





16 TO 20 M&RCH 2023







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



Farmers play a very crucial role amidst the Laboratory, Industry and Market: Dr. N. Kalaiselvi, DG, CSIR







"Science Conclave and Agro-Tech Expo 2023" was organized lduring last two days at Gurugram University, Haryana. This was a unique program brought the audience from different strata of the society. Scientists, academicians, students, farmers, entrepreneurs and technology developers actively participated in this science conclave. Gurugram University in collaboration with CSIR-National Institute of Science Communication & Policy Research (CSIR-NIScPR), New Delhi and the Department of Science & Technology, Haryana organized this very useful event. The Unnat Bharat Abhiyan (UBA) and Vijnana Bharati (VIBHA) came forward as the knowledge partners of this program. The aim of this program was to introduce farmers and students to CSIR technologies for livelihood generation and sustainable development in rural areas. The exhibition was officially opened by the distinguished guests to kick off the programme.

Dr. N. Kalaiselvi, Secretary, DSIR, Govt. of India & Director General, CSIR graced the inaugural session as the chief guest. Guests of honour included Dr. Kailash Chandra Sharma, Vice Chairman, Haryana State Council of Higher Education, Panchkula, Haryana; Prof. Ranjana Aggarwal, Director, CSIR-NIScPR, New Delhi; and Prof. Dinesh Kumar, Program Chairman, Vice Chancellor of Gurugram University.



CSIR While addressing the gathering, Dr. Kalaiselvi said that farmers play a very crucial role amidst the laboratory, industry and market. She put emphasis on the research and technology utility/applicability for the common man. She appreciated the organisers for roping in the farmers during the event. She added that all the CSIR labs are doing One week One Lab campaign. She motivated the students present during the event to talk to scientists of the nearby CSIR lab, shake hands with them and learn many things in science.

Prof. Dinesh Kumar, Vice Chancellor of Gurugram University, stated that this event intends to provide an enabling environment for interaction amongst interested stakeholders such as farmers and students to make their connection with science and technology. Prof. Ranjana Aggarwal, Director, CSIR-NIScPR discussed the objectives of CSIR-NIScPR and elaborated the concept and idea behind this Science Conclave & Agro-Tech Expo.

The mentor of Vijnana Bharati Dr. Shankar Rao Tatwawadi and Prof. Kailash Chandra Sharma, Vice Chairman, Haryana State Council of Higher Education, Haryana also addressed the audience.

In the Agro-Tech Expo, 8 labs of CSIR showcased their technologies and products. This expo was the main attraction for the farmers as well as students. The stalls at expo featured a range of initiatives where farmers learned about cutting-edge crop varieties, modern agricultural techniques and cutting-edge equipment developed in various CSIR labs.

Technical sessions focused on the Scientist and Farmer interaction, Rural Development & Atmanirbhar Bharat along with Science Mentalism Show, Science Cartoon Show, Special lecture on Saur Mandal Ki Sair were the centre of attraction to the audience.

CSIR's popular science magazines namely 'Science Reporter' (English) and 'Vigyan Pragati' (Hindi) have brought out special issues on innovations and millet year. During the Science Conclave, DG, CSIR Dr. N. Kalaiselvi; VC, Gurugram University Prof. Dinesh Kumar; Director, CSIR-NIScPR Prof. Ranjana Aggarwal, JS, CSIR Dr. Mahendra Gupta and other





guests released the March 2023 issues of both the science magazines. Editors of these magazines Shri Hasan Jawaid Khan and Dr. Manish Mohan Gore were also present on the occasion.

During the program, an 'On the Spot Poster Making Competition' on 'Sustainable Development' and the Science Model Exhibition on 'Atmanirbhar Bharat' for students were also organized. Puppet show was organized both the days of the Science Conclave. The puppet expert Shri Narayan Srivastava exhibited a number of puppet shows based on different stories from daily life. Audience enjoyed the puppet show a lot.

On 16 March, 2023 Dr. Omkar Rai, Executive Chairman, Startup Odisha and Prof. Asim Ali Khan, Director General, CCRUM, Ministry of Ayush, Govt. of India graced the valedictory session. More than a thousand scientists, academicians, farmers, and school and college

students from the surrounding districts actively took part in the programme.



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Comprehensive plan on millets production, value-addition by year-end: **CSIR-NIIST**





The CSIR-National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram, will come up with a comprehensive plan to promote production and value-addition of millets on sustainable lines by the year-end, according to C Anandharamakrishnan, Director.

He was addressing a session of the Millet



Conclave titled 'Shree Anna', a One Week One Lab programme launched by the Council of Scientific and Industrial Research (CSIR). The Millet Conclave is an initiative of the Department of Science and Technology, that showcases achievements of each of the 37 constituent laboratories of CSIR.

Critical hurdles

The cultivation, value-addition and promotion of millets faces critical hurdles, and CSIR-NIIST has been working to address these issues, Anandharamakrishnan said. Extension of field-level technology to augment production and scientific processes for value-addition and shelf-life need to be addressed urgently. A database to take promotional projects forward is essential. Since millet cultivation remains complex and labour-intensive, field-level machines are vital to scale up production, he said.

Ajith Kumar Shasany, Director, CSIR-NBRI, Lucknow, said world-class facilities offering food processing technologies should be created to achieve quality produce, benefiting both the farming sector and industry.





Quality, taste, shelf life M Loganathan, Director (i/c), National Institute of Food Processing Technology, Entrepreneurship and Management, Thanjavur, said apart from providing institutional support to farmers, the creation of incubation facilities is also vital. "Quality, taste and shelf life are three law parameters for the commercial success of millet products for which a

life are three key parameters for the commercial success of millet products, for which a growing market is available in India and abroad," he said. Ashok S Alur, Director, Centre of Excellence for Farmer Producer Organisations, University of Horticultural Sciences, Bengaluru, said this is the opportune time for India to augment and mainstream millet production and consumption. If scientists, promoters and policy-makers come together to support farmers, India could emerge as a major global millet cultivation hub.

Panel discussion

A panel discussion on promoting millet cultivation and value-addition, included Lalita Goyal,

Senior Principal Scientist, Directorates-Interface-CSIR, New Delhi; Meera MS, Senior Principal Scientist, CSIR-CFTRI, Mysuru; Vikram Sankaranarayanan, Director, Borne Technologies, Coimbatore; KP Sudheer, Head, RAFTAAR, KAU, Thrissur; and MG Malleshi, Chief Scientist (Rtd), CSIR-CFTRI. The speakers included S Nagesh, Chief, Agriculture Division, Kerala State Planning Board; Jimmy Jose, Head-HR & Corporate Communication, Synthite Industries; Deepthi Nair, Director, Coconut Development Board; Ramesh Babu N, Scientist, Spices Board; and Shrinivasan Ramasamy, CEO, Apex Coco and Solar.



Thehindubusinessline





Women farmers trained in cultivation of aromatic, medicinal plants



20th March, 2023

CSIR-CIMAP experts trained female farmers. CSIR-CIMAP scientist Dr Saudan Singh inaugurated the programme and assured all possible help to women farmers for cultivation of aromatic and medicinal plants. CSIR-CIMAP scientist Rishikesh explained in detail about the cultivation of aromatic and medicinal plants and their products.



A four-day workshop on "Training for entrepreneurship development in farmers" organised by the department of environmental science, Babasaheb Bhimrao Ambedkar University under 'Science, Technology and Innovation Hub in North India' (Uttar Pradesh, Uttarakhand, Himachal Pradesh) concluded on Saturday. This project is funded by DST-SEED.

Project investigator Prof Naveen Kumar Arora, dean, School of Earth and Environmental Sciences organised the training programme.

On the fourth day of the event, CSIR-CIMAP experts trained female farmers. CSIR-CIMAP scientist Dr Saudan Singh inaugurated the programme and assured all possible help to women farmers for cultivation of aromatic and medicinal plants. CSIR-CIMAP scientist Rishikesh explained in detail about the cultivation of aromatic and medicinal plants and their products. Rishikesh inspired women farmers to do collective farming and talked about the benefits of it. Dr Deepak from CSIR-CIMAP talked about the use of medicinal plants like Bhringraj, Mandukaparni, Ashwagandha, Brahmi, Tulsi, Chamomile etc. Also discussed in detail was the methods of cultivation of aromatic plants Palmarosa, Khus, Java grass, Geranium plants and



the income from it. VR Singh of CSIR-CIMAP demonstrated the cultivation of rose varieties Noorjahan, Ranishiba having high oil content and scientific methods of making rose water and extracting oil from rose flowers. Along with this, training was also given to make value added products like incense sticks, incense sticks from flowers.

PK Singh, research associate of the project, gave suggestions to solve the problems faced by farmers in farming and assured to provide help to women farmers in future.











Bougainvillea varieties with unique names bloom at NBRI, Lucknow





Wazid Ali Shah, APJ Abdul Kalam and Begum Sikander were some of the innovatively named Bougainvillea varieties on display at the twoday Bougainvillea festival that was inaugurated at the central lawn of CSIR-National Botanical Research Institute (NBRI) in Lucknow on Sunday.

Over 50 varieties including about two dozen



recently developed varieties of colourful Bougainvillaea attracted attention at the Bougainvillea festival cum Flower Krishi Mela, that will remain open from 10 am to 5 pm till Monday.

Some Bougainvillea varieties carried different names like 'Begum Sikander', Wazid Ali Shah, APJ Abdul Kalam, while some others were named 'Shubhra', Arjuna, Archana, Mary Palmer Special, Los Banos Variegata, Aruna. Some other varieties had names like Dr BP Pal, Dr PV Sane.

While the Bougainvillea festival attracted crowd, many farmers, entrepreneurs from states with flower clusters like Maharashtra, West Bengal, Madhya Pradesh and U.P. arrived to be part of Flower Krishi Mela that was also organised alongside the flower festival. "The main objective is to disseminate among the farmers, the technology & information on floricultural crops available with the institute so that they can scale up their income through floriculture besides traditional farming," said KJ Singh, senior scientist and convener of the programme. "The institute plans to organise second Bougainvilles festival too," said SK Tewari, chief

"The institute plans to organise second Bougainvillea festival too," said SK Tewari, chief





scientist and garden in- charge, NBRI. He said in that festival, NBRI could allow individuals growing unique variety of Bougainvillea to display their products. As of now Bougainvillea is displayed only by NBRI and nurseries.

Flower cultivation more profitable than conventional farming

Flower cultivation has benefited more farmers than those into conventional farming of rice, wheat, said farmers like Rahul Shukla (Lucknow), Digvijay Singh (Barabanki).

Sachin Rajulkar (Mahrashtra) said he has been cultivating flowers like Marigold, Rajnigandha Galleria and Chrysanthemum and it is profitable because it can be grown twice in a year and can stand extreme weather.

Devesh Chaturvedi, additional chief secretary, agriculture, agriculture education and research was the chief guest. He suggested that crop diversification is essential to increase farmers' income.

Anand Prakash, vice chancellor, Mahatma Gandhi Central University, Bihar, Bijendra Singh, vice chancellor, Acharya Narendra Dev University of Agricultural & Technology, Ayodhya, were among those present.









CSIR-IIIM incubator honored with 'J&K SEED Startup Enabler Award'





The Council of Scientific & Industrial Research-Indian Institute of Integrative Medicine (CSIR-IIIM) – Technology Business Incubator in Jammu has been recognized with the "J&K SEED Startup Enabler Award" for its support of the startup ecosystem in Jammu & Kashmir. A press statement said that the award was presented to Dr Saurabh Saran, Principal



Scientist CSIR-IIIM, Jammu & Principal Investigator, IIIM- Technology Business Incubator and Er Ankush Varma, Coordinator, IIIM-Technology Business Incubator during the first J&K Start-up Event for Entrepreneurial Development (SEED-1).

The event was held at MIET College in Jammu and was organized by MIET in collaboration with FICCI FLO JK&L to celebrate the spirit of entrepreneurship and startup culture in the UT of Jammu & Kashmir. During the award ceremony, Dr Saran informed the audience about the work carried out by the incubator to promote the startup ecosystem in Jammu & Kashmir.

He said that since 2018, 82 startup companies have registered with the IIIM-TBI, including in-house, virtual, and outside incubates. Among them, 15 in-house incubates have reached the product development stage, and five startup companies have successfully completed the product development cycle and launched their products in the market. Er Ankush Varma emphasized that the IIIM Incubator is committed to creating awareness among the local population of Jammu & Kashmir by promoting a biotech-based startup ecosystem.

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Under CSIR-Aroma Mission Phase-2, a day long training programme for farmers followed by distribution of quality planting material was held at CSIR-Indian Institute of Integrative Medicine, Jammu (IIIM) here today. More than 150 farmers and other stakeholders, including more than 50 women from Doda,



Kishtwar, Poonch, Reasi, Rajouri, Jammu, Samba, Ramban, Kathua, Pulwama, and Udhampur districts of J&K attended the program.

They were apprised of the Cultivation, Processing, Value Addition, and Marketing of Aromatic Crops. Quality planting material of high-value aromatic crops like Rosemary (1, 00,000 plants), Wild Marigold (250 Kg seeds), and Clary Sage (10 kg seeds) for cultivation on more than 250 acres area was distributed free of cost to more than 100 farmers.

Chief guest of the program was Prof Yashpal Sharma, Rector Udhampur Campus, University of Jammu, who appreciated the efforts of IIIM and motivated women and young entrepreneurs of the region to take full advantage of opportunities being provided under Aroma Mission. He stressed the collaboration between various stakeholders, including scientific institutions, state machinery, industry, entrepreneurs, and FPOs.

Er Abdul Rahim, Chief Scientist, IIIM Jammu said that the CSIR-IIIM would ensure the progress of farmers and entrepreneurs through scientific and technological interventions. He informed that the focus of IIIM is on the development of Agri-Entrepreneurship through





skill development and value addition of Medicinal and Aromatic Crops. Dr Zabeer Ahmad, Chief Scientist, IIIM Jammu, appreciated the efforts of progressive farmers of the region who have become role models for other farmers across India. He suggested that each progressive farmer should train hundred other farmers so that this revolution could reach

every nook and corner of the country.

Dr Dhiraj Vyas, Head Plant & Agrotechnology Division, IIIM Jammu, explained how the CSIR-Aroma Mission is transforming the lives of farmers across J&K through Lavender cultivation. He said that there is a huge potential of growing other aromatic crops like Rosemary and Wild Marigold in J&K.

Earlier, Dr Sumeet Gairola, Nodal Scientist, CSIR-Aroma Mission (IIIM) conveyed the message of Dr D Srinivasa Reddy, Director, IIIM Jammu. Many progressive farmers and

entrepreneurs shared their success stories with the participants. Dr Rajendra Bhanwaria, Senior Scientist presented the vote of thanks. Several senior scientists of the Plant Sciences & Agrotechnology Division were also present.









KMML signs MoU with CSIR-NIIST





The Kerala Minerals and Metals Limited (KMML) has signed a memorandum of understanding (MoU) with the Council of Scientific & Industrial Research (CSIR) under the National Institute for Interdisciplinary Science & Technology (NIIST) to extract scandium from the spent acid used for the beneficiation of ilmenite at the pigment unit.

The new concept has been developed in collaboration with the Research and Development Department of the KMML. A rare mineral mainly used in aerospace and nuclear applications, scandium has huge industrial demand and costs more per gram than gold. According to KMML officials, only 50 tonnes are produced annually in the world and no other State produces the mineral. "If this innovative project in the KMML is successful, it will be a great asset to the country and the State," they said.

The MoU was signed recently after a panel discussion at the Strategic Material Conclave held as part of the 'One Week One Lab' programme organised in Thiruvananthapuram in connection with CSIR-NIIST Research and Development activities. The panel discussion included researchers, policymakers, and industrialists among others. The 'One Week One Lab' programme is held for a week in all 37 laboratories of the country under the CSIR. The discussion on strategic material was organised under the theme 'Raksha 2023'. VSSC-ISRO Director S. Unnikrishnan Nair inaugurated the conclave and KMML managing director J. Chandrabose was the guest of honour. CSIR-NIIST Director C. Anantharamakrishnan presided over the function. The event was attended by scientists and officials.

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Measures taken to protect the ancient and traditional knowledge of the country





A total of 448764 ISM formulations including 127533 in Ayurveda, 240850 in Unani, 70158 in Siddha, and 5445 in Sowa Rigpa, and 4778 in Yoga techniques have been transcribed so far into the Traditional Knowledge Digital Library (TKDL) database. On the basis of TKDL evidences, so far, 283 patent applications have been either refused, amended or withdrawn/abandoned, thus protecting Indian traditional knowledge.

As per the national Biological Diversity (BD) Act, 2002, approval of the National Biodiversity Authority (NBA) is necessary before seeking any IPR based on biological material and associated knowledge obtained from India. Under the BD Act, 2002 and Rules thereunder, the

NBA has also been pursuing efforts on Peoples Biodiversity Register (PBR). The register is a tool for formal recording and maintenance of comprehensive information on availability and knowledge of local biological resources, their medicinal or any other use. The CSIR-TKDL Unit has signed a Non-Disclosure Agreement with NBA for evaluating and identifying modalities for possible inclusion of information from the PBR into the TKDL database.

Under Section 3p of the Indian Patents Act, 1970, invention which in effect, is traditional knowledge or which is an aggregation or duplication of known properties of a traditionally known component or components, is non-patentable. In addition, the Patents Act, 1970 provides for disclosing the source and geographical origin of the biological material in the specification, when used in an invention and conveys the information to NBA, thereby facilitating compliance.

The Traditional Knowledge Digital Library (TKDL) is a prior art database of Indian traditional knowledge established in 2001, jointly by the Council of Scientific and Industrial Research (CSIR) and Department of Indian Systems of Medicine and Homeopathy (Dept. of ISM&H, now Ministry of AYUSH). The TKDL was established to prevent misappropriation





of Indian traditional knowledge (TK) by way of intellectual property rights. The TKDL currently contains information from ancient texts related to ISM such as Ayurveda, Unani, Siddha, Sowa Rigpa and Yoga. The information from ancient texts of medicine and health existing in local languages such as Sanskrit, Hindi, Arabic, Persian, Urdu, Tamil, Bhoti etc., have been transcribed into five international languages, namely English, French, German, Spanish and Japanese in the TKDL database. The TKDL thus serves as a robust prior art database of Indian TK information therewith offering the information in languages and format understandable by patent examiners at Patent Offices worldwide. The TKDL thus prevents erroneous grant of patents by patent offices.

The access to this database is given to patent offices world-wide that have signed Nondisclosure Access Agreements with the CSIR, for search of TKDL evidences in the context of patent applications filed with them. The TKDL prior art database is currently available to 16 patent offices – including the Indian Patent Office (Controller General of Patents, Designs & Trade Marks), European Patent Office, US Patent Office, Japanese Patent Office, German Patent Office, Canadian Patent Office, Chile Patent Office, Australian Patent Office, UK Patent Office, Malaysian Patent Office, Russian Patent Office, Peru Patent Office, Spanish Patent & Trademark Office, Danish Patent and Trademark Office, National Industrial Property Institute (INPI, France) and Eurasian Patent Organization.

In addition to the use of TKDL database by patent offices, the CSIR-TKDL Unit also files third party observations/pre-grant oppositions on patent applications that have relevance to

Indian traditional knowledge. This defensive protection through TKDL has been effective in safeguarding Indian traditional knowledge from misappropriation, and is considered a global benchmark.

This information was given by Minister of Ayush Shri Sarbananda Sonowal in a written reply in Loksabha today.

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Mangaluru: St Aloysius College organizes national seminar on 'Millets for Healthy Living'









The faculty of biological sciences and the department of food processing and engineering, St Aloysius College (Autonomous), Mangaluru, in association with Karnataka Science and Technology Academy (KSTA) organized a day-long national seminar on 'Millets for Healthy Living' on March 16 in L F Rasquinha Hall of LCRI Block.

Dr Sridevi Annapurna Singh, director of CSIR-CFTRI Central Food Technological Research Institute, Mysuru was the chief guest and keynote speaker. Dr Praveen Martis, SJ, principal was presided over the programme. Dr Richard Gonsalves, director of LCRI Block, Dr Narayana Bhat, director of Xavier Block, Dr Denis Fernandes, director of Arrupe Block, Dr Adarsha Gowda, convenor of the programme and Prof Harsha Paul, dean for Biological Sciences were on the dais.

Dr Sridevi Annapurna in her speech spoke on the production and consumption of millets which is highly nutritious and eco-friendly grains. "These grains help in preventing diseases such as obesity, diabetes, arthritis, cancer and so on which causes due to the imbalanced nutritious food. Consuming millets also provide self-stability and good health. This year is considered as International Year for Millets with the theme to produce more such grains and

use it to improve the gut microbial of the people," she said. Dr Praveen Martis, in his presidential remarks briefed about the importance of healthy living. He suggested the students to produce the healthy products from millets and promote it for healthy lifestyle.

There were three sessions. Dr Girish Kumar B, co-founder (Maa Ruchi), Negilayogi Enterprizes, Chamrajnagar, Karnataka was the speaker for the I session. Renuka K, founder and CEO, RVK Samrudh Healthy Foods, Pune, Maharasthra was the speaker for the II session. The speaker for the III session was Jagadish B S, co-founder and CEO, Lite Fresh, Desi Viva Foods, LLP Bommasandra Industrial Area, Bengaluru.

During the programme, prof Harsha Paul was honoured for his services in the field of teaching and remarkable role in implementing several biological programmes in the college.

Hemachandra introduced the chief guest. Dr Adarsha Gowda proposed the vote of thanks.

Grinida, III BSc compered the programme. Prof Harsha Paul welcomed the gathering. Dr

CSIR-CSMCRI

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CSIR-NGRI

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graced the occasion as the Chief Guest. He stressed the need for such training programs to develop skilled man-

EPMA and emphasized the power in the important discipline of Geochemistry. need to understand the basic petrological information to in-He opined that several universities across the country lack terpret the advanced Geochemistry data. He suggested the advanced analytical tools that the NGRI authorities conto work on different aspects of Earth Sciences. These tools duct more such programs and are useful in Mineral Explocreate trained human resources in the country. More ration, and understanding mother earth and its formathan 30 participants belonging to various institutes/universia formal vote of thanks tion. He gave a talk on the

ties from all over the country attended this program. Dr. Prakash Kumar, Director, CSIR-NGRI, described the skill initiatives taken at the Institute at the behest of the Government of India initiatives. Dr. Srinivasa Sarma welcomed the gathering and Dr. M. Ram Mohan proposed

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Deccan Herald

CSIR-NIIST

Food fair at NIIST lays on a spread of millet goodies

A large variety of millet-based value-added products, from breakfast staples to desserts, are on display and sale at the millet food expo organised at the One Week One Lab programme

The Hindu Bureau THIRUVANANTHAPURAM

Institute for Interdisciplinary Science and Technology (NHST) is beckoning all the millet fans out there. The food expo is a key segment of the March 13-18 'One Week One Lab' (OWOL) programme organised by the NIIST, a constituent lab of the Council of Scientific and Industrial Research (CSIR), to showcase its R&D achievements and innovations.

From 10 a.m. to 7 p.m. Open to the public from 10 a.m. to 7 p.m., the expo features millet-based food products by MSMEs from different parts of Kerala

and neighbouring States, including those of start-ups incubated by the cottagelevel food processing incu-

Healthy fare: A stall set up at the millet food expo at the NIIST in the city.

munities and start-ups from various districts in the State are also among the attractions.

Festival's aim

The festival aims to promote the cultivation, value-addition and consumption of millets, now an important, highly nutritious component of the global food basket. The event also coincides with UN declaration of 2023 as the International

Year of Millets, a statement said.

Products on display and sale include millet breakfast mix or flour (dosa, idli batter, upma, puttu and chappati), breakfast cereals, instant millet pulao, sprouted millet products, noodles, pasta and vermicelli, snacks and desserts like millet ice cream, cookies, laddoos, cakes, brownies, murukku, energy bars, and pizza. products, the expo also has on display post-harvest millet processing machinery. CSIR Director General N. Kalaiselvi inaugurated the stalls of the millet expo on Monday.

Seminar series As part of the OWOL pro-

bation-cum-training centre of the National Institute of Food Technology, Entrepreneurship and Management (NIFTEM), Thanjavur.

Products of local com-

Apart from value-added

gramme, NIIST is organising a series of seminars on topics such as energy, environment, strategic and regional materials, agriculture and food processing.

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CSIR-NIIST

CSIR labs can develop materials for space programme: VSSC Director

The Hindu Bureau THIRUVANANTHAPURAM

The laboratories of the Council of Scientific and Industrial Research (CSIR) can play an important role in providing cost-effective, indigenous materials for

Haynes 25 alloy and C-103 (Cobalt-based alloy for engine parts) and that the space agency is still facing shortage of certain materials like good quality titanium sponge.

ISRO can have collaborations with NIIST with a

There is a huge potential for the rubberised-coir industry. Rubber and coir should collaborate to survive

ly and jointly," Dr. Dhanania said.

Speakers at the session stressed the need for strategies that ensure a good price for the growers, reduce dependence on imports and stress value-addition. NIIST Director C.

space missions and related projects of the Indian Space Research Organisation (ISRO), S. Unnikrishnan Nair, Director, Vikram Sarabhai Space Centre (VSSC), said on Wednesday.

Dr. Unnikrishnan Nair was addressing a thematic session on 'Strategic and Regional Materials' held as part of the 'One Week One Lab' (OWOL) programme at the National Institute for Interdisciplinary Science and Technology (NIIST),

focus on strategies aimed at self-reliance, he said. The space agency has invested in more than 12 industries with over ₹500 crore for manufacturing indigenised materials and products.

A facility for low thermal expansion glass ceramics has been set up at Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad. ISRO has also held discussions with CSIR labs for

SAWAR DHANANIA Chairman, Rubber Board

demand for 'green' technologies to push rubber and coir-based products. Coir Board chairman D. Kuppuramu said that the use of rubber and coir can help reduce the dependence on plastic. However, International Advanced value addition still played second fiddle to raw material exports, he said.

> Sawar Dhanania, Chairman, Rubber Board, said there is a huge potential for

Anandharamakrishnan presided over the session.

Linking water, sunlight A session on energy materials and specialty chemicals, titled Urja, was held on Tuesday as part of **OWOL**. Kerala should focus on converting its rich water resources and availability of sunlight into financial resource by linking them with the industrial and scientific sectors, experts said. Additional Chief Secre-

Pappanamcode.

Shortage of materials Noting the inadvisability of depending too much on imports, he said ISRO requires many special materials such as titanium alloy,

manufacturing space-quality optical glass, Dr. Unnikrishnan Nair said.

Speaking at a session on 'Regional Materials,' experts underscored the need for India and Kerala to capitalise on the soaring

the rubberised-coir industry. Rubber and coir should collaborate to survive, especially when Kerala has a downward trend in both, he said. "We have a lot of opportunities in rubber and coir, independent-

tary K.R. Jyothilal, who opened the session, said research institutions such as NIIST should focus on developing technologies to manufacture solar panels and the generation and storage of hydrogen.

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