

CSIR in Media



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9th January 2017

सीडीआरआई ने समुद्र में खोजी मधुमेह की दवा

Lab Covered: CSIR-CDRI

7th January 2017

संतोषी दास
up.patrika.com

लखनऊ. सेंट्रल ड्रग रिसर्च इन्स्टीट्यूट (सीडीआरआई) ने समुद्र तट पर पाई जाने वाली वनस्पति से ऐसा हर्बल कंपाउंड तैयार किया है जिससे डायबिटीज को कंट्रोल किया जा सकता है। लैब में हुई टेस्टिंग में इस कंपाउंड की 250 मिग्रा खोज तीन सप्ताह तक लिए जाने के बाद डायबिटीज को नियंत्रित करने में मदद मिली।

सीडीआरआई ने दवा को विकसित करने के लिए आयुर्वेदिक दवाओं के शोध करने वाली काउंसिल से इजाजत मांगी है।



नियंत्रित करने में मदद मिली

इससे तैयार किए गए कंपाउंड की 250 मिग्रा खोज तीन सप्ताह तक लिए जाने के बाद डायबिटीज को नियंत्रित करने में मदद मिली। अब इस दवा का संगठित क्लिनिकल ट्रायल टाइप 2 डायबिटीज के मरीजों पर किया जा रहा है। दवा को टैबलेट के रूप में लिया जा सकता है। सीडीआरआई जैसी संस्था के आयुर्वेदिक दवाओं पर काम करने से इसका मानकीकरण हो सकेगा। इससे आयुर्वेदिक दवाओं की विश्वसनीयता अंतरराष्ट्रीय स्तर पर बढ़ेगी।

दूसरी संस्थाओं की मदद से तैयार यह कंपाउंड पूरी तरह प्राकृतिक है। इसको सीडीआरआई विकसित कर रहा है। हमने सेंट्रल काउंसिल फॉर रिसर्च इन आयुर्वेदिक साइंसेज से संपर्क किया है। हमने उनसे मांग की है कि सीडीआरआई को आयुर्वेद दवा की मार्केटिंग के अधिकार दिए जाएं। इससे इस बेहतरीन दवा को डायबिटीज मरीजों के फायदे के लिए उपलब्ध कराया जा सकेगा। यह दवा ड्रग्स फॉर सी प्रोजेक्ट में बनी है। नई ड्रग के पब्लिश रिसर्च पेपर के मुताबिक समुद्रफल की शुरुआती जांच में एंटी हाइपरग्लाइसिमिक तत्व मिले।

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Kashmiri saffron grown in Pune! CSIR lab pulls off a surprise triumph

Lab Covered: CSIR-NCL

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The saffron from the CSIR-NCL greenhouse is being compared with the Kashmir saffron.

The Council of Scientific and Industrial Research's (CSIR) National Chemical Laboratory (NCL) has successfully grown saffron crocus in a greenhouse in Pune and seen flowering almost like that in Kashmir. The method for high-density greenhouse cultivation of saffron being developed by CSIR-NCL is expected to benefit progressive farmers and agri-biotech industries.

C K John, senior scientist from Biochemical Sciences Division at NCL, and his team have been working on developing a biotechnological alternative to the cultivation of saffron, producing a new variety of saffron crocus suitable for wider environmental conditions and standardising the parameters for high-density greenhouse cultivation outside the crop's present range.

The soil and environment requirements were addressed to grow saffron in a greenhouse in Pune.

Soil from a saffron field from Kashmir was studied for details and a suitable planting medium was formulated. A modified greenhouse was established for cost reduction and energy saving. Saffron corms were procured from Kashmir and were planted in a greenhouse cooled by natural processes, without a fan, pad system or ACs. A simple irrigation method was devised to minimise the use of water and give cold/ice cold water directly to the roots as required.

Flowering was synchronised as in Kashmir, but delayed by two-three weeks. The stigmas were collected from the flowers and dried to produce saffron. The saffron from the CSIR-NCL greenhouse is being compared with the Kashmir saffron.

The method is suitable for places where the cool deficit is not too much as compared with Kashmir and can be managed by some degree of environmental control, using natural processes for cooling and some amount of freezing.

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Also Published in:

<http://indianexpress.com/article/cities/pune/pune-national-chemical-laboratory-grows-saffron-in-a-greenhouse-4462683/>

<http://punemirror.indiatimes.com/pune/civic/Gardeners-saffron-dream-comes-true/articleshow/56382759.cms>

CSIR lab develops the most advanced reading machine for visually challenged

Lab Covered: CSIR-CSIO

7 January 2017

Good news for visually challenged persons this New Year - tens of thousands of them can get the most advanced reading machine, at an affordable cost. The machine would bring to an end dependence on others to read and learn.

Chandigarh-based Central Scientific Instruments Organisation (CSIO), under the Council of Scientific and Industrial Research (CSIR) has developed a reading machine for visually challenged, the most advanced so far. The sleek scanner named "Divya Nayan" scans any script and read it aloud for visually challenged to understand.

The portable device is based on the principle of contact scanning of a printed document and converting it into speech.

"The device is standalone, portable, completely wireless and uses open source hardware and software. The device can analyse a multicolumn document and provide seamless reading," Principal Scientist at CSIO Dr. Ashish Gaurav was quoted by the Indian Science Journal.

"It is capable of page, text and word level navigation while reading," he added.

Currently it supports Hindi and English languages. Progressively it will be programmed for other Indian and foreign languages. "It is one of the fast track projects to be translated into a product. We could achieve this within a year. The device has been enabled for other vernacular languages besides Hindi. We can also program the speed of reading the text as desired by the readers," said Dr RK Sinha, Director of CSIO.

'Divya Nayan' has an internal storage of 32 GB with run time of upto 3 hours and weighs 410 grams. The device is equipped with WiFi and Bluetooth interface that helps to connect with Internet. It also can be connected to a monitor and use as a mini computer with screen reader utility.

The device's trial was run at the Institute for the Blind, a voluntary body in Chandigarh. "We have taken the feedback from the visually challenged and factored it according to their needs," said Dr. Ashish Gaurav.

Dr. Gaurav said, once commercially manufactured, the reader would be affordable to every common visually challenged person.

India has a population of 15 million visually challenged, of the 39 million across the world, who have long been unable to access printed documents like books, newspaper, magazines, etc. Braille is the primary source of reading for such people. But converting text into Braille is time consuming, and thus limits their access. Divya Nayan would bridge the gap of available technology for visually challenged.

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Business Standard

Source: bit.ly/2j3fsNv

Also Published in:

<http://www.dnaindia.com/india/report-india-needs-to-stop-virtual-export-of-water-2290205>

<http://www.deccanchronicle.com/science/science/080117/csir-lab-develops-the-most-advanced-reading-machine-for-visually-challenged.html>

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India ahead in race to find gold in e-waste

Lab Covered: CSIR-NML

7 January 2017

Syed Akbar |

India has perfected the low-cost technology developed a couple of years ago to extract gold from e-waste and is ahead of other countries. Australia, US and China are also in the race to recover gold from discarded mobile phones, computers, calculators and DVD players.

A total of 6.29 lakh kg of gold worth Rs 1.6 crore is hidden in the 1.85 million tonnes of electronic scrap generated in India every year. E-waste is growing about 30% per annum. One tonne of mobile phone scrap can yield 340 grams of gold, said experts.

The National Metallurgical Laboratory (NML) in Jamshedpur has showcased its 'gold from electronic scrap' technology at the ongoing 104th Indian Science Congress in Tirupati. NML is part of the Council of Scientific and Industrial Research (CSIR). A senior scientist at the CSIR pavilion told TOI that from the electronic waste, which is toxic for the environment, high-value precious metals like gold and silver can be extracted. Other elements like lead, platinum, rhodium, iridium and ruthenium can also be extracted. Base metals like nickel, iron, copper, aluminium, strontium, and zinc can also be recovered.

E-waste also contains harmful elements like indium, arsenic, lead, mercury, beryllium, cadmium, and antimony. In all, electronic waste comprises 66% of metals that can be recovered and commercially reused. He said about 80% of the cost of metals can be recovered. NML has perfected this technology and transferred it to two private companies for commercial exploitation.

"The hydrometallurgical process does not have any impact on the environment. It does not cause pollution and it does not generate any effluents. The technology provides for recovery of gold from waste printed circuit boards of mobile phones and scraps of medical and telecommunication devices with return on investment of 50%," according to an NML publication.

Experts pegged the value of the gold in electronic scrap generated in India per year at about 9% of the Union budget. The quantum of gold that can be recovered from electronic scrap varies from 20 parts per million (ppm) to 2,000ppm in the case of gold, and 200ppm to 2,000ppm in the case of silver. A mobile phone contains 350ppm, TV board 20ppm, computer board 250ppm and calculator 50ppm of gold.

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Call for industry-R&D ties

Lab Covered: CSIR-NIIST

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Syed Akbar |

NIIST signs MoU with five firms

Chief Minister Pinarayi Vijayan has called on scientists to forge better ties with industry to develop economically viable technologies and products for the betterment of society.

Delivering the inaugural address at an R&D-Industry interactive meet organised by the CSIR National Institute for Interdisciplinary Science and Technology (NIIST) here on Friday, he said the disconnect between industry and research institutions had hampered India's efforts to become a major player in product development. While progress in science and technology was key to industrial growth and national development and improvement in the quality of life, it should also cater to the needs of poor people like food, sanitation, and affordable health care and ensure sustainable utilisation of natural resources.

Pointing out that many technologies developed by NIIST in various sectors had proved to be viable and popular, he called for focussed research on scientific validation of Ayurvedic formulations. The NIIST, he said, could provide technical and consultancy support for small and medium enterprises in traditional industries and agriculture.

In his presidential address, O. Rajagopal, MLA, called on research institutions to provide technological solutions to dispose of municipal and plastic waste.

Shashi Tharoor, MP, exhorted private companies to come forward to invest in research and help R&D institutions shed their dependence on government funds.

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The Hindu **Source: bit.ly/2iZT5Im**

Also Published in:

Indian Express **bit.ly/2iXCyCP**

India Today **bit.ly/2ibOw9M**

Telangana endowed with ideal terrain for medicinal plants' cultivation

Lab Covered: CSIR-CIMAP

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Satyapal Menon

The dry and arid zones in Telangana can provide ideal terrain for cultivating some varieties of medicinal and aromatic plants. These plants require less water and can be grown in areas where there is lack of irrigation sources. According to Dr. J Kotesh Kumar, Scientist-in-charge, Hyderabad Research Centre, Central Institute of Medicinal and Aromatic Plants (CIMAP), Telangana's soil is suitable for cultivation of aromatic plants like lemon grass, palm rosa and citronella.

The oils extracted from these plants have both aromatic and medicinal value. These products have immense popularity and have a sizeable market in India and abroad. Apart from the dry regions, the state's black soil is also conducive for the Ashwagandha cultivation. Ashwagandha which is famous for its pharmacological properties is used in the treatment of wide range of ailments. Elucidating on the advantages and economic feasibility of these plants, Dr. J Kotesh said that apart from minimum water requirements the investment on cultivation is much lower than that of other regular crops.

“For instance, the same quantum of water used for one acre of paddy can be utilised for cultivating Ashwagandha in 7 to 8 acres.” He further informed that farmers can also take up inter-cropping or rotation of crops with these plants. Citing the tremendous success achieved by Ashwagandha farmers in some water-starved locations of Kurnool and Anantapur, Dr. Kotesh said that the Poshitha variety promoted by CIMAP which was grown only on 4 acres of land in these two districts of Andhra Pradesh when it was first introduced.

But now, Poshitha is being grown on 10,000 acres in these two districts and farmers are getting good returns. In addition to limited water usage, Aswagandha is pest-resistant which means that they do not require the use of pesticides. The only significant investment is on labour during harvest because roots are the vital parts of this plant. Elaborating on the economic aspects, Dr.Kotesh informed that the overall investment on Aswagandha cultivation is between Rs.10,000 and Rs.12,000 per acre.

The yield per acre is 2 quintals per acre. With the market price per kg ranging between Rs.200 to Rs.250, the farmers can earn an income of Rs.40,000 per acre.” On the question why farmers are adapting to medicinal and aromatic plant cultivation despite its many advantages, he said that lack of awareness coupled with want of market support could be the contributory factors to farmers not taking up cultivation of medicinal plants. Dr. Kotesh however added that the farmers are now evincing interest in medicinal plants.

Dr. Kotesh informed that turmeric variety with more curcuminoid content CIM-Pitamber, which was recently developed and released for commercial use, will be introduced in Telangana soon. Curcuminoid, a substance derived from turmeric, is credited with anti-cancer properties, anti-inflammatory, anti-aging anti-diabetic properties. CIM-Pitamber will have 50% more yield than the existing varieties of turmeric and its cultivation.

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Hans India

Source: bit.ly/2iZWJ4W