CSIR IN MEDIA

CSIR

NEWS BULLETIN
21 TO 25 JULY 2022

Compiled by Science Communication and Dissemination Directorate (SCDD), CSIR, Anusandhan Bhawan, New Delhi

Research and Development for traditional system of medicines

CSIR-IHBT

22nd July, 2022

The Government of India has signed 25 Memorandum of Understandings (MoUs) for country to country cooperation in the field of medicine Nepal, Bangladesh, Hungary, Trinidad & Tobago, Malaysia, Mauritius, Mongolia, Turkmenistan, Myanmar, World Health Organization, Germany, Iran, Sao Tome & Príncipe, Equatorial Guinea, Cuba, Colombia, Japan, Bolivia, Gambia, Republic of Guinea, China, St Vincent and The Grenadines, Suriname, Brazil and Zimbabwe. 37 MoUs for undertaking collaborative research and development of Traditional Medicine has been signed with foreign Institutes/Universities/Organizations from USA, Germany, UK, Canada, Malaysia, Brazil, Australia, Austria, Tajikistan, Saudi Arabia, Ecuador, Japan, Indonesia, Reunion Island, Korea and Hungary etc.. 15 MoUs have been signed for setting up of Ayush Academic Chairs in foreign Institutes/Universities from Hungary, Latvia, Mauritius, Bangladesh, Russia, West-Indies, Thailand, Indonesia, Slovenia, Armenia, Argentina, Malaysia, South Africa, Australia and Mexico.

The constituent laboratory of Council of Scientific & Industrial Research namely Institute of Himalayan Bio-resource Technology (CSIR-IHBT), Palampur has signed an MoU with National Research Institute of Chinese Medicine, Ministry of Health and Welfare, Taiwan, to collaborate in the areas of mutual interest which included medicinal plants, bioactive molecules, herbal formulations etc.

CSIR and Bill & Melinda Gates Foundation have signed an MoU to identify the opportunities for scientific and technological research between researchers located within and outside of India, including collaborations with foundation-funded entities in the areas including but not limited to traditional medicine (AYUSH)-guided by specific applications to disease/ health priorities.

Under the Central Sector Scheme for Promotion of International Co-operation in Ayush

(IC Scheme), Ministry of Ayush supports Ayush drug manufacturers, entrepreneurs, Ayush institutions and Hospitals etc. for international propagation of Ayush by participating in international exhibitions, trade fairs, road shows etc. to display their products and services.

Ayush Oushadhi Gunvatta evam Uttpadan Samvardhan Yojana (AOGUSY) of Ministry of Ayush has been initiated for augmenting quality of Ayush drugs during the 15th Finance Cycle (2021-22 to 2025-26) by merging the existing Central Sector Schemes of Pharmacovigilance initiative, Central Drug Controller of Ayush and Quality Control of ASU&H drugs {Component of National Ayush Mission (NAM)} and inclusion of certain new elements to facilitate standardization, effective enforcement of rules/regulations, technology up-gradation for manufacturing and analytical testing, certification/accreditation, training and capacity building activities intended towards quality assurance of Ayush drugs.

The Prime Minister Employment Generation Programme (PMEGP) of Ministry of Micro Small and Medium Enterprises (MSME), Government of India is available to the Industry for availing benefits under Manufacturing and Service Sector including Ayush. Indian medicine Pharmaceutical Corporation Limited (IMPCL) which is a Mini Ratna Central Public Sector Enterprise (CPSE) under the Ministry of Ayush (Government of India) is manufacturing of Ayurveda & Unani Medicines in India.

India is a biodiversity rich country and as per the Botanical Survey of India estimation, more than 8,000 species of medicinal plants are found in the country including state of Maharashtra.

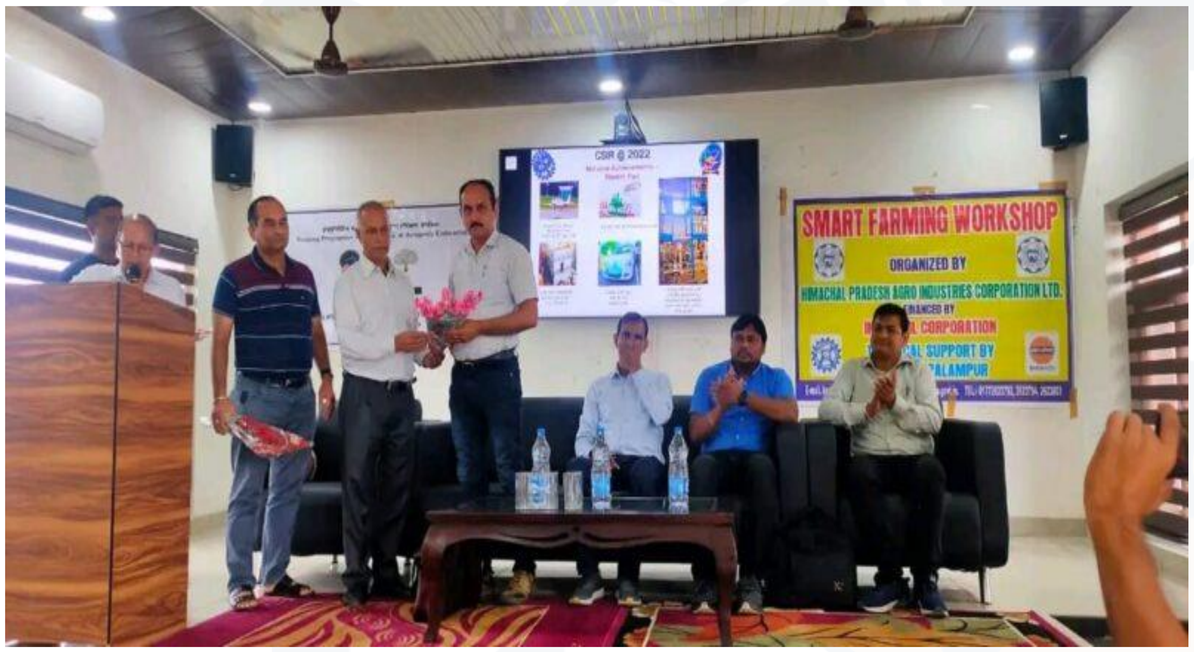
This information was given by Minister of Ayush Shri Sarbananda Sonowal in a written reply in Lok Sabha today.

Published in:
Pib

For convenience of farmers, HPAIC to set up Kisan Seva Kendras at Indian Oil pumps in Himachal

CSIR-IHBT

25th July, 2022



The Himachal Pradesh Agro Industries Corporation (HPAIC) has started working with the Indian Oil Corporation on an innovative proposal to set up 'Kisan Seva Kendras' at all its petrol pumps in the state. The development comes as the HPAIC has been aggressively holding meetings with farmers and farm organisations to know about their needs and requirements.

At such meetings, farmers have been highlighting critical gaps saying they needed specialised training. They also stressed the need for having in place highly efficient and reliable soil testing and food processing facilities, for which, they said, government agencies and various departments needed to work pro-actively.

After in almost all meetings the farmers highlighted the urgent need for specialised training on different aspects of smart farming, the HPAIC has started working with the CSIR/IHBT, Palampur, for arranging training sessions to 100 farmers at a time in different parts of Himachal.

Published in:

The Newz Radar

National Chemical Laboratory bags certificate for spreading awareness on intellectual property rights

CSIR-NCL 25th July, 2022

Pune-based National Chemical Laboratory (NCL) has bagged a certificate of appreciation from the Union commerce and industry ministry for its efforts in spreading awareness of intellectual property rights (IPR).

The Office of the Controller General of Patents, Designs and Trade Marks (CGPDTM), generally known as the Indian Patent Office, awarded the certificate in recognition of the NCL's active participation in the National Intellectual Property Awareness Mission (NIPAM).

An awareness programme was organised last week jointly by the NCL and Intellectual Property Office, Kolkata, as part of the 75th anniversary of India's Independence.

Established in 1952, the NCL was among the first few of the 37 labs established under the Council of Scientific and Industrial Research (CSIR) soon after India's independence.

The CSIR has led India's research institutions for performing research and applying for patents. Between 2015 and 2020, the CSIR labs filed 225 Indian patents and 250 foreign patents annually. The CSIR has a patent portfolio of 1,132 unique patents in force, out of which 140 patents have been commercialised. It also has 2,587 in-force patents granted abroad in multiple countries, the CSIR official website stated.

Published in:
Indian Express

International Conference on Chemistry and Applications of Soft Materials from Monday

CSIR-NIIST

24th July, 2022

CSIR-NIIST, Thiruvananthapuram, to host renowned researchers from within the country and abroad

The CSIR-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Thiruvananthapuram, will host an International Conference on Chemistry and Applications of Soft Materials (CASM 2022) from Monday to Wednesday as part of the Azadi Ka Amrit Mahotsav celebrations to mark 75th year of Independence.

An official spokesperson said here the conference will witness discussions on a range of topics ranging from self-assembly and supramolecular materials; chemistry, physics, rheology, and photophysics of soft materials; to responsive and smart materials, gels, liquid crystals, polymers, macromolecules and framework materials and functional nanomaterials; and applications of soft materials in energy and electronics.

Overseas delegates

At least 300 delegates from within the country and abroad are expected to attend the conference, the spokesman said. Renowned scientist T Pradeep from the Indian Institute of Technology, Madras, will inaugurate the event.

A Ajayaghosh, Director, CSIR-NIIST, who is also the Conference Chair, said the event will provide the right platform for scientists and students to exchange ideas and forge new collaborations in the area of soft materials.

Narayanan Unni, Scientist at CSIR-NIIST and Convener of the Conference, said there will be a Department of Science and Technology (DST)-sponsored session on soft materials for energy applications as well as presentations showcasing the technology development

initiatives at CSIR-NIIST. There will be a special session to honour the scientific contributions of A Ajayaghosh who turns sixty this month.

Galaxy of speakers

Among those addressing the conference over the three days include Takuzo Aida of the University of Tokyo; Luis Sanchez, Universidad Complutense de Madrid; YN Mohapatra, IIT Kanpur; Santanu Bhattacharya, IISc Bengaluru; Gustavo Fernandez, University of Münster, Germany; Kana M Sureshan, IISER, Thiruvananthapuram; Katsuhiko Ariga and Takashi Nakanishi, NIMS, Japan; Shiki Yagai, Chiba University, Japan; Yanli Zhao, NTU Singapore; and Deqing Zhang, Chinese Academy of Sciences, and Myongsoo Lee, Fudan University, Shanghai.

Published in:
The Hindu Business Line

CSIR-IICT designs unique Effluent Treatment Plant

CSIR-IICT

22nd July, 2022

Scientists come up with plant for U.K. Aromatics Pvt. Ltd. in Maharashtra

A team of scientists from CSIR-Indian Institute of Chemical Technology (CSIR-IICT) have designed a unique Effluent Treatment Plant (ETP) for industrial aroma chemicals, based on a high rejection hyperfiltration membrane technology, it was announced on Friday.

Chief scientist S. Sridhar and principal investigator-senior scientist S. Chandra Sekhar from the Membrane Separations Laboratory designed the plant for the U.K. Aromatics Pvt. Ltd., Boisar, Maharashtra.

The effluent is a condensate coming from a multiple-effect evaporator (MEE) containing considerable content of total dissolved solids (TDS), turbidity, and colour besides high chemical oxygen demand (COD) levels due to the presence of significant concentrations of aroma chemicals such as esters, flavours, and perfumes with smaller concentrations of toluene and cyclohexane solvents used in azeotropic distillation for isolation of the esters.

The membrane is specifically developed at CSIR-IICT from 'hydrophilised polyamide' which is more hydrophilic or dissolves in water, chemically inert, with a thicker selective skin layer as compared to commercial membranes.

Dr. Sridhar stated that the pilot plant has an operational flexibility across a permeate capacity of 1,000 – 2,000 lit/hr and removes TDS from an initial value of 1,500 to 2,500 ppm in the effluent feed to less than 100 ppm in the permeate water. A TDS rejection of more than 95% with an average COD removal of 75% is achieved at a permeate water recovery of 80%, he explained.

The pre-treatment assembly comprises coagulation, bag filtration, deep bed sand and activated carbon column, micron cartridge filter, antiscalant dosing, and pH correction. The 20% reject stream is recycled to the multiple-effect evaporator for the next operational cycle to ensure zero liquid discharge (ZLD) as per PCB regulations.

₹12 lakh expenditure

The capital expenditure for installing the plant is ₹12 lakh, and the operating expenses is approximately 10 to 12 paise per litre of effluent treated. About 200 MT of effluent has been treated till date at the company, said a press release.

Published in:
The Hindu

CSIR-NML Jamshedpur transfers tech on Lithium batteries recycling to Recyclib

CSIR-NML

22nd July, 2022

Jamshedpur, July 22: Recycling technology of lithium ion batteries was demonstrated at the CSIR-National Metallurgical Laboratory, Jamshedpur, on Friday.

Recyclib Pvt. Ltd., Delhi had earlier signed an MoU with CSIR-NMLfor recycling technology of lithium ion batteries. The MoU was made for technology transfer of recycling of lithium ion batteries (LIBs) to recover metal/salts of Li, Co, Mn, Ni, Cu, Al, graphite and saleable plastics.

"The technological know-how is a closed-loop design to recover Li, Co, Mn, Ni, Cu, Al, plastics and graphite from black cathodic material of spent LIBs. Developed hydrometallurgical process flow-sheet to recover Li, Co, Mn, Cu, Ni as metals/salts and graphite from spent LIBs will be fine tuned by the samples supplied by the PARTY. The party will commercialize the technology as per the transferred Know-How of the CSIR-NML," NML sources said.

"It is well known that in the past, CSIR-NML has transferred a number of technologies to national and international industries and research organisations. Recyclib Pvt. Ltd., Delhi will process the LIBs and extract the non-ferrous metals viz.Li, Co, Mn, Cu, Al, Ni, etc. and a part of that they will recycle all the materials present in it based on zero waste concepts," said an official.

On this auspicious occasion, Dr. Indranil Chattoraj, Director CSIR-NML, was present along

with Dr. Sanjay Kumar, Head of Department, Dr. Manis Kumar Jha, Project Leader, and many others. The Director of M/s Recyclib Pvt. Ltd., Mohit Garg and Surendra Garg were also present during the programme.

The NML Director said, "In recent past NML has transferred a number of indigenous technology to Indian company and hope in future we can transfer more to make India as e-waste free society".

Published in:
Avenue Mail

Una admn ropes in CSIR to combat malnutrition

CSIR-IHBT

21st July, 2022

To combat malnutrition, the Una district administration will launch an initiative to provide highly nutritious packaged food at Anganwari centres for children and expecting and lactating mothers. The administration has roped in the CSIR-Institute of Himalayan Bioresource Technology (IHBT), Palampur, which has developed packaged food products that have high nutritional content, for the initiative.

Deputy Commissioner (DC) Raghav Sharma said the IHBT had come up with products such as spirulina bar, multi-grain energy bar, multi-grain high energy powder and fruit bar. Spirulina, which is an algae, is used to develop a super-food that has high content of essential minerals and vitamins.

The DC said the products developed by IHBT were rich in proteins, iron, potassium, zinc and calcium and if these were provided at Anganwari centres, they would help combat malnutrition among children and women. The packaged food products will be provided along with the traditional food.

He said: “Initially, the district administration will enter into a year’s agreement with CSIR-IHBT to procure these food items. The agreement can be subsequently extended on the basis of the result.”

The institute was preparing a detailed project report and the data regarding the number of

children and women in the district was being shared with them, he added. The district Women and Child Welfare Department has been providing food items like chickpea, biscuits, wheat porridge and powdered milk to the children at Anganwari centers and the same items are being provided to expecting and lactating mothers.

Published in:
Tribune India

Week-Long Trial Blasts At Quarries Around KRS Dam From July 25

CSIR-CIMFR

21st July, 2022

Mysore/Mysuru: The stage is set for trial blasts to study the impact of blasting and deep-earth mining activities around the Krishna Raja Sagar (KRS) Dam in Mandya district. With the conduct of the trial blast, the controversy over the illegal stone and granite mining activity and its threat to the Dam is likely to be settled.

The trial blasts will be conducted from July 25 to 31 and the Mandya District Administration is making all preparations to conduct the blasts.

Confirming this to Star of Mysore this morning, Mandya Deputy Commissioner (DC) S. Aswathi said that a team of scientists from the Council of Scientific and Industrial Research – Central Institute of Mining and Fuel Research (CSIR-CIMFR) Jharkhand will conduct the blasts and study the impact of the explosions on the Dam structure.

"I do not have exact information on the number of scientists who will come to Mandya to conduct the trial blasts. But we have got information from CISIR-CIMFR that a team would go for trial blasts from July 25 and we have made preparations for the same. The Department of Mines and Geology will lead the operations," the DC said.

Padmaja, a Senior Geologist from the Department, told reporters that the date has been fixed for the blasts and preparations had been made. The CSIR-CIMFR office is located at Dhanbad in Jharkhand and routinely takes up multi-disciplinary research on the mechanisation and automation of mining activities with state-of-the-art technologies in the mining industry.

The Cauvery Neeravari Nigam Limited (CNNL) has already paid Rs. 22 lakh to CSIR-CIMFR as a fee for blasts. On March 4, 2021, a CSIR-CIMFR team, comprising Senior Principal Scientist Dr. C. Sawmliana and Senior Technical Officer Rakesh Kumar Singh, visited the Dam and studied the structure, earth's surface and its rocky surroundings.

The team inspected the crushing units at a radial distance of 20 kilometres from the KRS Dam to ascertain the mining impact on the Dam structure following complaints that the Wadiyar-period Dam structure is endangered due to rampant mining.

The team had also inspected mining sites at Neelanakoppal in Srirangapatna taluk, Baby Betta in Pandavapura taluk and Bannangadi mining areas. Though the trial blasts were scheduled for last year, the COVID-19 pandemic had delayed the same.

Also, there was severe opposition to the trial blasts from farmers who are opposing any move that threatened the safety of the Dam. They demanded a blanket ban on any sort of mining activity within the 20-km radius of the Dam.

Three months for report

Sources told SOM that the CSIR-CIMFR team will arrive in Mandya on July 24 to conduct the trial blasts. The team has already indicated five places from where they will conduct the trial blasts and accordingly, the Mandya District Administration will cordon off the places and provide the necessary equipment to the team.

Once the blasts are conducted, it will take over three months for the CSIR-CIMFR to send the report and findings to the Mandya Administration. The report will assume significance as it will be a benchmark for all mining and quarrying activities around KRS Dam. The report will also assist policymakers to formulate rules of mining around other reservoirs in Karnataka.

Published in:
Star Of Mysore

CSIR-IIP

21st July, 2022

शोध:आईआईपी ने मिट्टी का प्रदूषण घटाने वाला फंगस खोजा

नेटवर्क

■ शैलेन्द्र सेमवाल

देहरादून। सीएसआईआर-आईआईपी देहरादून के वैज्ञानिकों ने मिट्टी का प्रदूषण कम करने वाले फंगस की पहचान की है। इसकी खासियत है कि यह सिर्फ दो हफ्ते में ही हानिकारक तत्व पाईरीन को 80 फीसदी तक कम कर देता है।

पाईरीन हमारे वातावरण में पाए जाने वाले हानिकारक पॉलीसाइक्लिक एरोमैटिक हाइड्रोकार्बन (पीएएच) का एक महत्वपूर्ण प्रतिनिधि है, जिसमें चार बेंजीन रिंग होती हैं। यह उन 16

20 वर्ष में उत्तराखंड की मिट्टी में जीवांश कार्बन 0.4 फीसदी रह गया

अत्यंत हानिकारक पीएएच यौगिकों में है, जिनको उच्च वरीयता वाले प्रदूषकों की श्रेणी में रखा गया है। यह बेहद विषैला और कैंसरकारक है। ये कई स्रोत से उत्पन्न होता है। इनमें पेट्रोलियम ईंधन का प्रयोग, बायोमास और म्यूनिसिपल अपशिष्ट का अपूर्ण दोहन शामिल है। पाईरीन अपनी प्रकृति और भौतिक-रासायनिक गुणों के कारण पर्यावरणीय मिट्टी और तलछट से दृढ़ता से बंध जाते हैं। ऐसे में विषैले यौगिकों के प्राकृतिक विघटन (डिकम्पोज) होने में समय लगता है। इससे मिट्टी, जल, वायुमंडल में विषैले तत्वों की मात्रा बढ़ने लगती है।

मरे पेड़-पौधों पर पनपता है फंगस : भारतीय पेट्रोलियम संस्थान की शोधकर्ता टीम के अर्फिन इमाम, डॉ. भानु प्रसाद, डॉ. दीपेन्द्र त्रिपाठी, डॉ. सुनील सुमन, डॉ. पंकज कन्नोजिया के मुताबिक, ये फंगस मृत पेड़-पौधों पर पनपता है। इसे ट्रैमेटेस मैक्सिमा कहा जाता है। फंगस खास प्रकार के एंजाइम से पाईरीन का विघटन करता है। जहां पनपता है वहीं से एंजाइम विषैले पाईरीन की विघटन प्रक्रिया शुरू करता है। फंगस के लिए सपोर्ट की जरूरत होती है।

ये आईआईपी की एक और उपलब्धि है। तेजी से हो रहे आर्थिक विकास और औद्योगीकरण से पर्यावरण में प्रदूषण का स्तर बढ़ा है। इससे निपटने के लिए पर्यावरण में ही संसाधन मौजूद हैं, हमें उनका उपयोग करना है।

-डॉ. अंजन रे, निदेशक सीएसआईआर-आईआईपी, देहरादून

अन्य राज्यों की हालत और भी खराब

कृषि वैज्ञानिक डॉ. संजय सिंह के मुताबिक, पड़ोसी राज्य हिमाचल प्रदेश, पंजाब, हरियाणा, जम्मू कश्मीर की हालत इस मामले में उत्तराखंड से अधिक खराब है। यहां मृदा जीवाश्म 0.2 प्रतिशत रह गया है, जो बहुत कम है।

रसायनों से कम हो रही जमीन की उत्पादकता

कृषि विज्ञान केंद्र ढकरानी के कृषि वैज्ञानिक डॉ. संजय सिंह के मुताबिक पिछले 20 सालों में उत्तराखंड में मिट्टी की उर्वरकता में जीवांश कार्बन एक प्रतिशत से घटकर 0.4 फीसदी रह गया है। सघन फसल चक्र से सूक्ष्म पोषक तत्व जिंक कम हो गया है। मिट्टी के प्रदूषक तत्वों में कई तरह के हानिकारक पॉलीसाइक्लिक एरोमैटिक हाइड्रोकार्बन होते हैं। यदि फंगस से इनका प्रभाव कम होता है तो इससे मिट्टी की गुणवत्ता में सुधार होगा। आईआईपी वैज्ञानिक डा. पंकज कन्नोजिया कहते हैं,इस फंगस से मिट्टी का प्रदूषण कम होगा।

Published in:
Hindustan

CSIR-CBRI

ईंट बनाने में कम प्रदूषण की तकनीक विकसित

जागरण संवाददाता, रुड़की: केंद्रीय भवन अनुसंधान संस्थान (सीबीआरआइ) रुड़की ने डिजाइन आफ हाई ड्राफ्ट ब्रिक विद जिगजैग सेटिंग की तकनीकी विकसित कर मैसर्स रे टेक्नो-साल्यूशंस, हुगली, (बंगाल) को हस्तांतरित की है। संस्थान की ओर से विकसित यह तकनीक ईंटों के कुशल निर्माण के लिए सहायक साबित हुई है।

सीबीआरआइ में गुरुवार को आयोजित कार्यक्रम में संस्थान के उत्कृष्ट वैज्ञानिक डा. अशोक कुमार ने बताया कि इस तकनीक में ईंट भट्ठा मूल रूप से बिना आर्क का, चकोर, ऊपर से भरा जाने वाला तथा कोयले से चलने वाला एक निरंतर भट्ठा है, जिसमें आग एक टेढ़ा-मेढ़ा पैटर्न का अनुसरण करती है। इस तकनीकी से भट्ठा चलाने पर भारत के नेट जीरो कार्बन उत्सर्जन का लक्ष्य प्राप्त करने में भी काफी हद तक सहायता मिलेगी, क्योंकि इससे निकलने वाले उत्सर्जित धुएं में ग्रीन हाउस गैस व एसपीएम कणों की मात्रा 250 एमजी/एनएम 3 से कम हो जाएगी, जो कि केंद्रीय प्रदूषण नियंत्रण बोर्ड के मानकों के अनुरूप होगी। परियोजना प्रमुख डा. नीरज जैन ने बताया कि इसमें ग्रेड एक श्रेणी की ईंटों का निर्माण 15 से 20 प्रतिशत अधिक है। जहां पुराने भट्ठों में कोयले की खपत 15 टन प्रति एक लाख ईंट बनाने में होती थी, वहीं इस भट्ठे में कोयले की खपत 10 टन हो जाएगी। बताया कि पूर्व में भी इस तकनीक का कुछ कंपनियों को हस्तांतरण किया जा चुका है। इस अवसर पर मैसर्स रे टेक्नो साल्यूशंस की ओर से देवांजना रे और सीबीआरआइ से डा. सौमित्र मैती, डा. बीएस रावत, डा. पीकेएस चौहान, डा. डीपी कानूनगो, डा. राजेश वर्मा आदि मौजूद रहे।

केंद्रीय भवन अनुसंधान संस्थान रुड़की ने कम प्रदूषण वाले भट्ठे से ईंट बनाने की प्रौद्योगिकी का किया हस्तांतरण ● साभार-संस्थान

- सीबीआरआइ ने कम प्रदूषण वाले भट्ठे से ईंट बनाने की प्रौद्योगिकी का किया हस्तांतरण
- ईंट बनाने वाले इस भट्ठे में 15 की जगह 10 टन ही होगी कोयले की खपत
- इस तकनीक में ग्रेड एक श्रेणी की ईंटों का निर्माण 15 से 20 प्रतिशत अधिक

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