

# CSIR in Media



A Daily News Bulletin  
26<sup>th</sup> to 28<sup>th</sup> August 2017





## A new score in waste management

CSIR-NIIST

27<sup>th</sup> August 2017

### A new score in waste management

A novel yeast strain was used to ferment the glucose and make ethanol

ASWATHI PACHA

Scientists from CSIR's National Institute for Interdisciplinary Science and Technology (CSIR-NIIST), Thiruvananthapuram have been able to turn waste into wealth. They have produced ethanol from discarded cotton-stalks by using a combination of chemical and biological techniques. India has about 9.4 million hectares under cotton cultivation and every hectare generates 2 million tonnes of cotton stalk wastes. The results were published in *Bioresource Technology*.

The stalks were first treated with an acid, alkali and different enzymes to breakdown the complex organic polymers of the stalk. "The agro-residues are tough in nature and we need chemical pre-treatment to break down the complex structure of the stalk," explains Meera Christopher, research scholar at NIIST and first author of the paper.

The acid helps to remove hemicellulose, a polymer of the cell wall and the alkali extracts lignin, a binding matrix in the cell wall, made of complex



**Rich source:** Cotton stalks are first treated to breakdown the complex organic polymers present in it. ■ K. ANANTHAN

phenolics. These treatments expose cellulose, the major component made of glucose to the action of enzymes.

The cellulose was further treated using enzymes to convert it into glucose.

#### Fermentation

To convert the glucose into ethanol, fermentation using a novel yeast strain was carried out. "We isolated the yeast-*Saccharomyces cerevisiae*-RRP-03N, from

a rotting wild fruit we found in the Silent Valley National Park in Palakkad, Kerala. In spite of several inhibitors of microbial growth produced during chemical treatment, the yeast performed better than distiller's yeast strains in fermenting the cotton stalk hydrolysate," says Dr. Rajeev K Sukumaran, Head of the Biofuels and Biorefineries Section, at NIIST and the corresponding author of the paper.

The yeast showed a glucose

conversion efficiency of 76% and the entire glucose was utilised by the yeast in just 24 hours and converted into alcohol. This performance was superior to any other organism reported for fermentation of cotton stalk. The final alcohol obtained can be made to fuel grade bioethanol (>99% purity), after distillation and dehydration using molecular sieves, which is an existing technology practised in the distilleries.

#### Bioethanol

Bioethanol has a number of advantages over conventional fuels as it comes from a renewable resource. It is mandatory to blend 10% ethanol with petrol. Bioethanol presently in use is obtained by fermentation of sugar cane molasses which is a byproduct of sugar production, and has food value. Most of this first generation ethanol finds its way into consumer applications, primarily as liquor. Converting the agro-residues to ethanol reduces the food vs fuel competition," explains Meera.

Further studies should be carried out for commercial viability and large-scale production.

Published in:

The Hindu, Page no. 14



## CRRI suggests Rs 20-crore noise barrier for new RTR flyover

CSIR-CRRI

28<sup>th</sup> August 2017

*The Central Road Research Institute (CRRI) has recommended using high-quality noise barriers at the under construction flyover. The Public Works Department (PWD), which is constructing the flyover, had asked the CRRI to study the noise pattern in the area.*



*Construction of a parallel flyover along the existing one at Rao Tula Ram flyover is on. CRRI has proposed micro perforated noise barriers, which will absorb the noise instead of reflective sheets that were installed in the existing infrastructure. (Vipin Kumar/HT Photo)*

had asked the CRRI to study the noise pattern in the area and how much it will increase after the flyover becomes operational. The research institute said that the noise will increase to 78-82 db and further by 10 db in the night. As per standards, it should be 55db in residential areas during the day and 45db in the night. CRRI has proposed micro perforated noise barriers, which will absorb the noise instead of reflective sheets that were installed in the existing infrastructure.

“We have recommended noise barrier at the flyover as it passes through residential areas. Such noise barriers are used in Taiwan, China and we recently got them installed at BR Ambedkar flyover in Mumbai. This barrier will reduce the noise by 18db-20 db. It has small holes and the noise from the traffic will go to a box and be absorbed there. The height of the barrier should be

The residents of Vasant Vihar, West End and Anand Niketan, Munirka and other areas near the Rao Tula Ram Marg flyover may get relief from the deafening sound of traffic as the Central Road Research Institute (CRRI) has recommended using high-quality noise barriers at the under construction flyover. The Public Works Department (PWD), which is constructing the flyover,



3.5 metres,” said Nasim Akhtar, scientist with CRRI, who has done the study. The 900-metre existing flyover, opened in October 2009, was a single carriageway. To decongest the existing flyover, it was decided to construct a parallel flyover in 2014. But due to residents moving court and other hindrances, the construction kept getting delayed. The new flyover is 2.7-km-long and is expected to be completed by June, 2018.

“Various traffic surveys in tandem with noise and vibration monitoring were conducted at four locations falling on the flyover corridor to understand the traffic scenario and the noise generated. Due to joints in flyover span, approximately 10db noise will increase at flyover in the night time. Maximum noise level can even cross 100db,” the report said.

The report said that though both absorptive and reflective type of noise barriers are available, but the absorptive are recommended as they last up to 20 years. “A good noise barrier should be lightweight yet strong and durable, and should also be water/fire resistant. It should also be easy to maintain and assemble and disintegrate,” the report further said. The Delhi government will now have to take the call as the new noise barrier will cost approximately Rs 20 crore while the one at the existing flyover had costed Rs 1.5 crore. “We have got the study conducted to understand the pattern. They have recommended the high quality barriers and it is up to the government to decide,” said a PWD official.

---

**Published in:**

[Hindustantimes.com](http://Hindustantimes.com)



## Pune's eco-sensitivity index on a historic high this Ganesh festival

CSIR-NCL

27<sup>th</sup> August 2017

*While increasing number of people have switched to eco-friendly clay idols and have pledged not to pollute the rivers with Plaster of Paris (PoP) Ganesh idols, even those with PoP idols plan to immerse them in special civic tanks or in buckets of water at home with sodium bicarbonate powder provided by the PMC.*



*Pune schoolchildren create clay Ganpati idols. Over 3,000 students created ecofriendly idols at the same time, attempting a Guinness World Record in Pune.(HT Photo)*

For the first time in recent years, aggressive campaigning by city environmentalists, schools Pune Municipal Corporation (PMC) and organisations such as the National Chemical Laboratory and Cummins Group (India), has helped raise the city's eco-sensitivity index to a historic high during Ganeshotsav. While increasing number of people than ever before have switched to ecofriendly clay idols and have pledged not to pollute the rivers with

Plaster of Paris (PoP) Ganesh idols, even those with PoP idols plan to immerse them in special civic tanks or in buckets of water at home with sodium bicarbonate powder provided by the PMC. Special initiatives such as the clay idol-making workshop organised by the PMC to create a Guinness World Record and workshops organised across the city by schools and NGOs have also helped raise awareness about the need for an ecofriendly Ganeshotsav. PMC's initiative in association with the NCL and Cummins, to distribute packets of Ammonium Bicarbonate to idol sellers, to be given free with every PoP idol sold, seems to have picked up great momentum this year. The initiative was launched last year, along with the provision to immerse the PoP idols in civic tanks instead of rivers. Jaydeep Kamble, an idol seller near Shaniwar Wada, said that even though people purchased PoP idols



because they are attractive and sturdy, many of them plan to immerse them in the civic tanks and at home. About the sale of idols made of clay or shadu, sellers such as Nilesh Pandurang Parsekar, owner of Vishwakarma Arts, an 85-year-old idol shop in Narayan Peth said that the clay idols were not selling as briskly as the PoP ones.

Mandar Desai of Desai Bandhu Ambewale said that the PoP idols were being purchased in large numbers also because the PMC had provided the ammonium bicarbonate powder to people, to immerse the idols in an ecofriendly way. Some sellers like Kundan Jadhav and Surendra Bhat, who exclusively sell clay idols, said they seen a rise in sales this year. “People know I sell clay idols and so they come to me for that mostly. I sold 580 pieces out of 850 of clay idols till now, and only 178 PoP idols,” said Bhat who has been selling them for the past 30 years.

Jadhav added, “I got only 10 pieces of PoP idols because I don’t want to sell anything which harms the environment. As for the clay models, I have sold all the 250 pieces that I had bought.” ‘Either Or’ outlet near Jehangir hospital, which specialises exclusively as an eco-friendly shop, sells clay and paper mache idols. At this shop, Rekha and Swapnil Gaikwad said that they work with Ecoexist and only sell shadu on orders given a month back. “Not only we but mostly all our relatives prefer shadu idol. Yes shadu idol is costly but not more than our environment,” Rekha said.

The customers keen on going ecofriendly, complain that lack of options often turns them otherwise.

Chanderi Bhalerao, a resident of Vishranthwadi said, “We purchased PoP idol this year, although we know it is harmful for the environment but stalls nearby our home don’t sell clay idols. However, we donate our idol instead of immersion so it will be reused next year.” “PoP has more options and as I have a small kid, I don’t want the Ganesh idol to fall and break, which can happen for clay idols as they are brittle. But we are environment friendly, so we won’t immerse it in the river but use the powder provided by PMC,” said another buyer, Shilpa Sonawane.



Rajesh Kulkarni of Kumar Padmaja, Kothrud, has been buying clay idols every year . “We purchase shadu Ganesha idols every year and are happy not to pollute the rivers.” Rekha and Swapnil Gaikwad, added, “Not just us but we also make our friends and relatives buy clay Ganesh idols only. This year we had placed the order for it, a month ago.”

---

**Published in:**

[Hindustantimes.com](http://Hindustantimes.com)



## Sans fanfare, PM Modi overhauls Indian science

CSIR

27<sup>th</sup> August 2017

Recently, there were murmurs in the media about some apparent funding cuts by the Narendra Modi administration to the government-run scientific research and development (R&D) institutions. To countermand these apparent reductions, the protesters are demanding an increase in the gross expenditure on research and development (GERD) to 3% of India's national gross domestic product (GDP). The Modi administration has declared its intention to increase the GERD to a realisable 2%, a value nevertheless higher than the current GERD of roughly 0.9%. So, if the government's [agendas](#) and the murmurer's demands are coherent, where are the differences arising? Is it about that approximately 1% difference in the GERD between the government's target and the murmurer's demand? Or is it about the difference of judgement what would increase the GERD exclusively, public treasuries or public-private investments? Modern day science is an enterprise. It is moved by several micro- and macroeconomic, geopolitical, and domestic political variables of a nation. The longer any government controls the science in a country, the higher are the odds of the science becoming vulnerable to these variables. So, scientifically advanced nations of the world—South Korea, Israel, United States, Japan, Germany and France—invest higher than 2% on GERD through the safety-net provided by their diverse public-private and private funding mechanisms. In the 1950s, when New Delhi commenced its scientific program, it did not have the expertise to contemplate the scientific necessities of the newly independent nation. India's numerous research programs including the atomic, space and chemical ones were initiated by the government, but with significant inputs from an eclectic mix of philanthropic and scientific prodigies. New Delhi, in the decades from the 1950s to 1980s,



became susceptible to geopolitical and domestic political coercion and began to embrace the now failed model of monopolisation from the Soviet Union. The Soviet Union's approach to science laid great emphasis on the classified military-driven R&D and achieving industrial development through it. Its science had the typical political traits of revolution and Soviet-exceptionalism. It broadly suppressed several domains of science, which its political class perceived as **bourgeois** and West-dominated. This exaggeration of political ideology did not help the Soviet Union, as it failed to catch up the rapid transformation of the global economy from pig-iron-based to silicon-based. This politicisation of science was one of the key falling dominoes that eventually led to the collapse of the Soviet Union. Although New Delhi's science was not military-industrial centric, it nevertheless got accustomed to other aspects of the Soviet scientific approach. It began holding the mandate for the R&D of something as mundane as leather or grapes to those as strategic as chemicals, physical standards, outer space and atoms. Various Indian institutions began, knowingly or unknowingly, modelling themselves like the Soviet R&D institutions in their style of bureaucratic operations, **bottomless** pit-like resource utilisation, the creation of non-interactive scientific silos, non-competitive cradle-to-grave employments, cartelisation, and in ideological logic. Invention and innovation were mostly missing from Indian institutions and if there were any, they were obligated to marques like "frugal" and "low-cost". Although these epithets are principled, their realisation eventually became ambiguous and ineffective. The Soviet-era vestiges remained more so in Indian universities on an ideological level, as it was easy to bend history, philosophy and economic studies based on ideology. On the contrary, India's scientific institutions remained comparatively less affected by thinking, but more so by impractical bureaucratic logic, archaic management structure, risk averse attitudes, and abhorrence to institutional evolution. Despite the successes achieved in few small R&D sanctuaries in Pune, Bengaluru, Ahmedabad, Chennai, Mumbai, New Delhi, Kolkata and Hyderabad, the lack of scientific reforms and the silo-like non-interactive and non-collaborative operations did not allow for the smooth transfer



of technologies from research laboratories to the market. Consequently, despite being a knowledge-venerating **civilisation**, modern India was not able to reform itself into a knowledge economy. The greater science became monopolised by the government, the more it stagnated. This also was a reason why innovation-driven wealth creation never transpired in India even after the landmark 1991 economic de-Sovietisation. For all its attributes, science is being more-or-less functioned by beseeching governmental alms when it should have been the motif for ushering wholesome prosperity in India.

Three years into his successful tenure, Prime Minister Narendra Modi has not had enough recognition as a reorganiser of science policy in India, for the several reforms that have been chalked by him and his administration. In his address to the 104th Science Congress, he ideated the importance of “scientific social responsibility”, where he called upon the national laboratories to work along with educational institutions located in their vicinities, to enhance scientific literacy. The Modi administration has asked its scientific institutions, especially the laboratories of the Council on Scientific and Industrial Research (CSIR), to explore non-governmental funding sources notwithstanding the government’s pronouncement to increase the GERD to greater than 2%.

This columnist has proposed bringing scientific research into the ambit of corporate social responsibility. The CSR focus of India’s private sector has largely been in primary education, skill development, health care and rural development sectors. However, very few Indian companies are conscious about the minor extrapolations needed from their favourite CSR areas to venture into what can be called “corporate science responsibility” (CSIR). The research and development (R&D) of life-saving medicines for diseases and epidemics proceeding in national laboratories could be a natural extension of CSR’s healthcare sector. Similarly, the R&D of technologies needed for next-generation transportation, agriculture, housing and urban and rural public management again could be an obvious extension of the infrastructure development CSR. Along the same lines, inquests in natural sciences are a sophisticated version of the skill development and education CSR.

The pragmatism of balanced governance and resource management holds that the Modi administration is right in not taking upon itself the entire upkeep of all the scientific



institutions in the country. It is promulgating an array of competitive and diverse grants, venture capitals, prizes and corpus funds along with the private sector. However, these public-private funding mechanisms are focused more so on “applied sciences” where there is a technology or a scientific product in sight. It is here the CSciR could support, judiciously and without any laissez-faire, “high risk-high return” natural sciences that have relatively longer gestational periods than those for applied sciences. India is now a trillion-dollar economy and is poised to grow at a rate much higher than any other region in the world. It not only has a vigorous agglomeration of Indian national and multinational industrial conglomerates, but also is endowed with an ever-growing micro, small and medium enterprises. This only indicates that a well-regulated and binding Section 135 of the Indian Companies Act could earmark substantial capital for CSR purposes, a good fraction of which could support CSciR. Similarly, donations by individuals and companies, which have lower net worth than those who are presently obliged to have a CSR, should be encouraged to donating to scientific institutions. This could be possible by providing tax-benefits under the Section 80G of the Income Tax Act.

In all this, should the corporate sector be seeing CSciR as a burden upon them? No. The business community benefits from the inherent innovativeness of the populace, the inventions and discoveries made in the past, and the resources available in their immediate vicinity. They, therefore, are favourably positioned to accelerate any protracted process of economic, environmental and societal development. Science is not a dead-investment for the Indian corporate sector, it is a fountain-head for invention and innovation, and the foundation for the next-generation economy that the corporate sector will continue to grow on. The Modi administration’s scientific reforms are emblematic of the philosophy of “Minimum Government, Maximum Governance”. The discontent about limited funds and mechanisms in the Indian scientific community is undeniable and equally certain is the dependence of science on the government. Indeed, the government should be the key agency to hold the strategic scientific offices. But regardless of that the enterprise of modern-day science is India’s liability and not merely the Indian government’s. It will be



wrong to assume India's prolific rise on the global stage entirely an outcome of the government and its policymakers. It is more so the Indian genius that has brought the nation where it is today, and it will be the Indian talent that will carry the torch further. The Modi administration intends to give this genius its long-awaited free-hand to operate beyond the realms of the government and expand its support system. If these reforms continue well, the most unimagined laboratories and CSciR and philanthropy will yield path-breaking discoveries, inventions, and innovations from India, for India and the world.

---

**Published in:**

[Sundayguardianlive.com](http://Sundayguardianlive.com)



## CSIR exhibition attracts huge crowd

CSIR

28<sup>th</sup> August 2017

JAMMU, Aug 26: The scientific exhibition as part of CSIR Platinum Jubilee Celebration launched at Jammu attracted huge crowd of science students, research scholars, faculty members and members of civil society on the second day, here today. Council of Scientific and Industrial Research (CSIR), India's largest public funded R&D organisation, is celebrating its Platinum Jubilee year from September 26, 2016 to September 26, 2017 and as part of Platinum year celebration the council has organised CSIR Technofests and scientific exhibitions all over India. In Jammu and Kashmir State, three days mega scientific exhibition was launched at IIIM, Jammu here. On second day today overwhelming response of visitors has been seen as a total of over 500 visitors comprising of students, college and university faculty members, entrepreneurs and general public have visited the exhibition and witnessed the demonstration of diverse technologies developed under one roof of CSIR.

---

**Published in:**

[dailyexcelsior.com](http://dailyexcelsior.com)



## Dr Shakeel Ahmed chosen for NGRI-AHI Award -2014

CSIR-NGRI

25<sup>th</sup> August 2017



**Hyderabad:** Dr Shakeel Ahmed, Chief Scientist at CSIR-National Geophysical Research Institute, Hyderabad has been selected for the prestigious “NGRI-AHI Indian Hydrology Lecture Award-2014” Dr Shakeel Ahmed, basically an Exploration Geophysicist, joined NGRI as Scientist B in 1982 and enhanced his qualifications by obtaining Ph.D from the Ecole Nationale Supérieure des Mines de Paris (Paris School of Mines: Now Mines Paris Tech) in France in 1987. Dr Ahmed efforts in the Indo-French Collaboration took a quantum jump in 1999 with the most important event in the history of NGRI’s International collaboration of setting-up the

“Indo-French Centre for Groundwater Research (IFCGR) that he is still heading. Dr Ahmed was invited to deliver lectures in many countries viz., Australia, Iran, Egypt, Kenya, Sudan, People's Republic of China and Pakistan as resource person sponsored by the UNESCO and CSC and so on. Dr Ahmed was honored at the 7th Cannes International Water Symposium where he received the trophy of the International Prize for Water Sciences. Recently Dr Ahmed completed an important project on aquifer mapping, AQUIM, establishing guidelines for 3D continuous geophysical mapping using heliborne Geophysical investigation, an advanced technology applied first time in India.

**Published in:**

[ucnews.in](http://ucnews.in)



## Firozabad's 202 glass factories told to provide pollution data

CSIR-NEERI

28<sup>th</sup> August 2017

Agra: In a bid to keep pollution under check the Central Pollution Control Board (CPCB) has directed owners of all the 202 glass factories in Firozabad to monitor pollution levels in their units and submit their individual reports by August 28. The directive has come in the wake of the recent Supreme Court's order directing the Centre to fix emission parameters of 35 industries, including glass and bangle units. According to information, factory owners have sought help of the Centre for recording pollution data. "Earlier this week, a meeting was called by the Central Pollution Control Board in Delhi where representatives of Firozabad glass industries were directed to monitor the level of sulphur dioxide, PM10 and other such components and submit a report," said Surendra Kumar Sharma, legal adviser to Firozabad glass industrialists. Recently, Agra divisional commissioner K Rammohan Rao has also directed the owners of Firozabad's 202 glass factories to take additional measures, such as installation of modern air filters, to reduce air pollution. Directing the Uttar Pradesh Pollution Control Board's regional office to issue notices to these factory owners, Rao said these factories had not taken effective measures to curb pollution in accordance with the report of National Environmental Engineering Research Institute (NEERI). Last year, NEERI carried out a study to measure pollution levels in Firozabad, which brought to fore that the level of harmful PM10 and PM2.5 exceeded the minimum levels by double on a daily basis, while nitrogen dioxide (NO<sub>2</sub>) had crossed the basic level by more than two-and-a-half times.

**Published in:**

[Timesofindia.indiatimes.com](http://Timesofindia.indiatimes.com)



## These Special Tanks in Hyderabad Will Keep Lakes Green on Ganesh Chaturthi

CSIR-NEERI

28<sup>th</sup> August 2017

*15 special immersion tanks built across Hyderabad will help reduce the pollution of lakes during Ganesh Chaturthi and other festivals*

Every locality has its own pandal where a benevolent God beams dotingly at his many followers. When it is time for immersing the idol, there is the usual pomp and ritual. For the most part, this is how it is done across the country, except for a small change.

The Greater Hyderabad Municipal Corporation (GHMC) has taken note of the amount of pollutants the immersion adds to the lakes in the city and has proactively built 15 immersion tanks to add to the ones built last year, bringing the total number to 25.

The immersion tanks will not only help the lakes, but it will also help in reducing traffic at Hussain Sagar, Tank Bund which otherwise used to be inundated. The immersion tanks are based on Bengaluru's Ulsoor lake model. The idea is to pump water from adjoining water bodies and flush out the polluted water post nimajjanam (visarjan/immersion) via sewage lines. etc.

### **DIY solution for POP (Plaster of Paris) idols**

Though a clay idol is ideal, the popularity of POP idols cannot be dismissed. In a bid to reduce the pollution to water bodies due to the immersion of POP idols, National Environmental Engineering Research Institute (NEERI) in collaboration with Dhruvansh (NGO) has come up with a simple DIY technique.



- Construct a tank as per the height of your idol, so as it can be fully submerged
- Calculate the amount of water that will be needed to fill the tank
- The tank needs about 20% Ammonium Bicarbonate solution to 80% water. First add Ammonium Bicarbonate to the tank, fill water, and mix gently
- Your tank is ready for POP idol immersion
- You will get two by-products after the immersion, Ammonium Sulphate in an aqueous state and Calcium Carbonate that will precipitate and settle down.

---

**Published in:**

[Thebetterindia.com](http://Thebetterindia.com)



CSIR-IHBT

25<sup>th</sup> August 2017

**जागरूकता**
**पालमपुर में विज्ञान प्रदर्शनी संपन्न, तीन हजार से अधिक विद्यार्थियों ने किया अवलोकन**

# क्लोड बस्टर दवा हार्ट अटैक रोकने में कारगर

**जागरण संवाददाता, पालमपुर :** सीएसआइआर के आइएचबीटी में चल रही तीन दिवसीय विज्ञान प्रदर्शनी बुधवार को संपन्न हुई। इस प्रदर्शनी में हार्ट अटैक के कारण बनने वाले क्लोड को खत्म करने वाली दवा और भूकंप की सूचना देने वाले सायरन, ऊर्जा तकनीकों, जेनरिक मेडिसिन व फ्लोरीकल्चर के बारे में बच्चों की जिज्ञासाओं को वैज्ञानिकों ने शांत किया।

अंतिम दिन लगभग 1500 विद्यार्थियों और लोगों ने प्रदर्शनी का अवलोकन किया। इस प्रदर्शनी में सीएसआइआर के डायरेक्टर जनरल डॉ. गिरीश सहानी की बनाई क्लोड बस्टर दवा के बारे में जानकारी दी गई। यह दवा रक्त धमनियों में बनने वाले क्लोड को खत्म कर देती है और रक्त का संचार आराम से होता है। इस कारण हार्ट अटैक की संभावनाएं भी कम हो जाती हैं। इसी के साथ उत्तराखंड में इस्तेमाल किया जा रहा



आइएचबीटी की 75वीं वर्षगांठ पर आयोजित विज्ञान प्रदर्शनी के अंतिम दिन प्रदर्शनी में मौजूद बच्चे व डायरेक्टर डॉ. संजय कुमार व डॉ. दिनेश सूद • जागरण

आपात सायरन, फूल और पौधों, ट्रेक्टर निर्माण की विधि से जहाज बनाने तक की विधि और तकनीकों के बारे में विद्यार्थियों को बताया गया। प्रदर्शनी के अंतिम दिन नगरोटा बगवां के तीन, पालमपुर के

चार, हमीरपुर, भवारना, घुग्घर, राजपुर व बिंद्रावन के स्कूलों के विद्यार्थी पहुंचे। प्रवक्ता डॉ. राकेश सूद ने बताया कि तीन दिवसीय यह राष्ट्रीय प्रदर्शनी सीएसआइआर की 75वीं वर्षगांठ पर

## जानकारी

- ऊर्जा तकनीकों, जेनरिक मेडिसिन व फ्लोरीकल्चर का भी दिया ज्ञान
- अंतिम दिन प्रदर्शनी में पहुंचे 1500 विद्यार्थी

सीएसआइआर नई खोज और नई तकनीकों पर हमेशा काम करता है। लोगों को इससे रुबरू करवाने के लिए 75वीं वर्षगांठ के मौके पर राष्ट्रीय प्रदर्शनी लगाई गई। इसमें बच्चों को विज्ञान से संबंधित महत्वपूर्ण जानकारियां प्रदान की गई हैं। आगे भी सीएसआइआर ऐसे कार्यक्रम करेगा।

**डॉ. संजय कुमार, निदेशक**  
सीएसआइआर-आइएचबीटी, पालमपुर

आयोजित की गई थी। तीन दिनों में तीन हजार से अधिक विद्यार्थियों ने प्रदर्शनी का अवलोकन किया।

**Published in:**

Dainik Jagran, Page no. 4



# कृषि-बागवानी के लिए अब जहरीले कीटनाशकों की जरूरत नहीं

आर्टिमीजिया पौधे की गंध भगाएगी कीटों को, आईएचबीटी के वैज्ञानिकों का शोध अंतिम चरण में, तरल और पाउडर किया जा रहा है तैयार



अशोक राणा  
केलांग (लाहौल-स्पीति)।

किसानों-बागवानों को अब फसलों में लगे कीट भगाने के लिए जहरीले रसायनिक कीटनाशकों की जरूरत नहीं पड़ेगी। पश्चिमी हिमालय क्षेत्र में 10 हजार फीट की ऊंचाई पर पाए जाने वाले ईको फ्रेंडली पौधे आर्टिमीजिया की गंध कीटों को फसलों के नजदीक फटकने नहीं देगी। इंस्टीट्यूट ऑफ हिमालयन बायोरिसोर्स टेक्नोलॉजी (आईएचबीटी) पालमपुर के वैज्ञानिक इस पौधे पर बरसों से शोध कर रहे हैं। शोध कार्य अब अंतिम चरण में है। वैज्ञानिकों की मेहनत रंग लाई तो जल्द रसायनिक कीटनाशकों

का उपयोग बंद हो जाएगा। इससे न केवल आर्गेनिक खेती को बढ़ावा मिलेगा बल्कि हार्ट, बीपी और कैंसर जैसी गंभीर बीमारियों से भी छुटकारा मिलेगा। रसायनों की वजह से कम हो रही पैदावार भी बढ़ जाएगी।

आईएचबीटी तांदी केंद्र के वैज्ञानिकों का दावा है कि वे पिछले एक दशक से आर्टिमीजिया पौधे पर शोध कर रहे हैं। पहले इस पौधे से तेल निकालने में कामयाबी हासिल की। शोध में पता चला है कि इस पौधे में एक ऐसी चमत्कारिक गंध है जो कीटों को अपने निकट आने

**वैज्ञानिकों का दावा  
मेहनत रंग लाई तो  
रसायनिक  
कीटनाशकों का प्रयोग  
हो जाएगा बंद**

नहीं देती है। वैज्ञानिकों का दावा है कि आर्टिमीजिया पौधे से तैयार ऑर्गेनिक कीटनाशक पाउडर और लिक्विड दोनों रूपों में तैयार किया जा रहा है। इसे स्प्रे के तौर पर भी फसलों पर छिड़का जा सकेगा। स्थानीय लोगों में इस पौधे का नाम यूँचा प्रचलित है। इसकी पत्तियों का मवेशियों के लिए चारे के तौर पर

**सालाना 50 लाख टन कीटनाशकों का इस्तेमाल**

अनुमान के मुताबिक देश में हर साल करीब 50 लाख टन से अधिक रसायनिक कीटनाशक दवाइयों का इस्तेमाल हो रहा है। इस कारण लोगों के स्वास्थ्य पर प्रतिकूल प्रभाव पड़ने के अलावा फसलों की पैदावार घटती जा रही है। इससे पैदावार का संतुलन भी बिगड़ गया है। एक साल पैदावार हो रही है तो दूसरे साल न के बराबर।

इस्तेमाल किया जाता है। आईएचबीटी के निदेशक डॉ. संजय कुमार ने माना कि आर्टिमीजिया पौधे पर शोध अंतिम चरण में है। कुछ महीनों में इस पौधे से जैविक कीटनाशक दवाई तैयार करने का काम पूरा हो जाएगा। इसके बाद संस्थान इस चमत्कारी पौधे की पैदावार बढ़ाने की दिशा में भी काम शुरू करेगा।

**Published in:**

Amar Ujala, Page no. 9



# दस लाख नवोन्मेषी विचार तैयार करने की पहल

■ नई दिल्ली।

विज्ञान एवं प्रौद्योगिकी मंत्रालय एवं मानव संसाधन विकास मंत्रालय ने एक ऐसी योजना बनाई है जिसके तहत अगले कुछ वर्षों में देश के स्कूलों के माध्यम से 10 लाख नवोन्मेषी विचार तैयार करने का लक्ष्य रखा गया है।

विज्ञान एवं प्रौद्योगिकी मंत्री डॉ. हर्षवर्धन ने कहा कि विज्ञान को लोगों की समस्याओं का समाधान निकालने का वाहक होना चाहिए। हमारा उद्देश्य भविष्य के लिए वैज्ञानिक तैयार करना और बच्चों में नवोन्मेषी विचारों को प्रोत्साहित करना है। इस दिशा में विज्ञान एवं प्रौद्योगिकी मंत्रालय और मानव संसाधन मंत्रालय सहयोग कर रहे हैं।

अधिकारियों ने बताया कि हम एक ऐसी योजना को आगे बढ़ा रहे हैं जिसके तहत अगले कुछ वर्षों में पांच लाख स्कूलों में से

प्रत्येक के अंदर दो नवोन्मेषी विचार तैयार करना है। इस प्रकार से 10 लाख नवोन्मेषी विचार तैयार करने का लक्ष्य रखा गया है।

उल्लेखनीय है कि प्रधानमंत्री नरेन्द्र मोदी छात्रों में नवोन्मेष को बढ़ावा देने के जबरदस्त पैरोकार रहे हैं और देश के विकास

पांच लाख स्कूलों में से प्रत्येक के अंदर दो नवोन्मेषी विचार तैयार करने का लक्ष्य

में ऐसे नए विचारों के महत्व पर जोर देते रहे हैं। हाल ही में विज्ञान एवं प्रौद्योगिकी मंत्रालय और एचआरडी मंत्रालय ने 'जिज्ञासा' नामक एक अन्य परियोजना शुरू की है जिसका मकसद स्कूली छात्रों और वैज्ञानिकों के बीच सम्पर्क को बढ़ाना है। इस सम्पर्क को स्कूली कक्षा के स्तर पर जोड़ना है। इसके

माध्यम से वैज्ञानिकों के सानिध्य में सुनियोजित प्रयोगशाला आधारित पठन पाठन को बढ़ावा देना है।

इस योजना के तहत केंद्रीय विद्यालय संगठन और सीएसआईआर ने सहयोग के संबंध में सहमति पत्र पर हस्ताक्षर किए हैं।

नीति आयोग का मानना है कि अटल टिकरिंग लैब छात्रों में उद्यमितापूर्ण सोच और कौशल का विकास करने का काम करेगा। शिक्षाविदों का कहना है कि दूरदराज और पिछड़े हुए क्षेत्र के सरकारी स्कूलों में विज्ञान, प्रौद्योगिकी, गणित व इंजीनियरिंग से संबंधित पढ़ाई तो कराई जाती है पर सर्व सुविधा युक्त प्रयोगशाला के अभाव में बच्चे इन विषयों में प्रयोग नहीं कर पाते और केवल किताबी ज्ञान तक सीमित रहते हैं। बच्चों को प्रायोगिक ज्ञान से वाकिफ कराने के लिए यह पहल की गई है। (भाषा)

**Published in:**

Rastriya Sahara, Page no. 11