



CSIR IN Media

A Daily News Bulletin

2nd November, 2016

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NRDC inks 5 tech licensing pacts

CSIR-NEIST

OUR BUREAU

Hyderabad, November 1

National Research Development Corporation (NRDC) has signed five technology licensing agreements on a single day.

The technologies licenced include three Ayurvedic technologies to Ayur Force organics, New Delhi. The technologies have been developed by CCRAS — Ayurvedic anti-diabetic drug and one for treatment of Rheumatoid Arthritis; CSIR-NEIST a arthritis herbal formulation. Swadesi Ayurved, Hardwar acquired the Ayush-82 technology.

Kolkata varisty knowhow

The other licenced technology includes a process for isolation of a major harmful oxidant i.e., paraben-zosemiquinone from cigarette smoke.

The know-how was developed by Kolkata University. The R&D was funded by CSIR. The technology is licensed to Lambda Pvt Ltd, Delhi, says H Purushotham, Chairman & Managing Director of the Corporation.

He said that the vision of NRDC is to sign at least one technology licensing agreement a day is close to realisation and thereby assist the Start-Up India and Standup India Missions of the Centre in a big way.

The Delhi-headquartered, 60-year-old corporation, which is part of the Ministry of Science and Technology, has the primary task of promoting indigenous technologies that are developed by national laboratories and institutes under the government and be part of taking them to the commercial market.

Diwali 2016 easier on ears than on lungs

CSIR-IITR

Diwali celebrations left Lucknowites gasping for breath with alarmingly high air pollution levels, more than double compared to last year. The silver lining, however, was a decline in noise levels this year as compared to 2015.

UP Pollution Control Board officials said increase in air pollution but decline in noise levels indicated people have shifted from sound producing fireworks to those which emit light.

The increase in air pollution caused smog on Diwali night which continued till morning.

According to the air quality survey conducted by the CSIR lab, the Indian Institute of Toxicology and Research (IITR), concentration of particulate matter (PM)-the hazardous solid and liquid particles suspended in the air -levels shot up significantly.

In 2015, on Diwali day, the average PM_{2.5} level in the city was 275 micrograms, whereas this year it was 672 micrograms. Similarly, in 2015, the average PM₁₀ level was 424 micrograms, while this year it was 864 micrograms, said senior IITR scientist S C Barman.

As per the National Ambient Air Quality Standards, permissible limit for PM_{2.5} in air is 60 micrograms per cubic metres and PM₁₀ is 100 micrograms per cubic metres. The average is based on the IITR survey conducted at seven different localities in the city. In 2014, on Diwali day, PM_{2.5} concentration was 423 and PM₁₀ 514. This means in 2015, air pollution levels had come down on Diwali in comparison to 2014.

Meanwhile, as per UP Pollution Control Board (UPPCB) data, average noise level on Diwali day was higher than the normal standards, but it was lower in comparison to last year. In 2015, the noise level in the city on 2015 Diwali was 86.7 dB and this year it was 69.5 dB -a drop of 17.2 units. The average was taken out from the noise levels recorded in 10 different localities of the city.

Mohita Tewari | TNN | Nov 2, 2016

Source: timesofindia.indiatimes.com/city/lucknow/Diwali-2016-easier-on-ears-than-on-lungs/articleshow/55192889.cms

Also published in:

<http://timesofindia.indiatimes.com/city/lucknow/Chowk-was-most-polluted-in-city-on-Diwali-night/articleshow/55192820.cms>

<http://timesofindia.indiatimes.com/city/lucknow/Air-pollution-spells-trouble-for-lungs/articleshow/55192827.cms>

Scientists on hunt for Chyavanprash 8

CSIR-IIIM

Government scientists have set out to search and cultivate eight rare herbs that they say are ingredients of the "original" ancient recipe for Chyavanprash, but are missing in commercial formulations of this traditional medicine claimed as an immune system stimulant.

The scientists at the Indian Institute of Integrative Medicine (IIIM), Jammu, are hoping to introduce controlled cultivation of the eight flowering plants that used to grow wild but are no longer easily visible. Four belong to the orchid family, three are from the lily family and one belongs to the house of gingers.

"We believe these plants are close to extinction," said Ram Vishwakarma, director of the IIIM, a laboratory under the Council of Scientific and Industrial Research, an organisation supported by the Union science and technology ministry. "The original texts of Ayurveda list these eight herbs as ingredients of Chyavanprash, but most commercial formulations now use substitute herbs," he told The Telegraph.

Pharmaceutical industry analysts have estimated that about 15,500 tonnes of Chyavanprash was sold across the country last year. Children and adults consume the product which is promoted as a remedy against cold, cough and respiratory infections among other health disorders.

The primary ingredient of Chyavanprash is amla, or gooseberry. But ayurvedic texts also list several other ingredients, including extracts of the eight plants named in traditional medicine as kakoli, kshirkakoli, jeevak, rishbhak, meda, mahameda, riddhi and vriddhi.

No one knows when and how populations of the eight plants went into decline. "We can now only speculate that centuries of unregulated use of these herbs while they grew wild may have contributed to their decline," Vishwakarma said.

Ayurveda specialists say the concept of substitute ingredients was recognised centuries ago.

"A 10th century commentary on the ayurveda text Charak Samhita specifically mentions alternatives if the ashtavarga are not available," said J.L.N. Sastry, head of ayurveda research at Dabur India, a company that manufactures traditional remedies, including Chyavanprash.

Over the past 400 years, other ayurvedic texts such as Bhavaprakash from the 16th century, Yogaratnakara from the 17th century, and Vaidyachintamani from the 18th century have also described the use of substitute herbs, Sastry told this paper.

Industry executives also say some of the ashtavarga herbs are considered rare and endangered and protected under the Convention on International Trade on Endangered Species of Wild Flora and Fauna (CITES). "Even if we cultivate them, we cannot use them commercially," Sastry said.

Vishwakarma said the IIIM's research council had discussed the issue and approved a project aimed at finding the herbs in the wild and attempting controlled cultivation. "Once we achieve meaningful cultivation, we hope to approach CITES authorities to allow their regulated use," he said.

Scientists at the IIIM have already acquired three of the eight plants - jeevak, mahameda and rishbhak - and are trying to use plant tissue culture technology to grow them in the laboratory's greenhouse. Plant biologists from the IIIM are also collaborating with scientists in other academic institutions and local communities in the Himalayan region, and in parts of northern and northeastern India to look for the other five species.

Though Chyavanprash has been used for centuries, some scientists say that its therapeutic benefits still need to be rigorously assessed. A review of clinical studies involving Chyavanprash published in the Journal of Ethnopharmacology in August this year had found that while several studies have shown improvements in health status and immunity, most such studies have involved small samples of patients and short periods of observations.

MISSING INGREDIENTS

The eight missing ingredients of Chyavanprash

Botanical name	Traditional name	Family
<i>Crepidium acuminatum</i>	Jeevak	Orchidaceae
<i>Habenaria intermedia</i>	Riddhi	Orchidaceae
<i>Habenaria edgeworthii</i>	Vriddhi	Orchidaceae
<i>Malaxis muscifera</i>	Rishbhak	Orchidaceae
<i>Lilium polyphyllum</i> (White lily)	Kshirkakoli	Liliaceae
<i>Polygonatum verticillatum</i>	Meda	Liliaceae
<i>Polygonatum cerhifolium</i>	Mahameda	Liliaceae
<i>Roscoeia purpurea</i> (Rosco's lily)	Kakoli	Zingiberaceae

G.S. Mudur | Nov 2, 2016

Source: www.telegraphindia.com/1161102/jsp/nation/story_116965.jsp#.WBm9y_IEmUk

Power Tree Generates Solar Energy and Saves Space

CSIR-CMERI

Solar energy is rapidly becoming a good option to provide electricity in areas with limited grid access and plenty of sunshine, but the sheer cost and amount of land it takes to deploy large solar arrays can be deployment prohibitive in some cases.

This issue has inspired the government in India to support a project to build what has been dubbed a Solar Power Tree to generate solar energy while also saving space and conserving land.

The tree, developed by the Central Mechanical Engineering Research Institute (CMERI) -- a lab of the Indian Council of Scientific and Industrial Research (CSIR) -- and unveiled by the Union Minister for Science and Technology and Earth Sciences, Harsh Vardhan, leverages a vertical arrangement of solar cells to produce electricity.

In the unveiling, Vardhan said Indian officials want to adopt alternative forms of energy, but cited the problem of the scarcity of land resources in India as a roadblock. To produce 1 MW of solar power requires about 3.5 acres of land in the conventional layout of solar panels, he said. This means the country needs thousands of acres of land to really embrace solar energy.

The Solar Tree helps alleviate this problem not only by saving space thanks to its layout, but also by allowing land on which it's deployed to be used for other purposes, such as farming, at the same time, researchers said.

Indeed, a 4 kW Solar Power tree needs only four square feet; comparatively in a conventional layout of the same number of panels, 400 square feet of land would be required, officials said. The tree also has the potential to be 10% to 15% more energy efficient than solar panels thanks to its height, which allows it to harvest more energy from the sun's rays than a conventional solar-panel layout on the ground, they said.

Meanwhile, as per UP Pollution Control Board (UPPCB) data, average noise level on Diwali day was higher than the normal standards, but it was lower in comparison to last year. In 2015, the noise level in the city on 2015 Diwali was 86.7 dB and this year it was 69.5 dB -a drop of 17.2 units. The average was taken out from the noise levels recorded in 10 different localities of the city.

The Solar Tree also has a storage element to generate energy after the sun goes down, with a battery back-up system that's good for two hours of electricity when fully loaded. Further, it has a self-cleaning system in the form of a water sprinkler at the top of the tree, which helps keep the panels functioning at their highest efficiency, researchers said.

The CSIR team isn't the first group of researchers to come up with a tree as a form factor for solar-energy generation. A couple of years ago, Israeli company Sologic, in collaboration with artist Yoav Ben-Dov, developed a metal sculpture resembling a tree with solar panels on each of its branches called eTree. The installation was aimed at bringing solar power -- in addition to WiFi access and a place to recharge mobile devices -- to urban public spaces.

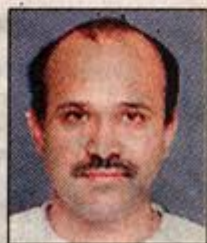
CSIR is currently piloting the Solar Power Tree in three locations in West Bengal to see how it performs. Researchers also are continuing development on the project, with plans to build a version that rotates to align the tree with the movement of the sun during the day. This would optimize energy efficiency even 10% to 15% more, researchers said.

Elizabeth Montalbano | Nov 1, 2016

Source: www.designnews.com/author.asp?section_id=1386&doc_id=281884&itc=dn_analysis_element&

Pune-based scientist elected American Physical Society fellow

Pune: Guruswamy Kumaraswamy, a scientist from the CSIR-National Chemical Laboratory (CSIR-NCL), Pune, has been elected a fellow of the American Physical Society (APS).



This is a prestigious recognition, as the international scientific com-

munity elects fewer than 0.5% of APS' membership as fellows.

In a statement, the NCL said Guruswamy was honoured for his research project on 'Opening new routes to templated polymeric structures using mesophases and crystallization, and elucidating their physics'. Guruswamy is a 1996 graduate in B'Tech from IIT Bombay. TNN

NRL MD receives CSIR recognition for successful commercialization of Wax De-oiling technology

Council of Scientific & Industrial Research (CSIR)—the apex R&D organization in the country has acknowledged the contribution of NRL MD Mr. P.Padmanabhan in successful commercialization of Wax De-oiling technology in NRL's Wax plant, developed indigenously by CSIR-IIP. The



CSIR Technology award for Physical Sciences including Engineering 2016 was handed over by Dr. Harsh Vardhan, Hon'ble Union Minister for Science, Technology & Earth Science to CSIR-IIP (Indian Institute of Petroleum), Dehradun for development of the aforesaid Wax de-oiling Technology along with EIL and NRL for setting up the wax de-oiling plant, its operation and successful commercialization at a function to mark 75 years of CSIR held at Vigyan Bhawan, New Delhi. NRL's 50,000 Metric Tonnes (MT) Wax Plant commissioned in March 2015 at a cost of Rs. 676 crores is the country's largest Wax producing unit. With this, the Company has emerged as the largest manufacturer and marketer of Wax in the country.