With its unique flavour, new grape variety attracts farmers, wine firms

ANURADHA MASCARENHAS
PUNE, APRIL 6

AT PUNE'S Agharkar Research Institute (ARI) — an autonomous institute of the Department of Science and Technology (DST) — project to develop disease-resistant seedless grapes has not only attracted farmers at a recently concluded grape festival in Nashik, but wine companies have also evinced interest in it.

A multi-purpose variety of grapes has been developed as a part of the All India Coordinated Research Project on Fruits of Indian Council of Agricultural Research. Dr Sujata Tetali, ARI's scientist from the Genetics and Plant breeding section, said that their grape variety, MACS 516 (ARI 516), was released and notified for cultivation in 2021 in four grape-growing states of Maharashtra, Punjab, Telangana and Tamil Nadu.

"This hybrid variety of grapes is tolerant to fungal diseases and is suitable for the preparation of juice, raisins, jams and red wines. Farmers have been adopting this variety. Farmers have been appreciating this variety and area under cultivation and production has gone up 100 acres in locations like Nashik and Solapur in Maharashtra," Dr Tetali told The Indian Express. Companies such as Grover Zampa vineyards at Nashik have also taken planting material from ARI

The variety was developed at city-based ARI.

"Our main objective was to make it a disease tolerant variety. It is also being appreciated because of its unique flavour," added Dr Prashant Dhakephalkar, Director of ARI. Hybrid variety ARI-516 has been developed by inter-crossing of two species from the same genus Vitis-Catawba variety of Vitis labrusca and beauty seedless variety of vitis vinifera. An early ripening hybrid, it matures in 110-120 days after pruning.

A book containing details of various varieties maintained at the farm at ARI at Hol village (85 kms from Pune) was published last month at the 9th All India coordinated group discussion meeting of fruits.'

"ARI 516 variety is seeded but we have developed its seedless variety by mutation as consumers prefer seedless ones. It has small to medium bluish berries with one rudimentary seed in each, which is sweet in taste and has a musky flavour with 65 to 70 per cent juice content. The berry yield is about 15-20 tonne per acre and is tolerant to downy and powder mildew disease as well as resistant to anthracnose disease, group of fungal diseases that affect a variety of plants in warm humid areas," Dr Tetali said.

Dr Tetali also said that a project on molecular characterisation of a seedless mutant in grapes variant ARI 516 and marker-assisted selection for seedlessness in table grape breeding is also underway.

THE INDIAN EXPRESS, THURSDAY, APRIL 21, 2022

Officials brainstorm on integration of traditional and modern medicines

SOHINI GHOSH
GANDHINAGAR, APRIL 20

ON THE first day of the three-day Global Ayush Investment and Innovation Summit (GAIIS) 2022 held at Mahatma Mandir in Gandhinagar, officials of the central government aired different views on their aspiration for benchmarks of research and clinical data and on integration of traditional medicine with modern medicine.

Department of Science and Technology secretary S Chandrasekhar advocated that "it is so critical to see that our clinical data is robust, it is more robust than what you expect of the English medicine or the modern medicine or the allopathic medicine".

On the other hand, Vinay Sahasrabuddhe, president of Indian Council for Cultural Relations and BJP MP implored that "modern medicine cannot have the monopoly" and advocated for holding traditional medicine to different standards.

Speaking at a session of the diplomats' conclave in the summit, Sahasrabuddhe said, "Ayurveda in healthcare,...and other traditional medicine systems underscore democracy of healthcare because in democracy every other individual is important and equally respected. Likewise the healthcare democracy ensures that every traditional system and not just what they call the modern medicine system or allopathic system, cannot have its monopoly..."

"In the post pandemic world, we have become aware of the challenges in healthcare. We understand the strength of allopathy but we also understand the limitations of modern medicine...we are aware of a new kind of healthcare challenges staring at humanity which are psychosomatic diseases where not just our body but our mind demands treatment... Modern medicine comes with some side effects. Therefore, our quest is a healthcare system free of side effects. And in that context, I believe the importance of traditional medicines cannot be undermined," Sahasrabuddhe said.

Sahasrabuddhe called for a global south cooperation which has historically seen a prevalence of traditional medicine practice and added, "Some standards are required to be adopted when it comes to pharmaceutical regulatory mechanisms that are existing in various countries because these mechanisms prevent traditional medicine from flourishing, because they have their own standards and these standards at certain times do not match with what traditional medicine systems require..."

Addressing a plenary session on global industry prospects in Ayush, Chandrasekhar said, "The challenges (for Ayush drugs against modern medicine drugs) is that (in modern medicine drugs) you're handling a single molecule which you understand well... But when you're consuming an ayurvedic extract, you're probably consuming a combination of multiple plants, roots and stems... I'm sure the collaboration between ayurvedic practitioners and the scientists who practise analytical sciences in the labs with exotic equipment, can bring a lot of value addition and bring trust amongst the population..."

Vijay Chauthaiwale, in-charge of department of foreign affairs of BJP said that while there are low-hanging fruits of wellness and cosmetics where Ayush remedies find easy acceptance, "real issue comes when claim comes of treating complex disease like diabetes or cancer and there I think the bar of quality becomes very important."

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Journalist:	Gireesh Chandra Prasad	Page No:	2

Finland keen on more tie-ups with India

Gireesh Chandra Prasad
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NEW DELHI

Finland is keen to step up cooperation with India in areas such as waste-to-energy, low-carbon mobility and communication, said visiting Finnish minister of economic affairs Mika Lintilä, who on Monday made a joint announcement with science and technology minister Jitendra Singh on cooperation in quantum computing.

Lintilä said in an interview that India and Finland are exploring more tie-ups and that the two sides would be announcing partnerships in energy, too. Lintilä, who is on a week-long visit, said Finnish companies have expertise in areas such as quantum computing, 5G technology, renewable energy and low-emission mobility.

India's collaboration with Finland in technology has benefited companies such as Nokia and digital technology would naturally be an area of future collaboration between the two countries, he said.

Under the deal announced by the two sides on Monday, an India-Finland virtual network centre on quantum computing would be set up, said the ministry of science and technology.

Finland's minister of economic affairs Mika Lintilä (left) met science and technology minister Jitendra Singh on Monday.

Lintilä said he would be meeting commerce and industry minister Piyush Goyal and petroleum and natural gas minister Hardeep Singh Puri. "We try to open doors for companies for cooperation. In energy sector we have solutions which could be very interesting for India," said Lintilä.

Lintilä said India and Finland are exploring more tie-ups and that there are plans for partnerships in energy, too

The minister said connectivity is a key area in bilateral cooperation. "The MoU signed today looks at quantum technology opportunity. There are specific areas where Finland is really advanced. We have strong research (capability) and companies that have technology," said the minister.

The statement from the science and technology ministry quoted Jitendra Singh as saying bilateral collaboration was an attempt to stimulate innovative research and development projects that address specific needs or challenges, demonstrate high industrial relevance and commercial potential and aim to deliver benefit to both the nations.

Singh said the department of science and technology has started several mission-mode programmes covering electric vehicles, quantum technologies, future manufacturing and green hydrogen fuel and have sought collaboration with Finland in solving issues of societal challenges.

"We are an export country. More than 40% of our GDP come from exports. We strongly support open trade. We (India and Finland) have good trade relations and we have to continue that and companies have a big role in that," said Lintilä.

On the proposed Free Trade Agreement between India and the EU, the minister said that a trade agreement tailored for today's needs—one that facilitates a broad range of economic cooperation—would be in the interests of India, Finland and the EU.

An email sent to the ministries of power and petroleum and natural gas on Monday evening remained unanswered at the time of publishing.

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Those grains can be harmful

Spring is in full bloom. For many it might not be a lovely sight to cherish but a battle with pollen-related allergic diseases. Scientists say fine bioaerosol particles are released by trees, grasses, and weeds to fertilize other similar plants. Pollen entering the nasal pathways could cause pollen allergy—with symptoms somewhat similar to common flu and cold.

What's worse is that as the climatic variability is increasing, it is expected that the urban environment will significantly add to the burden of pollen-related respiratory and skin diseases.

In fact, as pollen allergy now being considered a major public health problem that causes morbidity and subsequently affects a patient's quality of life, Indian scientists have called for a large scale measures like developing pollen forecast systems and training of health care professionals and personal measures like following pollen forecasts besides use of face masks.

They have also suggested wearing spectacles, and air filters, regularly taking prescribed medications, limiting outdoor exposure, and avoiding gardening or grass-cutting during peak pollen seasons could help minimize the onset and exacerbation of pollen-related allergic diseases.

Being a part of biogenic pollutants, pollen allergens are not expected to diminish in the foreseeable future.l

Considering this, Prof. Ravindra Khaiwal from Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh, Akshi Goyal, research scholar, and Dr. Suman Mor, Chairperson, Department of Environment Studies, systematically examined the implementation gaps to minimize the pollen allergy disease and suffering.

Their study, supported by the Department of Science and Technology (DST), has been published in the International Journal of Hygiene and Environmental Health (IJHEH), an international journal by Elsevier.

"These submicronic-pollen particles could act as respirable particles reaching deeper into the upper airways leading to exacerbation of asthma, chronic obstructive pulmonary disease (COPD) and other allergic reactions," Prof. Ravindra Khaiwal pointed out.

Dr. Mor highlighted the four levels of strategies suggested by them-- individual level, health care communities and organizations, local governments, national/ international governments levels, to decrease the risk of illnesses associated with pollen allergy.

Prof. Khaiwal added that attention needs to be given to the most vulnerable sub-populations with allergic asthma, rhinitis, and eczema during the peak pollen season..

But a noticeable negative impact of pollen has been seen in the sensitive population, said the scientists.

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Journalist:	Mohammed Iqbal	Page No:	3

CUoR to take up research in infectious diseases

Rajasthan sets up first specialised facility to be future-ready for pandemic

MOHAMMED IQBAL
KISHANGARH (AJMER)

A state-of-the-art biosafety facility being created in the Central University of Rajasthan (CUoR) here for research in infectious diseases will make the State future-ready to respond to an epidemic or a pandemic situation. The lack of a robust research infrastructure had kept Rajasthan at a disadvantageous position during the COVID-19 pandemic despite the State government's efforts for its management.

Biosafety level-3 facility

Titled "Rajasthan Bio-Cluster", the specialised biosafety level-3 facility will handle pathogens and comprise three biosafety laboratories, one tissue culture lab and one molecular biology lab. The Science and Engineering Research Board under the Union government's Department of Science & Technology has sanctioned a grant of ₹9.60 crore for the project.

The biosafety level-3 labs are used for experimenting with the risk group-3 infectious agents or toxins, categorised by the World Health Organisation, causing severe or lethal human disease for which preventative or therapeutic measures may be available.

An animal biosafety lab, which will also be established in CUoR, will be suitable for working with laboratory animals infected with the pathogens and will have biocontainment rodent cage rack systems.

Prof. Inshad Ali Khan (right) with his research colleagues at the CUoR's School of Life Sciences. • SPECIAL ARRANGEMENT.

While the COVID-19 pandemic has compelled the need for high containment facilities and trained human resources all over the country, the presence of biosafety facilities is not homogenous. Since most of these facilities are concentrated in the metro cities, the deficiency in Rajasthan was hampering the creation of the necessary research ecosystem in contagious diseases.

The strategic location of the new facility in CUoR would serve a radius of about 300 km, covering the entire Jaipur, Ajmer, Udaipur and Tonk districts and touching Jodhpur during an epidemic, Prof. Inshad Ali Khan, the project's principal investigator, told *The Hindu*.

The facility would be ready in two years after the construction of building, fabrication of labs and procurement of essential equipment, he said.

The Rajasthan Bio-Cluster has five participating institutions in the State, which will be engaged in collaborative research. They include Jawaharlal Nehru Medical College, Ajmer; National Institute of Ayurveda, Jaipur; Rajasthan University, Jaipur; Manipal University, Jaipur; and Banasthali Vidyapith, Tonk.

The facility will support the initiatives of startups in the areas of diagnosis of infections, vaccines and drugs by providing them with testing and technical support.

The research areas of Prof. Khan, who is in the Department of Microbiology in CUoR's School of Life Sciences, include molecular biology of Mycobacterium tuberculosis and anti-TB drug discovery.

The other co-principal investigators, Pankaj Goyal, Suman Tapryal and Deeksha Tripathi, work in parasite biology, molecular biology of viruses and anti-TB drug discovery.

Prof. Khan said the biocluster would serve as a national facility to augment the testing capacities during epidemics and would be used to promote research in developing new therapeutics, vaccines and diagnostics against risk group -3 bacteria and viruses, including SARS-CoV-2. Once the facility is ready, it will undergo validations and certifications mandated by the 2020 biosafety guidelines of the Ministry of Science & Technology's Department of Biotechnology.

"In addition to the samples brought for research and diagnostic purpose during an epidemic, our work will involve experimentation with the clinical isolates of bacteria and viruses isolated from the clinical samples," Prof. Khan said.

Collaborative research

At the time of an epidemic outbreak, the diagnostic and sequencing data generated in the labs would help the government formulate recommendations to improve detection, find out the variants and contain the spread of infection, he said.

The project's successful implementation will put Rajasthan at the forefront of infectious disease research and enable the CUoR to foster collaborative research and introduce the concept of biosafety in the teaching module.

Significantly, the CUoR is the only university in the country which has been selected for the construction of a biocluster in this session.

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Journalist:	Shubashree Desikan	Page No:	10

Why are blue straggler stars different from the norm

These hot, blue, massive stars seem to have a different trajectory of evolution from that of their neighbours

SHUBASHREE DESIKAN

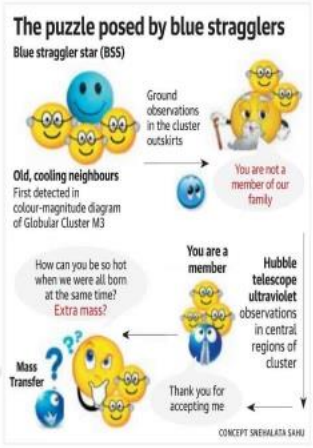
It's not only humans who appear eccentric; stars can have their own ideas of eccentricities, too. One such case is that of blue stragglers, a particular type of star seen in clusters and also, sometimes, alone. Scientists try to understand their eccentricity and, after studying them for long years, Indian Institute of Astrophysics, Bengaluru, researchers have found support for one way to understand their aberrant behaviour. For this, the researchers also made use of the observations by the UVIT instrument (Ultra Violet Imaging Telescope) of ASTROSAT, India's first science observatory in space.

Stellar ageing

To know what blue stragglers are, it is necessary to understand how stars are classified and their evolution, studied. Our Sun, for example, is what is called a main sequence star, and, given its mass and age, it is expected that once it has converted all its hydrogen into helium, its core will get denser, while outer layers expand. So, it will bloat into a red giant. After this phase, its fuel spent, it will shrink, becoming a smaller, cooling star called a white dwarf star at the end of its life.

To study the behaviour of the star, you could plot a graph of the colour of a star, which is an indication of its surface temperature, against its magnitude, which is related to the total energy given off by it. If you do this for all the stars in a globular cluster, a large number of stars are seen to find a place within a band known as the main sequence.

Our Sun is a main sequence star, too, and the expectation is that all main sequence stars follow a pattern of evolution pretty much like our Sun's fate, which was described earlier.



There are a few stars that, just at the stage of their lives, when they are expected to start expanding in size and cooling down, do just the opposite. They grow brighter and hotter and blue in colour, thus standing out from the cooler red stars in their vicinity in the colour-magnitude diagram. Since they lag behind their peers in the evolution, they are called stragglers, more specifically, blue stragglers, because of their hot, blue colour.

Blue straggler

The puzzle of why a blue straggler is more massive, and energetic, than expected may be resolved in several ways: One, that these do not belong to the family of stars in the cluster, and hence are not expected to have the group properties. But if they actually belong, the evasive behaviour is due to these stars gaining mass from a binary companion. Second, the straggler draws matter from the giant companion and grows more massive, hot and blue, and the red giant ends up as a normal or smaller white dwarf. The third possibility is that the straggler draws matter from a companion star, but that there is a third star that facilitates this process.

The IIAP researchers have shown evidence that supports the second of the hypotheses listed above.

"The team carefully selected the target star clusters based on the likelihood of such stars present in them. It was not an easy task to prove that these stragglers belong to the group," says Annapurni Subramaniam from IIAP in whose lab this work was done. Not just this. It was also no mean task to choose objects that were safe for collecting data using the sensitive UVIT. They developed unique tools to differentiate binary systems among the blue stragglers.

"All of these took time, but the persistent study of the team consisting of several PhD students led to the conclusive evidence of white dwarf companions to blue stragglers," she adds.

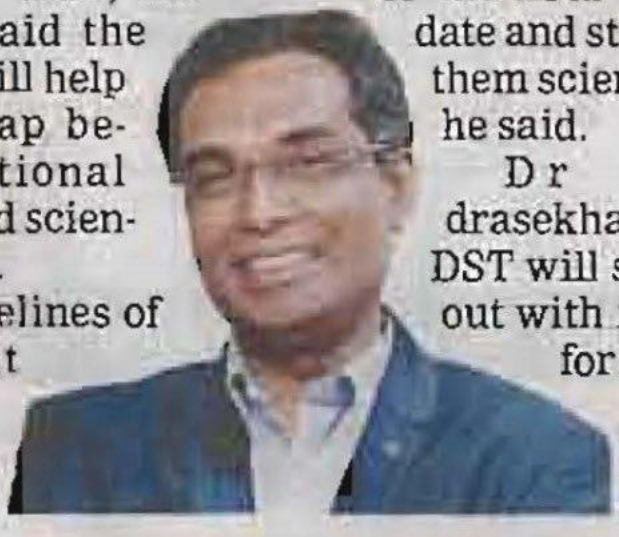
DST to help bridge science-tradition gap

TIMES NEWS NETWORK

The department of science and technology (DST) of the government of India will help the Aynsh (ayurveda, yoga, naturopathy, unani, siddha and homeopathy) sector in validation of molecules, carrying out testing and scientific research. **Dr Srivari Chandrasekhar**, secretary of DST, on Wednesday said the department will help bridge the gap between traditional knowledge and scientific practices.

On the sidelines of the event at Mahatma Mandir, the DST secretary told TOI that 40% to 60% of molecules used by modern medicine are from natural substances – ranging from cures for breast cancer to pain management.

"When one takes natural substances used by traditions such as ayurveda, one looks at an amalgamation of not one but many molecules. Thus, the need of the hour is to validate and standardize them scientifically," he said.



Dr Chandrasekhar said the DST will soon come out with incentives for the Ayush sector to carry out studies.

अनुसंधान को बढ़ावा देने के प्रयास जारी रखने होंगे

● वैज्ञानिक दृष्टिकोण

डीएसटी में वरिष्ठ सलाहकार डॉ. अखिलेश गुप्ता ने कहा-

इलेक्ट्रिक वाहन प्रौद्योगिकियों के लिए रोड मैप पर विचार-विमर्श सत्र संपन्न

नई दिल्ली। भारत को 2070 तक कार्बन तटस्थता हासिल करने के लिए, कई क्षेत्रों में बड़े पैमाने पर अर्थव्यवस्था के डी-कार्बोनाइजेशन की आवश्यकता होगी। परिवहन उनमें से एक है जहां इलेक्ट्रिक वाहनों और हरे हाइड्रोजन के लिए संक्रमण महत्वपूर्ण महत्व का होगा। विज्ञान और प्रौद्योगिकी विभाग (डीएसटी) में वरिष्ठ सलाहकार डॉ. अखिलेश गुप्ता ने इलेक्ट्रिक वाहन प्रौद्योगिकियों के रोड मैप पर विशेषज्ञों के विचार-मंथन सत्र में यह बात कही। सत्र में विविध हितधारक समूहों की बड़ी भागीदारी की सराहना करते हुए उन्होंने कहा कि डीएसटी ने पिछले कुछ वर्षों में ईवी में अनुसंधान एवं विकास को बढ़ावा देने में काफी काम किया है। ऐसे प्रयासों को जारी रखने की जरूरत है। डॉ. गुप्ता की अध्यक्षता में दिन भर के विचार-मंथन सत्र का आयोजन किया गया था। डॉ. गुप्ता ने कहा कि एक व्यापक प्रौद्योगिकी कार्यक्रम की आवश्यकता है जिसमें एक ठोस-राज्य बैटरी जैसी उपयुक्त बैटरी प्रणालियों का विकास शामिल है जो उष्णकटिबंधीय क्षेत्रों में उच्च परिवेश के तापमान का सामना कर सकती हैं। इसके अलावा, संचालित करने के लिए आवश्यक गतिविधियों के बड़े दायरे और कार्यक्रम प्रबंधन में उपयुक्त लचीलेपन की आवश्यकता को देखते हुए, अनुसंधान कार्यक्रमों को विशेष प्रयोजन वाहनों के रूप में आयोजित करने की आवश्यकता है जो कई उद्योगों और शैक्षणिक संस्थानों के साथ समन्वय कर सकते हैं।

उच्च गुणवत्ता और सुरक्षित बैटरी पैक सुनिश्चित हो

इस मौके पर एआरसीआई के निदेशक डॉ. टी. नरसिंह राव ने इलेक्ट्रिक वाहन बैटरी में शामिल विभिन्न उप-प्रणालियों का विश्लेषण किया और साथ ही बैटरी सिस्टम की सुरक्षा सुनिश्चित करने में शामिल असेंबली और निर्माण प्रक्रियाओं का भी विश्लेषण किया ताकि वे अग्नि सुरक्षा खतरों का कारण न बनें। उन्होंने उच्च गुणवत्ता और सुरक्षित बैटरी पैक सुनिश्चित करने के लिए आवश्यक तत्काल कार्रवाई के बारे में भी बताया। डीएसटी के वैज्ञानिक साजिद मुबाशीर ने देश में इलेक्ट्रिक मोबिलिटी को बढ़ावा देने के लिए भारत सरकार की विभिन्न पहलों में डीएसटी के प्रमुख योगदान के बारे में विस्तार से बताया और जानकारी दी कि विभाग ने ईवी चार्जिंग इंफ्रास्ट्रक्चर के लिए आवश्यक भारतीय मानकों के पूर्ण सेट को विकसित करने में मदद की है। हाल ही में स्कूटर और ऑटोरिक्शा जैसे लाइट ईवी के लिए एक सेवा (जिसे बैटरी स्वैपिंग के रूप में भी जाना जाता है) के रूप में बैटरी के लिए मसौदा मानकों में योगदान दिया।

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अध्ययन | भारत और ग्रीस के वैज्ञानिकों का शोध, आग से बढ़े प्रदूषण के कारण 45% सौर विकिरण ही पहुंच रही

जंगलों की आग से घटा सौर ऊर्जा का उत्पादन

विशेष

■ दीपक पुरोहित

नैनीताल। जंगलों में लगातार धधक रही आग से देश में सौर ऊर्जा उत्पादन घट रहा है। वैज्ञानिक अध्ययन में पता चला है कि जंगलों की आग से होने वाले प्रदूषण के कारण सघन हुई वायु, एयरोसोल और बादल जैसे कई अन्य कारक मिलकर सूर्य से आने वाले विकिरण की मात्रा को सीमित कर देते हैं। इससे संयंत्रों में ऊर्जा उत्पादन की प्रक्रिया में रुकावट आती है।

केंद्र सरकार के विज्ञान एवं प्रौद्योगिकी विभाग, नैनीताल स्थित आर्यभट्ट प्रेक्षण विज्ञान शोध संस्थान (एरीज) और ग्रीस स्थित नेशनल ऑब्जर्वेटरी ऑफ एथेंस के वैज्ञानिकों ने यह अध्ययन किया है। इसे इंटरनेशनल पीयर-रिव्यूड जर्नल रिमोट सेंसिंग में प्रकाशित किया गया है। अध्ययन में जनवरी से अप्रैल 2021 के बीच के डाटा का प्रयोग किया गया। विश्लेषण में पता चला कि इस अवधि में एयरोसोल ऑप्टिकल डेप्थ वैल्यू 1.8 तक पहुंच गई। सामान्य तौर पर यह औसतन 0.5 तक रहती है। इस वैल्यू के बढ़ने के कारण सूर्य से पृथ्वी पर आने वाले विकिरण में भी कमी आई। सतह पर 45% तक ही सौर विकिरण पहुंच पा रहा था। इतने कम सौर विकिरण से सौर ऊर्जा उत्पादन में कमी दर्ज की गई। शोध में शामिल रहे एरीज के वैज्ञानिक डॉ. उमेश चंद्र दुम्का के अनुसार, इस विश्लेषण से ग्रिड ऑपरेटरों को बिजली उत्पादन की योजना बनाने में मदद मिल सकती है।

आंकड़ों ने बढ़ाई चिंता

- 40 गीगावॉट सौर ऊर्जा उत्पादन क्षमता है भारत में
- 650 किलोवाट उत्पादन हुआ जनवरी-अप्रैल 2021 के बीच
- 3.45 लाख से अधिक आग की घटनाएं हुईं बीते वर्ष
- 2.56 लाख हेक्टेयर भूमि प्रभावित

पहाड़ी राज्यों में बढ़े मामले

- उत्तराखंड में मौजूदा सीजन में जंगल में आग की 1216 घटनाएं हुईं। इनसे 1872 हेक्टेयर वन क्षेत्र प्रभावित हुआ है। 50 लाख के नुकसान का अनुमान
- हिमाचल में बीते 25 दिनों में 449 आग की घटनाएं सामने आई हैं। 3209 हेक्टेयर क्षेत्र प्रभावित। वन संपदा को 89 लाख का नुकसान

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मंगल ग्रह पर इमारतें खड़ी हो सकेंगी

नई दिल्ली, एजेंसी। हाल ही में अंतरिक्ष पर इंसानी चहलकदमी बढ़ी है। इतना ही नहीं दुनियाभर के वैज्ञानिक मंगल ग्रह और चांद पर कॉलोनी बसाने को लेकर नए-नए शोध कर रहे हैं। अब भारतीय वैज्ञानिकों ने एक ऐसी ईंट तैयार की है, जिसकी मदद से मंगल ग्रह पर इमारतें भी खड़ी की जा सकती हैं।

यह कारनामा इंडियन स्पेस रिसर्च ऑर्गनाइजेशन (इसरो) और इंडियन इंस्टीट्यूट ऑफ साइंस बेंगलुरु के वैज्ञानिकों ने कर दिखाया है। इसरो की यह रिसर्च प्लॉस वन जर्नल में प्रकाशित हुई है। शोधकर्ताओं ने बताया कि अंतरिक्ष ईंट बनाने के लिए उनकी टीम ने बैक्टीरिया आधारित टेक्नोलॉजी की मदद ली है।

मिट्टी से ईंट तैयार करना आसान नहीं

आईआईएससी में मैकेनिकल इंजीनियरिंग विभाग के एसोसिएट प्रोफेसर और रिसर्चर आलोक कुमार का कहना है कि मंगल ग्रह की मिट्टी से ईंट विकसित करना कोई आसान काम नहीं था। दरअसल, मंगल की मिट्टी में आयरन ऑक्साइड की मात्रा काफी ज्यादा होती है। इसकी वजह से बैक्टीरिया उसमें पनप नहीं पाते। यही कारण है कि मिट्टी को बैक्टीरिया के लिए अनुकूल बनाने के लिए निकल क्लोराइड का सहारा लिया गया।