CSIR IN MEDIA

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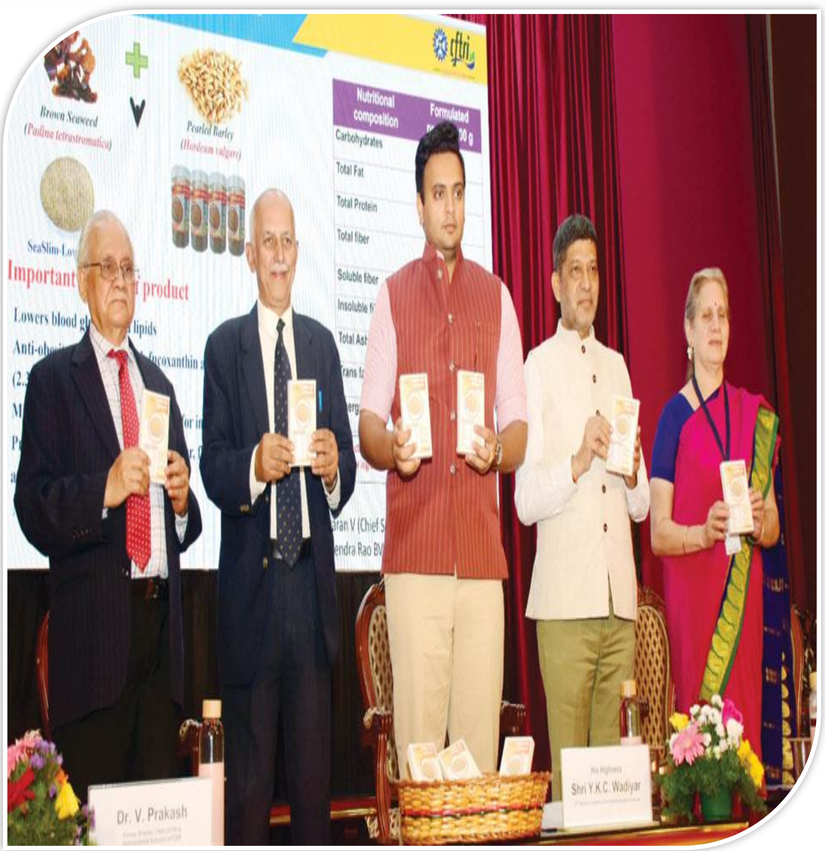
भारत का नवाचार इंजन
The Innovation Engine of India

NEWS BULLETIN
01 TO 05 JULY 2023

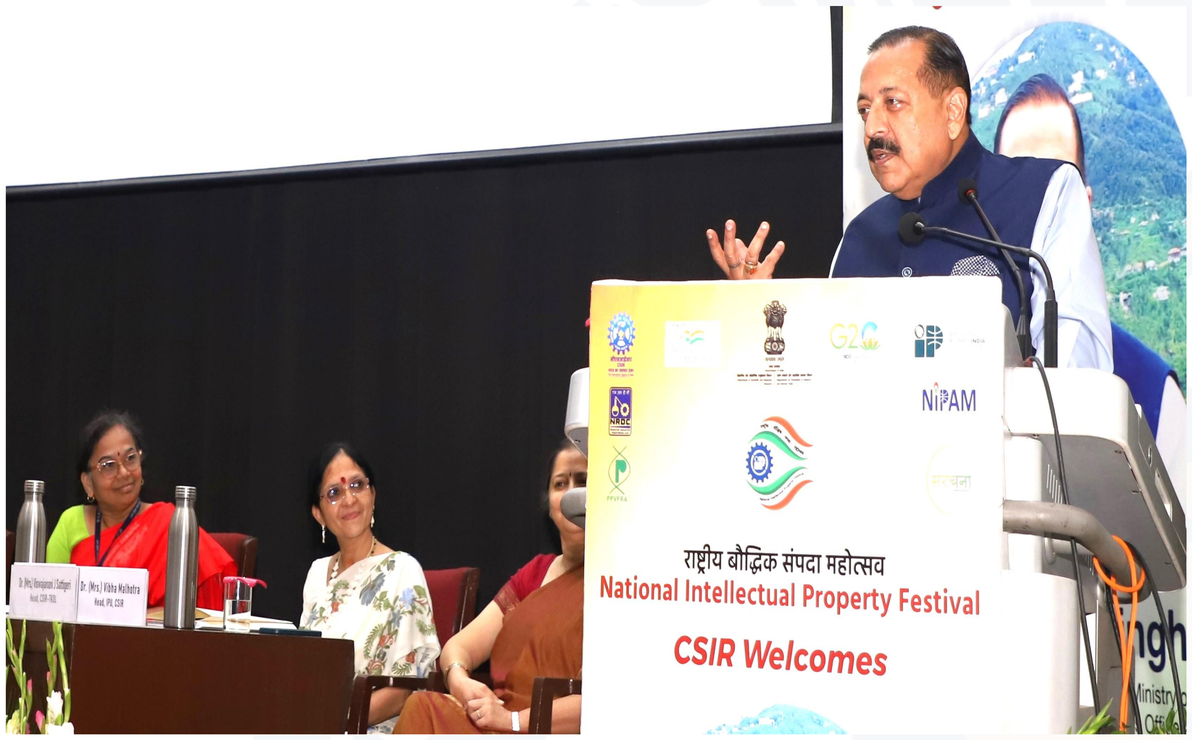


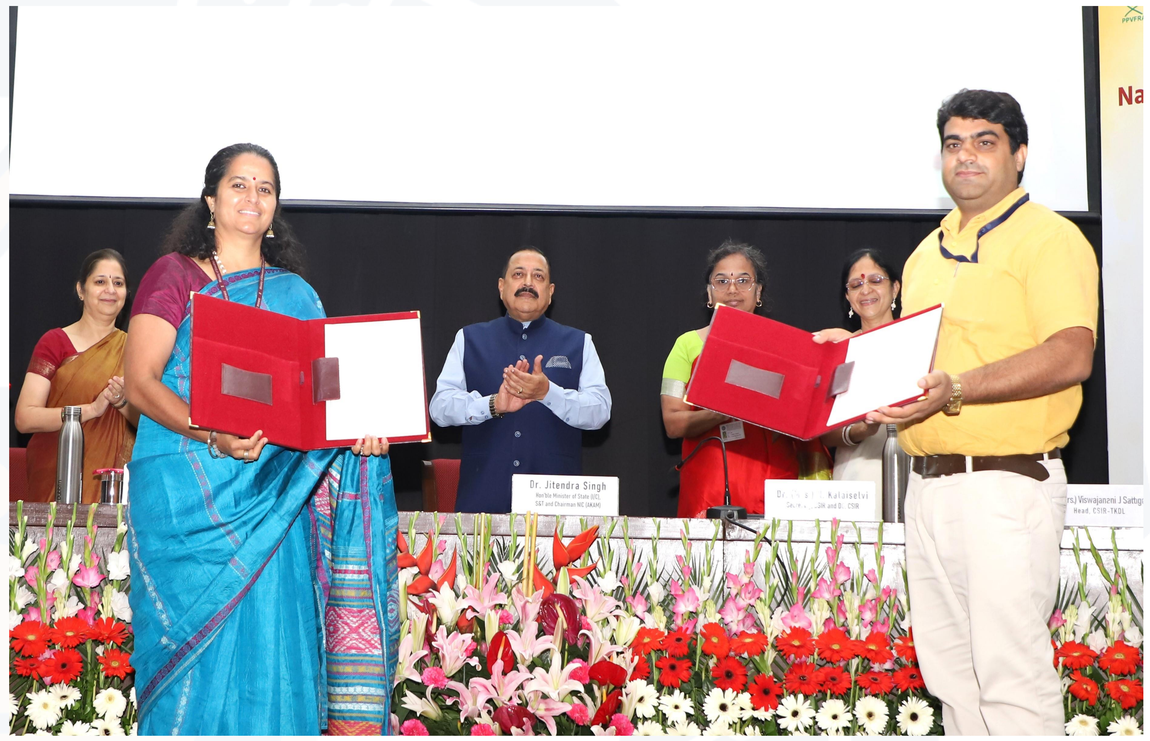
Compiled by Science Communication and Dissemination Directorate (SCDD), CSIR, Anusandhan Bhawan, New Delhi

"StartUps Intellectual Property Rights Protection" is aimed at promoting innovation and entrepreneurship, says Science & Technology Minister Dr Jitendra Singh

CSIR

2nd July , 2023





Union Minister of State (Independent Charge) for Science and Technology, MoS PMO, Department of Atomic Energy and Department of Space and MoS Personnel, Public Grievances and Pensions, Dr Jitendra Singh has said that "StartUps Intellectual Property Rights Protection" is aimed at promoting innovation and entrepreneurship.

In his inaugural address at the 'National Intellectual Property Festival', organised by the CSIR at the National Physical Laboratory in New Delhi, Dr Jitendra Singh said, the filing of Intellectual Property Rights (IPR) including Patents and Trademark by StartUps, along with Industry linkages will encourage innovation and motivate enterprise in India. Under the leadership of Prime Minister Shri Narendra Modi, after the Government came up with the IPR Act in 2016, the Trademark Registration process has come down to one month, which was more than one year earlier, he said.

"Soon after this, 'StartUps Intellectual Property Rights Protection' scheme was brought in, which envisages 80% rebate in patent filing and 40%-50% rebate vis-à-vis the Industry and the companies," the Minister said.

Dr Jitendra Singh said, Prime Minister Shri Narendra Modi has launched several schemes which supplement each other to reinforce the StartUp ecosystem and their Capacity Building. “You can couple the StartUps, eg. you have the Mudra scheme, which offers you a loan of 10-20 lakhs without any gratuity, mortgage, almost interest free,” he said.

Pertinent to mention that with the vision to protect IPRs for StartUps, the Government has launched a scheme, Startups Intellectual Property Protection (SIPP) for encouraging innovation and creativity of Startups. The startups are given an 80% rebate on Patent filing fees and a facility for expedited examination of patent applications. Under the new Trademark Rules, Startups have been given a 50% rebate in filing fees vis-à-vis other companies.

Even for promotion of registration of Industrial Designs by StartUps as per the new design amendment rules 2021, the Government has reduced filing and prosecution fees for small entities.

The Minister said, there is a huge round of encouragement and promotion both for StartUps in the terms of being innovative and entrepreneurs.

“In the last nine years, PM Modi has given esteem to science and scientists and also raised it as a subject of international deliberations. Even during his just concluded US visit, the predominant subject in the Joint Statement is science related issues, - from semiconductors to space to International Space Station, Artemis Accords,” said Dr Jitendra Singh.

“In Global Innovation Index we have jumped 31 places, - from 81 to 40; in Startup ecosystem we started very late, in 2016 when PM Modi gave a call from the Red Fort in his Independence Day address, but in just a couple of years we have gone to the No.3 ranking in the Startup ecosystem in the world,” he said.

Dr Jitendra Singh called for combining the digital repository of traditional knowledge and heritage with the modern scientific innovation and by institutionalising this mechanism, we

can gain cutting edge in sectors such as Khadi, Aroma Mission and Lavender cultivation.

“I am convinced this is one of the best times happening, optimum times happening, and if we are into this StartUp IPR protection, we have the advantage of supplementing our StartUp ventures with our traditional knowledge, which is not happening as frequently as it could happen here. And if we do that, we would actually have an edge over other countries,” he said.

The Minister said that in the nine years of the Government led by PM Modi, because he has been carrying that kind of vision, today we are at an equal pace and at an equal level with the developed nations.

“Today, we are equal partners with other nations in technology application. In Quantum Computing, for example, we are in the same league as the developed world,” he said.

Speaking on the occasion, Secretary, DSIR and DG, CSIR, Dr. (Smt.) N Kalaiselvi said the National Intellectual Property Festival is being celebrated this month, - from 1st to 31st July 2023.

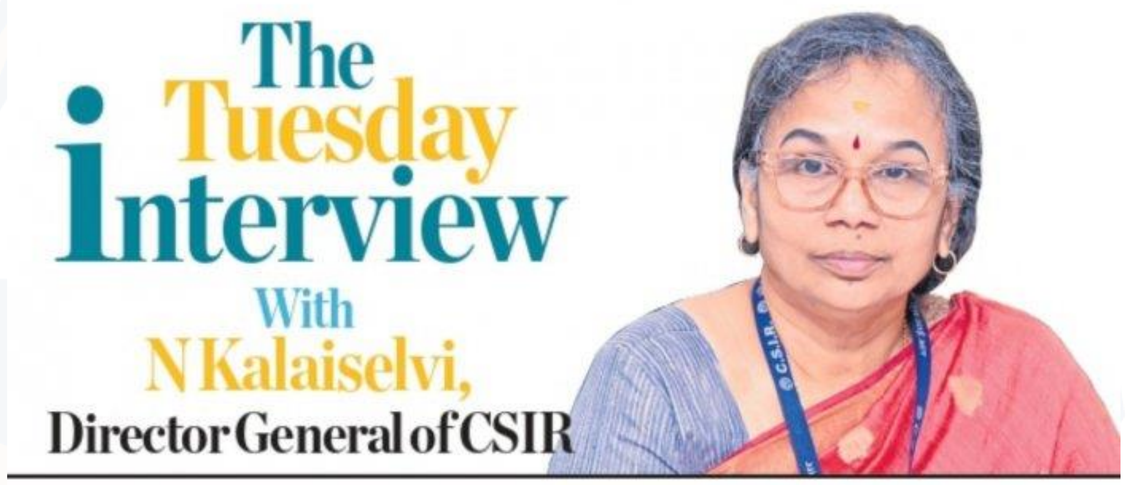
Secretary, DPIIT, Shri Rajesh Kumar Singh and senior scientists and officials of CSIR and DST were present on the occasion.

Published in:
Pib

The plan is to scale up industry connect, start-up incubation: CSIR Director General N Kalaiselvi

CSIR-CFTRI

4th July , 2023



The Council of Scientific and Industrial Research (CSIR), in a vision statement for 2030, talks about enhancing the quality of Indian life through scientific innovation, sustainable solutions and capacity-building programmes. With about 3,500 scientists and a network of 37 national laboratories that cover multiple streams of research, from aeronautics to geophysics to nanotechnology, CSIR is anchoring new initiatives that push this shift. In its 81st year, as CSIR sets out to steer these programmes, there are signs of a shift towards greater industry collaboration and a more assertive vision for outreach.

N Kalaiselvi, the Director-General of CSIR, spoke with R Krishnakumar on plans for the council that, at once, curates diverse competencies and aims to hand-hold industry in India's rapidly evolving science and technology spaces. Excerpts from the interview:-

What is the idea behind One Week One Lab (OWOL) which showcases technological innovations at CSIR labs?

Last year, when we celebrated our Foundation Day as CSIR Leaders' Meet, the Minister of Science and Technology proposed the idea. All the 37 labs were directed to complete the programme by September this year. The plan is to take the work done at these labs to the people – most of this is transformational research that leads to technology that benefits the society. There is a need to connect with the industry, students, NGOs, startups, and the society, in general, to tell them what the research done at these labs means to them.

Is the focus on greater engagement with the public, by underlining the social context of research?

CSIR has been operating for decades but not many people are familiar with some of our important work – for instance, not many know that Amulspray is a CSIR product (the infant food product from buffalo milk was developed using technology at CSIR's Central Food Technological Research Institute, Mysuru, in the late 1950s). This is where campaigns like OWOL can help.

What is your takeaway from your visit to CFTRI?

The institute is already working with the state on a major project under which it is coming up with nine processing lines. At CFTRI, startups, MSMEs, or individuals can come in, use the infrastructure and go back with a finished product – it could be processed powder, batter, or a packed product. There is a concerted effort to create awareness about these possibilities. I have also suggested to them greater application of CSR funds.

Incubation of startups is one of CSIR's stated objectives. How far has it taken this forward?

CSIR is already doing it but not at the scale we want to. Beyond a transfer-of-technology working model, we would like to handhold these startups till they enter the market and do well. We have 5-6 labs with incubation centres. Under the Department of Scientific and Industrial Research, we have the CRTDH (common research and technology development hubs) programme through which startups are being encouraged. We are looking at a hub-and-spoke model and will be forming a dedicated business team to manage startups, entrepreneurs, and industry connects.

How do you look at the opportunities that are emerging in scientific research? Is the funding climate in India conducive?

The word used is climate, and climate comes with uncertainties. The financial aspect of research is not an exception. The government is giving us money, I won't say it is surplus but it is not insufficient either. There are many funding options available now, in the form of

programmes led by the government. The support is being extended in the form of these schemes. There is a push to promote startups; these startups will have come to CSIR to take their work forward. There is a focus on indigenisation. Again, CSIR and its affiliated labs are going to be the collaborators.

Artificial Intelligence and Machine Learning, while setting the pace for unprecedented innovation, have also set off discussions on their ethical aspects. How prepared is India?

Human competencies are beyond imagination but we are also realising now that the machines could be given a certain kind of teaching, that we could channel this possibility for good causes. The speed at which you process data is going to be extremely critical. Data-driven prediction and accuracy could be effectively monitored by these AI and ML systems. They are going to be integral to the next revolution in science and technology.

There are also concerns about their uninformed adoption and potential impact on jobs.

We, as scientists, cannot consider these things solely based on their adverse impact. I have worked with lithium batteries. About the threats, it is like the problem of these batteries catching fire. Science and technology have given us the courage and confidence to deal with these challenges competently. In the next two to three years, we will know how to handle lithium batteries. It is going to be the same with AI and ML. We will be learning and exploring them, putting them to use and, still, calling the shots.

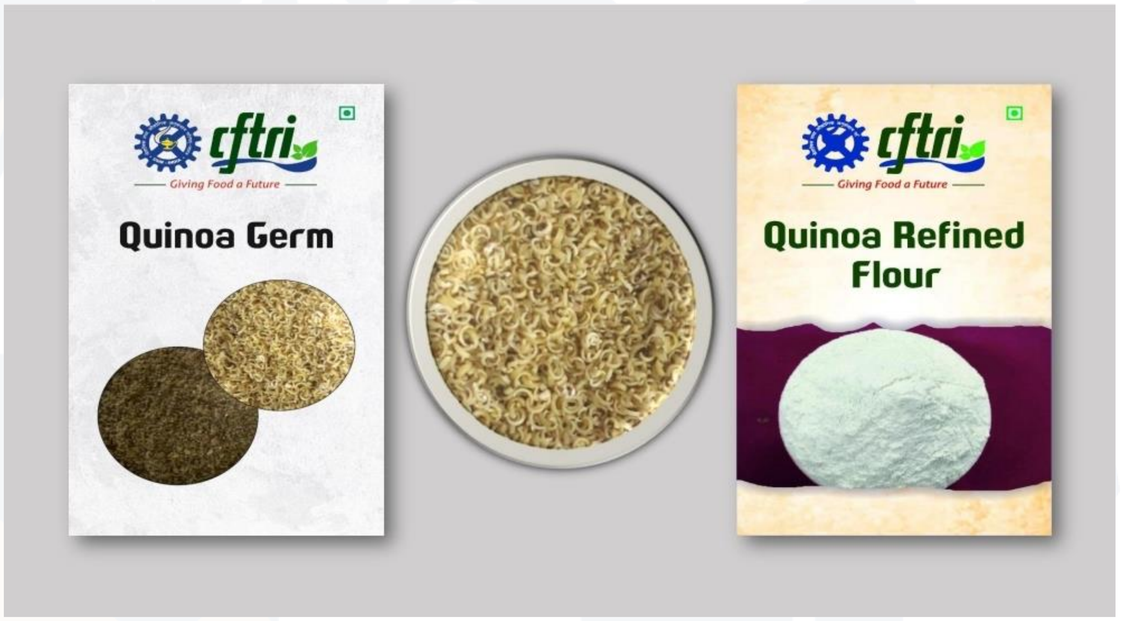
Published in:
Deccanherald

CSIR-CFTRI develops superfood – nutrition-rich quinoa germ

CSIR-CFTRI

5th July , 2023

Mysuru: In a significant development, the Central Food Technological Research Institute (CSIR-CFTRI) has successfully developed a dry physical process for the separation of the highly nutritious germ from Quinoa (Chenopodium quinoa), a superfood renowned for its exceptional nutritional profile.



The germ, which contains most of the protein, fat reserves, and minerals of the grain, has been found to be a potential individual nutrient-dense component with numerous applications in the food and pharmaceutical industries.

Conventionally, quinoa has posed challenges in separating its germ due to its small grain size and complex structure. However, with the newly developed dry physical process, CSIR-CFTRI has achieved an industrially scalable and eco-friendly solution that surpasses the conventional wet milling method. The process involves conditioning of quinoa grains, gradual milling, aspiration, and sieving operations, leading to a remarkable recovery yield of over 80 per cent and high purity of the extracted germ.

Quinoa germ boasts an outstanding nutritional quality, making it a potential alternative source of plant-based protein. Apart from its high protein content, the germ contains an excellent balance of amino acids, fulfilling daily recommendations for adults, and is classified as a high-quality protein.

Additionally, the germ's fat content is noteworthy, consisting of 88 per cent unsaturated fatty acids, including 60 per cent polyunsaturated fatty acids (PUFA) and 30 per cent

monounsaturated fatty acids (MUFA), along with a unique ratio of omega-6 and omega-3 fatty acids, making it a nutritive powerhouse. The germ also packs a punch when it comes to minerals, with its concentrated mineral content making it the most sought-after component of the quinoa grain. Moreover, quinoa germ is rich in total phenolic content and displays significant antioxidant activity, further adding to its nutritional appeal.

The breakthrough has opened up numerous opportunities in the food industry, especially in the development of functional food products. The separated fractions, including the germ and bran, can be utilised in the production of nutraceutical food items, catering to the increasing demand for healthy and nutritionally enriched alternatives. Additionally, the perisperm fraction, obtained in the form of flour with low mineral content and high color brightness similar to refined wheat flour, could find potential applications in bakery products.

Researchers at CSIR-CFTRI emphasise that not only the germ but also other fractions, such as perisperm and bran, possess unique techno-functional, nutritional, and rheological properties that can make them more commercially attractive in the food product development and pharmaceutical industries.

With the advent of growing interest in plant-based alternative protein sources, the discovery of an industrially scalable process for extracting quinoa germ comes as a game-changer for the food processing industry. This breakthrough not only offers a new source of high-quality proteins and fats but also provides the potential to harness the full nutritional value of quinoa for various functional applications.

As the research continues to pave the way for innovative applications in the food and pharmaceutical sectors, the newly developed process is expected to revolutionise the way quinoa is utilised and contribute significantly to the global pursuit of healthier and more sustainable dietary choices.

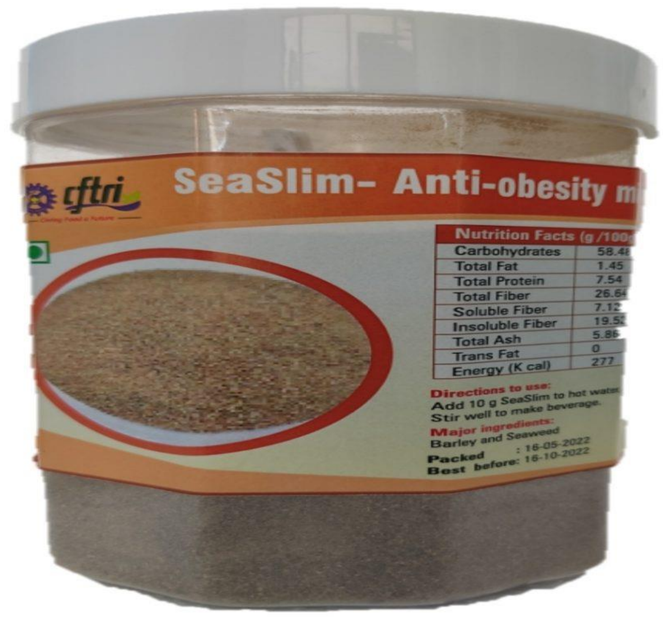
Published in:
Mysoorunews

CFTRI develops Barley-Seaweed based Anti-obese supplement "SeaSlim"

CSIR-CFTRI

4th July , 2023

Mysuru: Prevalence of obesity in India has increased over the past decade and it ranks third in the world. Market for anti-obese foods is getting propelled owing to rising obesity cases and side effects of drug.



Brown seaweed Padina tetrastromatica is used in the process, possess highly nutritive food constituents, viz., vitamins, minerals, trace elements, proteins, iodine, and other bioactive substances, viz., carotenoids, phenolic acids, amines, lipids, peptides, fiber (polysaccharides), steroids and fatty acids (PUFAs in particular. Barley is an efficient food to prevent and cure many life-style disorders like diabetes and obesity due to high insoluble fiber content that regulates blood sugar levels, slower absorption of glucose and fat from the intestine.

Owing to the above qualities of brown algae and barley, food SeaSlim was developed to manage obesity.

SeaSlim can be used as potent antioxidant food, as it is a rich source of bio-actives like fucoxanthin, dietary fibers and hydrocolloids. It lowers the fat absorption in small intestine as the food contains soluble dietary fiber and hence, lowers the risk of obesity and diabetes. SeaSlim can be used against laxative in chronic constipation and colon cleansing, digestion problems and poor food assimilation.

The food can provide adequate amount of energy, fat, carbohydrate, and protein. SeaSlim helps in regulating body weight by reducing the food intake, plasma glucose and blood and adipose

lipid level and can be used as low-glycemic index food. SeaSlim with low glycemic index (Low GI-48) can be recommended as a thermogenic food to manage obesity since provides better effect compared to the drug Orlistat. The food effectively affects the molecular markers of adipogenesis comprising PPAR-γ was found to be down regulated, whereas, the thermogenesis marker including UCP-1 was found to be up regulated.

Food can be stored for more than 6 months in metallized polypropylene pouches. Product has no added preservative, color, flavor, thickening agent, anticaking agent. No side effects and no heavy metals and can be consumed daily. The product is with low glycemic Index which is beneficial to obese and diabetic population.

Published in:
Mysoorunews

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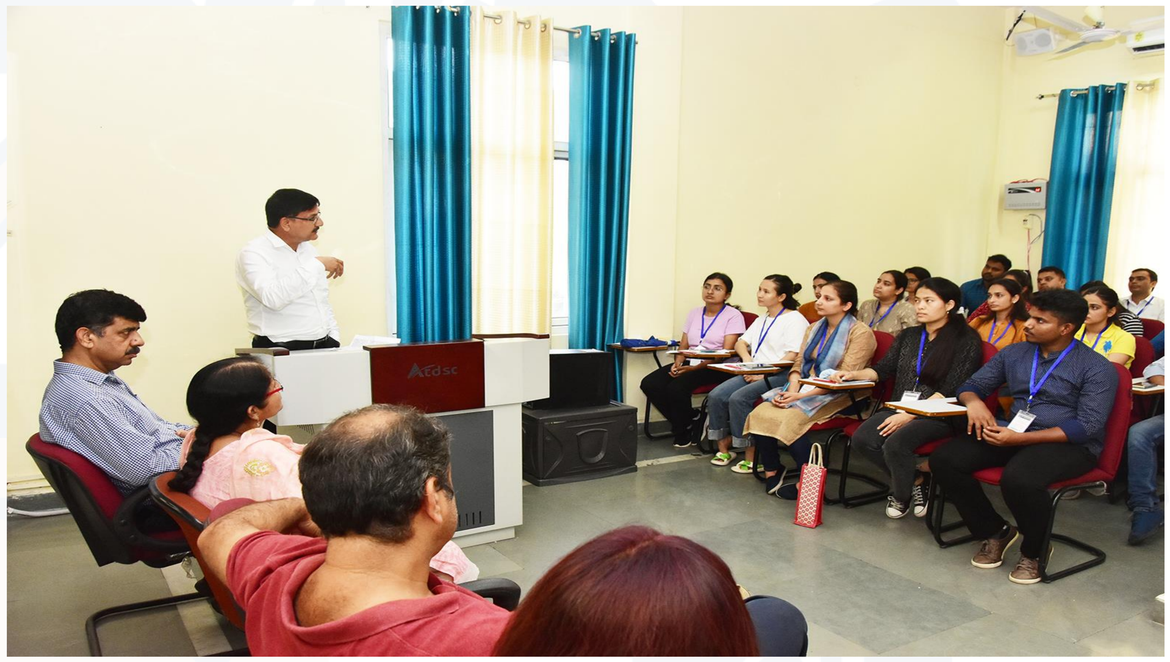
High-end workshop on modern analytical techniques in food biochemistry commences at SKUAST

CSIR-IIIM

4th July , 2023

Jammu, July 4: A ten-day high-end skilling workshop on Modern Analytical Techniques in Food Biochemistry began today at the Division of Biochemistry, Faculty of Basic Sciences, SKUAST-Jammu. The workshop, sponsored under the Vigyan Accelerate Karyashala Scheme of DST-SERB, was inaugurated by Dr. Sanjay Guleria, I/c Dean, Faculty of Basic Sciences.



During the inaugural address, Dr. Guleria expressed his optimism that the students would greatly benefit from the workshop, as it provides them with hands-on exposure to modern analytical techniques in biochemistry. He applauded the organizers for meticulously designing the workshop and encouraged the participants to consider startups in food technology, fostering their potential as budding entrepreneurs.

Dr. Moni Gupta, Professor of Biochemistry and Course Director, provided a detailed overview of the workshop and the topics to be covered over the next ten days. Twenty participants from various parts of the country, including esteemed institutions such as DCRUST, Murthal; SVPUAT, Meerut; MDS University, Rohtak; CCHU, Hissar; Bharthiar University, Coimbatore; CSIR-IIIM, Jammu; University of Jammu, and SKUAST-Jammu, are participating in the workshop.

The workshop includes twenty-nine lectures and hands-on practical sessions by experts from renowned institutes such as the University of Technology, Malaysia; PAU, Ludhiana; University of Mysuru, Mysore; CSIR-IIIM; University of Jammu, and SKUAST-Jammu. The

students will also have the opportunity to visit premier institutes in and around Jammu to gain exposure to modern analytical techniques in Food Biochemistry.

Dr. Vikas Sharma, Associate Professor of Biochemistry, was also present at the inaugural ceremony. The program proceedings were conducted by Dr. Sachin Gupta, Professor and Course Coordinator of the workshop.

Published in:
Earlytimes

CSIR-CFTRI

4th July, 2023

CFTRI launches 'One Week One Lab' programme

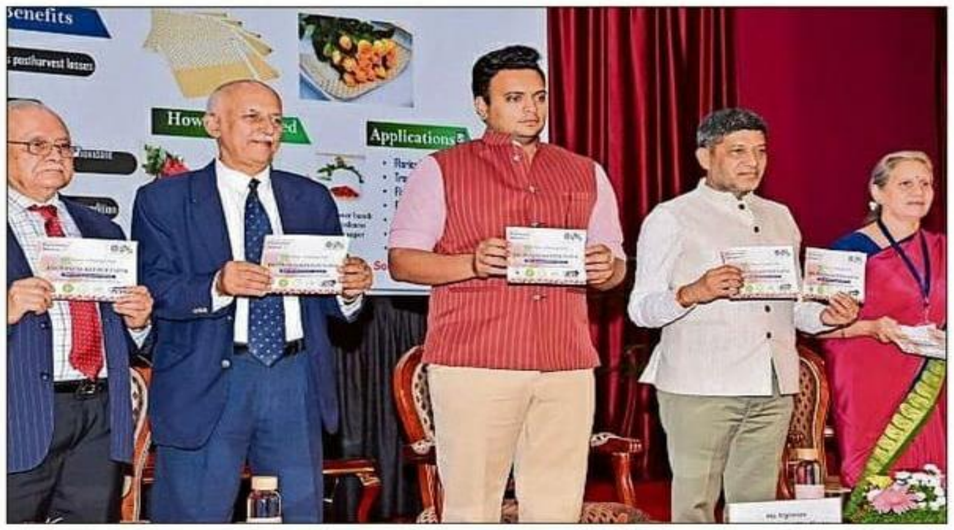
MYSURU, DHNS

The Council of Scientific and Industrial Research (CSIR) - Central Food Technological Research Institute (CFTRI), that has been developing cost-effective technologies, has come up with four new products, that were released, as part of 'One Week One Lab' (OWOL) programme, in Mysuru, on Monday.

Yaduveer Krishnadatta Chamaraja Wadiyar, member of the erstwhile royal family, inaugurated the programme, at the IFTTC auditorium, CSIR-CFTRI on Monday. CFTRI Director Sridevi Annapurna Singh, CEO of Ministry of Agriculture and Farmers Ashok Dalvoy, former CFTRI directors V Prakash and S R Bhowmik and scientist B V Satyendra Rao were present.

The five-day OWOL programme aims to actively engage with the public. Its purpose extends beyond showcasing innovative technologies and to encourage young innovators, students, start-ups, academia and industry professionals.

The programme serves as a platform to promote and exhibit research, advanced technologies, state-of-the-art facilities in the field of Food Science and Technology.



Yaduveer Krishnadatta Chamaraja Wadiyar, member of the erstwhile royal family, releases a new food product, during the 'One Week One Lab programme', at CFTRI ini Mysuru on Monday. S R Bhowmik, V Prakash, Ashok Dalvoy and CFTRI Director Sridevi Annapurna Singh are seen. DH PHOTO

Five-day sessions

The CFTRI has organised a line up of sessions, dealing with various topics and lectures by eminent experts. The topics are: investment pitch on food processing, start-ups, woman SHG, farmer-entrepreneurship, with Soumya Swaminathan, former chief scientist of World Health Organisation and chairperson of S Swaminathan Research Foundation as chief guest. The sessions include discussion on SHG-FPO focus, woman entrepreneurship, supplement food for women and child development.

The third day theme will be Students and Public, with Chindi Vasudevappa, former VC, NIFTEM, Haryana as the chief guest. There will be lectures by experts and 'Eat Right Walkathon' that will be flagged off from the main building.

Day four theme will be 'Millet focus'. Professor Rekha S Singhal will inaugurate the two-day 'Open Day' programme, on Thursday. There will be inauguration of exhibition, millet showcase and product launch.

The theme of the fifth day is 'Alumni, Artificial Intelligence and Ayush Ahar'. The CFTRI alumni meet will be held. The valedictory ceremony will be held at 4 pm, on July 7. Deputy Commissioner Dr K V Rajendra will be the chief guest.

Published in:

Deccan Herald

UoL hosts conference on ‘sustainable future: green chemistry advances’

CSIR-IICT

3rd July , 2023

The University of Ladakh (UoL), in collaboration with the Green Chemistry Network Centre, New Delhi and the Indian Society of Analytical Scientist (ISAS) Delhi Chapter, organized an international conference on “Designing a Sustainable Future: Advances and Opportunities in Green Chemistry” here today.

Jamyang Tsering Namgyal, Member of Parliament from Ladakh, attended the ceremony as the chief guest. In his speech, he expressed gratitude to the University for organizing the event and highlighted the importance of such conferences in facilitating the exchange of ideas and groundbreaking research.

Namgyal emphasized that Green Chemistry provides a pathway to align human progress with ecological balance. He also mentioned the Government’s commitment to addressing climate change challenges, including the adoption of hydrogen technology, the use of solar energy, exploration of geothermal sources, and the promotion of eco-friendly mobility options in the region.

He further informed the audience about the Mission Organic Development Initiative (MODI), aiming to make Ladakh a certified organic agricultural State by 2025. Distinguished guests Dr D Srinivasa Reddy from CSIR-IICT Hyderabad, Dr GS Kapur, Chairman of ISAS Delhi Chapter, Dr RK Sharma from GNCE Hindu College (Delhi University), and Dr OP Chaurasia and Dr Avtar Matharu from the University of York London joined the conference virtually.

They delivered speeches and presentations, addressing key environmental challenges and discussing alternative solutions through the application of Green Chemistry. Professor SK Mehta, Vice-Chancellor of the University of Ladakh, welcomed the guests and expressed his gratitude for their presence.

He emphasized that Green Chemistry offers a noble philosophical approach to environmental protection, aiming to reduce, recycle, and eliminate the use of toxic chemicals. Professor Mehta highlighted that the conference would generate important deliberations and knowledge, fostering the discovery of creative and eco-friendly alternative solutions and processes.

The conference witnessed the participation of various experts, academicians, researchers, scientists, and students.

Published in:
Dailyexcelsior

Molecule from marine life can treat hospital infections: NIO

CSIR-NIO

2nd July , 2023

PANAJI: Scientists in India are working on ocean sponges to develop an antibiotic molecule that can treat hospital-acquired infections. This marine-derived antibiotic molecule is being developed at the CSIR-National Institute of Oceanography (NIO), Goa, to treat serious gram-positive infections. The compound, PM181104 was tested against more than 250 clinical pathogens and has shown promising results.

"Very soon the world will have to bear the consequences of increased drug resistance if new anti-infectives aren't pumped into the clinical pipeline in a short period. This presses on the need for novel chemical entities, and the marine environment is one such hotspot to look for," said Dr Narsinh Thakur, senior principal scientist, CSIR-NIO.

Gram-positive bacteria, especially the antibiotic-resistant pathogens are the burgeoning reasons for bloodstream infections in the hospitalized patients, and are associated with serious clinical failures. A specifically persistent problem in hospitals is antibiotic resistance in gram-positive cocci (spherical-shaped bacterium) infections such as skin infections, pneumonia, septic arthritis and abscesses.

Both infection control and antibiotic-selective pressure are important factors responsible for outbreaks in hospitals. Such healthcare-associated infections are increasingly difficult to treat because of the pathogens involved. "There is an urgent clinical need for new antimicrobial agents against serious gram-positive pathogens, including the drug-resistant ones with suitable pharmacokinetic properties and safety profiles," Dr Thakur said.

Pharmacokinetics studies how the body interacts with substances or drugs administered during treatment. "Gram-positive infections need to be managed effectively before they turn into an epidemic," he said.

This is where marine-sourced solutions come in. Since marine life is evolutionarily far more diverse than its terrestrial counterpart, scientists are tapping into its potential. With a widely unexplored repository of living resources, marine biodiversity is a treasure attracting pharmaceutical industries for drug discovery and other applications. Several parameters such as light, pressure, temperature, and nutrient conditions of the ocean challenge the marine living creatures to produce complex bioactive molecules for survival. Of the several treasures the ocean harbours, sponges are of particular interest. These marine sponges are primitive, filter-feeding organisms which along with the food particles also ingest pathogens. To tackle this problem, sponges produce various anti-biotic compounds which can be tapped for human use.

"With several compounds in clinical trials and some in the market, sponges and their associated bacteria have showcased their exceptional potential of having various effective medicinal properties," Dr Thakur said. The studies which are in progress under mission IND (investigational new drug) program of the CSIR will soon prepare the antibiotic molecule for IND's application filing.

Infographic:

Ocean Sponge Molecule

PM181104 is an emerging antibiotic molecule obtained by fermenting marine sponge-associated bacterium PM181104 is a potent antibiotic showing antibacterial activity against MRSA (infection causing bacteria that is difficult to treat) & several bacterial pathogens The CSIR-NIO Goa isolated antibiotic-producing Kocuria species from marine sponge This molecule was further developed by NIO-Goa researchers & Nicholas Piramal research centre, Mumbai PM181104 tested against more than 250 test organisms including Vancomycin-resistant and Vancomycin sensitive Enterococci, Staphylococcus epidermidis, Bacillus species, 17 gram-negative strains & Methicillin-resistant and methicillin-sensitive S aureus (an infection)

Published in:

Timesofindia

CSIR-CSMCRI

1st July, 2023

सहकारिता मंत्री जगदीश विश्वकर्मा ने भावनगर में सेंट्रल साल्ट का दौरा किया

भावनगर। सहकारिता, नमक उद्योग, मुद्रण एवं लेखन सामग्री, प्रोटोकॉल (स्वतंत्र प्रभार) लघु सूक्ष्म एवं मध्यम उद्योग, कुटीर, खादी एवं ग्रामोद्योग, नागरिक उड्डयन राज्य मंत्री जगदीश विश्वकर्मा ने आज केंद्रीय नमक एवं समुद्री रसायन अनुसंधान संस्थान (सीएसएमसीआरआई) भावनगर में सेंट्रल सॉल्ट का दौरा किया। मंत्री ने पावर प्वाइंट प्रेजेंटेशन के माध्यम से सेंट्रल साल्ट के अधिकारियों से किये जा रहे कार्यों की जानकारी प्राप्त की। मंत्री ने नमक निर्माण तकनीक, गुणवत्ता, डबल फोर्टी फाइड नमक और इसकी कार्यप्रणाली तथा राजस्व मॉडल के बारे में गहन जानकारी प्राप्त की और आवश्यक मार्गदर्शन दिया। इस अवसर पर केंद्रीय नमक एवं समुद्री रसायन अनुसंधान संस्थान (सीएसएमसीआरआई) के मुख्य वैज्ञानिक डॉ. बी. गांगुली, डॉ. पी. एस. सुब्रमण्यम, वरिष्ठ प्रधान वैज्ञानिक डॉ. कमलेश प्रसाद, वरिष्ठ प्रधान वैज्ञानिक डॉ. अरूप घोष, वरिष्ठ प्रधान वैज्ञानिक एस. सी. उपाध्याय, प्रतिनियंत्रक प्रशासन सुभाष चन्द्र एवं अन्य अधिकारी उपस्थित थे।

Published in:
Gujarat Vaibhav

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