnataka.
8. M/s Morinda Coop. Sugar Mills Ltd., Punjab.
9. M/s Oudh Sugar Mills Ltd., Hargaon, Sitapur, U.P.
10. M/s U.P. Cooperative Sugar Factories Federation Ltd., Lucknow, U.P.
11. M/s Gayatri Sugars Ltd., Unit- Nizamsagar, Nizamabad, Telangana.
12. M/s Gayatri Sugars Ltd., Unit- Kamareddy, Nizamabad, Telangana.
13. M/s Upper Ganges Sugar & Industries Ltd., Seohara, Bijnaur, U.P.
14. M/s Rai Bhadur Narain Singh Sugar Mills Ltd., Haridwar, Uttarakhand.
15. M/s Gobind Sugar Mills Ltd., Aira, Lakhimpur kheri, U.P.
16. M/s Dalmia Sugar Mills Ltd., Ramgarah, Sitapur, U.P.
17. M/s Parwati Sweetners and Power Ltd., Gwalior, M.P.
18. M/s Manali Sugars Ltd., Bijapur, Karnataka.
19. M/s Mankapur Chini Mills Ltd., Mankapur, Gonda, U.P.
20. M/s The Panipat Co-operative Sugar Mills Ltd., Panipat, Haryana.
21. M/s Shri Rajasthan State Ganganagar Sugar Mills Ltd., Sri Ganganagar, Rajasthan.

22. M/s Uttarakhand Sahakari Chini Mills Sangh Ltd., Unit -Nadehi, Uttarakhand.
23. M/s Uttarakhand Sahakari Chini Mills Sangh Ltd., Unit –Bajpur, Uttarakhand.
24. M/s Green Power Sugar Ltd., Gopeej, Dist – Satara, Maharashtra.
25. M/s Parrys Sugar Industries Ltd, Hulati, Haliyal, Karnataka.

FARM ACTIVITIES :

1. Sugarcane grown at the farm harvested and supplied to Experimental Sugar Factory.



2. Irrigation and weeding practices of Sugar Beet variety LS-6 and three Sweet Sorghum varieties CSH-22 SS, SSV – 84, CSV-24S3 taken up during the period.
3. Mustard grown at the farm also harvested.



4. Sapling for Stevia cultivation planted.
5. Preparation of field for planting of spring sugarcane crop has been started.

VIDEO CONFERENCING:

Institute participated in the video conferencing on 19th January, 2016 through which Hon'ble President of India addressed the Vice Chancellors and Directors of various Universities, Technical Institution and institutions of higher learning on the topic "Youth & Nation Building".



It was attended by the faculty members & students of the Institute.

EXPERIMENTAL SUGAR FACTORY:

The 100 TCD vaccum Pan Sugar factory is the unique feature of the Institute for providing first hand technical training to the 1st year student of Sugar Technology & Sugar Engineering Course and carrying out pilot scale trials.





The Experimental Sugar Factory started this year crushing season from 21st January, 2016 and closed on 11th March, 2016. During the season, few new process equipments e.g. Direct Contact Juice Heater, Plate type heat exchanger, Vibro screen, Modified DC drive system for mills etc. were commissioned to give better exposure of the latest technology to the students. The students were also given practical exposure on treatment of waste waters from the sugar factory.

REPUBLIC DAY:

The Institute celebrated 67th Republic Day on 26th January, 2016. On this occasion, Shri Narendra Mohan, Director hoisted the National Flag and took the salute from the security guards.

He called upon the staff and Institute to work hard with positive attitude, so as to make institute as an “Institute of Eminence”

having global presence. He also distributed “Swacchta Awards” to the institute employees for their efforts on this occasion.



हिंदी कार्यशाला:

दैनिक सरकारी कामकाज में राजभाषा के प्रयोग को प्रोत्साहन देने व इस संदर्भ में प्राप्त सरकारी दिशानिर्देशों को प्रसारित करने हेतु संस्थान में दिनांक 28 मार्च, 2016 को हिंदी कार्यशाला का आयोजन किया गया। इस अवसर पर प्रतिभागियों को संबोधित करते हुये निदेशक महोदय ने उनसे तत्काल समस्त पत्रावलियों के शीर्षक राजभाषा में लिखने, नाम पट्टिकाओं को द्विभाषी करने हेतु प्रेरित किया।



ADMISSIONS:

Process for submitting application through online/off-line mode commenced from 21st March 2016. For course and other details with respect to eligibility conditions, mode of admission, age limit and fee etc. refer our website www.nsi.gov.in