

CSIR IN MEDIA



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Ryots hit as gas leak damages crop, halts cultivation

CSIR –NEERI

25 May, 2020

Ever since styrene monomer vapour leaked out of a storage tank at LG Polymers here in the early hours of May 7, the farmers from the villages around the chemical plant are in a state of flux.

The authorities concerned, as part of precautionary measures, told them not to eat the produce or sell it and even advised them not to take up any agricultural activity till a go-ahead is given.

At RR Venkatapuram where the LG Polymers plant is located and in a number of villages that were affected by the vapour leak such as Venkatapuram, Kamparapalem, Kothapalem and Lakshmipuram, agriculture is the mainstay.

The authorities concerned, including the survey teams from NGT and NEERI, advised the residents of the villages not to drink groundwater and destroy the crop.

Twelve persons died and over 350 were hospitalised in the incident.

Main income source

The farmers in the villages grow their crop between the Meghadrigedda reservoir and the railway track. “We cultivate paddy, sugarcane, casuarina, brinjal, tomato, various leafy vegetables, fresh gherkins, ladies’ fingers, plantains and millets,” says Ganesh, a farmer from Venkatapuram.

About 800 to 1,000 acres of land is under cultivation, which serves as the main source of income for at least 400 families. About 20% of the crop, especially leafy vegetables, comes to the city from these villages, says a senior official from the Agriculture Department.

Rapparthi Appanna, another farmer, laments that it was harvest time and they had lost their crop. “Monsoon is approaching but we have been advised not to take up farming till the soil test report gives us a green signal. The government has given us a compensation of ₹10,000, but nothing for the crop loss,” he says.

Venkatapuram is the oldest village in this block and was recognised as a revenue village in 1936. The LG Polymers plant, then Hindustan Polymers, had come up in 1961. “Subsequently, with the construction of the Megadrigedda reservoir and laying of railway lines, much of our land was taken away and now we use the patches between the reservoir and the railway track,” explains S. Sudhakar, another farmer.

Multiple crops

Most of the farmers hold small parcels of land varying from 50 cents to 1.5 acres. Farming is done throughout the year, as they get water supply from the perennial Adivaramgedda. According to a farmer Nagamani, there is no shortage of water all through the year, and after harvesting one crop they sow another. “We consume some of it and sell the remaining at the Rythu Bazaars. This is our only source of income and now we are facing an uncertainty,” she bemoans.

Farmers demand compensation for the damaged crop and an early clearance to start farming operations.

NIO scientists find rare Japanese seahorse species in the Mandovi

CSIR –NIO

25 May, 2020

PANAJI: Camouflaged within the dense mangroves and estuarine stretches of the River Mandovi, researchers have found a rare species of seahorse just about the size of a human thumb. Nothing short of remarkable, the Japanese or Lemur-tail seahorse (*Hippocampus mohnikei*) has been sighted in Goa's waters by the CSIR-National Institute of Oceanography (CSIR-NIO).

The sighting of this small coastal seahorse species in Goan waters comes as a pleasant surprise to experts, considering it is known to inhabit the waters of Japan and Vietnam, with only a few stray sightings reported along the Indian sub-continent.

Moreover, due to the suspected reduction in its population over the past 10 years due to exploitative fishing practices, the status of *H. mohnikei* in the IUCN Red List of Threatened Species has been listed as 'vulnerable'.

“In the wake of the vulnerability of seahorse populations to threats such as habitat alteration and destruction, and fishing pressure globally, the present sighting of *H. mohnikei* in a bay-estuarine system of Goa is of considerable conservation and biogeographic significance,” said principal scientist R A Sreepada. The findings have been recently published in scientific journal PLOS ONE co-authored by researchers Sushant Sanaye, Rakhee Khandeparker, Mamatha SS, Jayu Narvekar and others.

Specimens found in Goa were caught as an incidental catch, tangled in bag nets fixed to the stakes operated in the Mandovi estuary. The *H. mohnikei* looks nothing like the other seahorses found along Goa's coast. It is much smaller in comparison, dark-coloured and often unnoticeable in the murky coastal habitats besides having a cryptic and sedentary nature. These mysterious morphological characteristics make it further vulnerable, said Sreepada.

Since its first suspected presence in the Chapora estuary in February 2017 was written about on social media, only four specimens have been collected from Goan waters till date. This indicates its rare occurrence in Goan waters, according to the CSIR-NIO.

The confirmed occurrence supported both by morphological and molecular analyses of four sub-adult specimens in the Mandovi estuary could be a consequence of either long-distance dispersal from Southeast Asian countries or a 'stepping-stone' mediated dispersal as revealed by oceanic currents circulation in the Indo-Pacific region.

Although there is no published evidence to show that *H. mohnikei* originated in Japan, the original type specimens studied were however from Japan and Vietnam. Further long-term interannual sampling and analyses are warranted to establish its origin and phylogeography, the paper states.

“Predominantly, the estuarine stretches of the River Mandovi have dense mangrove coverage and extensive oyster beds, and patches of seagrass. These are the typical habitats where this species has been previously reported,” Sreepada said.

Food availability also plays a role as the nutrient-rich waters of the Mandovi estuarine system sustain high primary productivity and abundance of zooplanktonic prey organisms such as copepods which are essential for the survival of seahorses.

However, the colonisation of seahorse populations in these sheltered areas is rife with threats such as destruction and alteration of suitable habitats, anthropogenic inputs into the coastal marine waters and the changing climate among others.

“Awareness amongst fisherfolk and stakeholders is important considering the occurrence of this species in a wide variety of habitats, including seagrass beds, estuaries, coral and rocky reefs and mangroves. There is also a need for the declaration of selected sheltered areas as 'seahorse refuge' or 'seahorse parks' and measures have to be adopted to prevent destruction of seahorse habitats,” Sreepada said.

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Asifabad farmer to present apples to CM KCR

CSIR -CCMB

25 May, 2020

Kumram Bheem Asifabad: It is a dream come true moment for Kendre Balaji, a farmer from Dhanora village in Kerameri mandal, as he is going to present apples grown his agriculture field to Chief Minister K Chandrasekhar Rao in Hyderabad on Tuesday or Wednesday.

“I registered five kilo grams of apples as the maiden yield of this crop. I have sent a message to L Venkataram Reddy, Horticulture department’s Commissioner requesting his help in gifting the fruits Chief Minister. I think I will be able to present them in a day or two,” Balaji told Telangana Today. He added that he was excited to meet Chandrasekhar Rao.



It may be recalled that Rao invited Balaji for a meeting after being impressed by latter’s brave decision to grow the fruits a few weeks back. Accordingly, authorities of Horticulture department visited the farmer’s field and informed Chief Minister’s interest to find out about the crop. Balaji packed the fruits and left for Hyderabad.

A smalltime farmer belonging to remote Dhanora in Kerameri mandal accomplished in his bold move to grow apple trees in a three-acre agriculture field situated on the edges of this village. He raised 400 trees belonging to HR-99 variety as an inter-crop. He succeeded in this attempt with the help and guidance of agriculture scientists of Centre for Cellular Molecule Biology (CCMB) of Hyderabad.

The farmer further stated that invitation of the Chief Minister was an honor to him and recognition to his efforts to explore new crops in this region. He expressed gratitude to the scientists of CCMB and authorities of horticulture department for extending unwavering support to him and for providing insights in growing the crop.

Best farmer award

Balaji was honored best farmer the award by State for exploring innovative ways in farming, during Telangana formation day celebrations of 2017. He had received the award from Telangana Chief Minister K Chandrasekhar Rao and was presented cash Rs 1,00,116, a memento and shawl.

How Kangra tea can boost your chance to win against Coronavirus infection

CSIR -IHBT

24 May, 2020



In a bid to find best possible ways to stop Coronavirus from spreading or reducing its impact on humans, the Ministry of Science and Technology in a release says that consuming Kangra tea is better at boosting one's immune system. Citing Dr Sanjay Kumar, Director, Institute of Himalayan Bioresource Technology (IHBT), it said that the effectiveness of Kangra tea is such that it can block Coronavirus activity even better than anti-HIV drugs. It is to note that the Indian Council of Medical Research (ICMR) is expected to replace the currently used hydroxychloroquine (HCQ) with anti-HIV drugs that will improve immunity and is likely to reduce viral replication when given with a revised protocol.

In a lecture given by Dr Kumar, he has discussed the benefits of Kangra tea and its medicinal properties. He said that IHBT has used the therapeutic properties of this tea and formed a computer-based model. With this, the scientist screened 65 bioactive chemicals or polyphenols which are expected to bind to a particular vital protein much better than the anti-HIV drug does. Thus, blocking some activity of the novel Coronavirus and making it difficult for the virus to thrive inside human cells.

He further added that they have already transferred the tea catechin's production process Baijnath Pharmaceuticals, and Ready to Serve Teas and Tea wines that will help increase the supply. To be sure, Catechins are natural antioxidants mainly used for properties that help prevent cell damage as well as provide other benefits.

Furthermore, IHBT, a subsidiary of Council of Scientific and Industrial Research (CSIR), according to the Ministry of Science and Technology is also producing and supplying the alcohol-based hand sanitizer which contains

Kangra tea extract as the main ingredient. “The Institute has produced a herbal soap with tea extract, some natural saponins without sodium laureth sulphate and sodium dodecyl sulphate, and mineral oil,” the ministry said.

Kangra Tea can lower coronavirus activity better than HIV drugs: IHBT

As the Indian Council of Medical Research (ICMR) is likely to replace hydroxychloroquine (HCQ) with anti-HIV drugs to improve immunity and possibly reduce viral replication, in the revised COVID protocol, the Director of Institute of Himalayan Bioresource Technology (IHBT) Palampur Sanjay Kumar has said that the chemicals in Kangra tea could also be effective in boosting immunity as they can block coronavirus activity better than anti-HIV drugs.

Revealing the benefits of Kangra tea for society and industry during a webinar organized at IHBT on the occasion of the International Tea Day on May 21, Dr Kumar said that medicinal properties of tea for human health and the technologies developed and transferred by IHBT for combating COVID-19 disease.

AdSense – Inarticle “Using computer-based models, the scientists screened 65 bioactive chemicals or polyphenols that could bind to a specific viral protein more efficiently than commercially available anti-HIV drugs approved for treating COVID-19 patients. These chemicals might block the activity of the viral protein that helps the virus to thrive inside human cells”, Dr Kumar said.

“Tea catechins production process which has been transferred to Baijnath Pharmaceuticals, and Ready to Serve Teas and Tea wines which could be game changer for Kangra tea”, he added.

Catechins are natural antioxidants that help prevent cell damage and provide other benefits.

IHBT, a constituent of Council of Scientific and Industrial Research (CSIR), has also produced and supplied the alcohol-based hand sanitizer containing tea extract and natural aromatic oils through its technology partners.

The Institute has developed herbal soap with tea extract, natural saponins and without SLES (sodium laureth sulphate), SDS (sodium dodecyl sulphate) and mineral oil. This soap provides anti-fungal, anti-bacterial, cleansing and moisturizing benefits. The soap is being produced and marketed by two companies based in Himachal Pradesh.

On this occasion, Tea vinegar technology has been transferred to a company based in Dharmshala. Tea vinegar has anti-obesity properties. Also Herbal Green and Black Teas blended with AYUSH-recommended herbs were launched. These products could be very useful for boosting immunity against COVID-19, say IHBT scientists.

अंतरराष्ट्रीय चाय दिवस पर वीडियो कान्फ्रेंसिंग से सीएसआईआर-आईएचबीटी के निदेशक ने की चर्चा

कांगड़ा चाय को शोहरत दिलाएंगी टी-वाइन

कार्यालय संवाददाता-पालमपुर

रेडी टू सर्व-टी और टी-वाइन कांगड़ा चाय के लिए गेम चेंजर हो सकती हैं। यह आशंका सीएसआईआर-आईएचबीटी के निदेशक डा. संजय कुमार ने अंतरराष्ट्रीय चाय दिवस के मौके पर जताई। वीडियो कान्फ्रेंसिंग के माध्यम से आयोजित कार्यक्रम में एचपी कार्गोसिल फॉर साइंस, टेक्नोलॉजी एंड एनवायरनमेंट के सदस्य सचिव डीसी राणा ने बतौर मुख्यातिथि शिरकत की। आईएचबीटी के निदेशक डा. संजय कुमार ने कोविड-19 महामारी से लड़ने के लिए चाय और चाय उत्पादों का महत्व विषय पर अंतरराष्ट्रीय चाय दिवस व्याख्यान दिया। उन्होंने कोविड-19 बीमारी का मुकाबला करने के लिए संस्थान द्वारा मानव स्वास्थ्य के लिए चाय के औषधीय गुणों पर विकसित और हस्तांतरित प्रौद्योगिकी, समाज और उद्योग के लिए कांगड़ा

चाय के महत्व और दुनिया में कांगड़ा चाय की मान्यता पर चर्चा की। उन्होंने बताया कि चाय में ऐसे रसायन होते हैं, जो एंटी-एचआईवी दवाओं की तुलना में कोरोना वायरस गतिविधि को बेहतर बनाते हैं। उन्होंने प्रौद्योगिकी साझेदारों के माध्यम से चाय निकालने और प्राकृतिक सुगंधित तेलों वाले अल्कोहल-आधारित हैंड सेनेटाइजर के उत्पादन और आपूर्ति के बारे में उल्लेख किया। उन्होंने चाय के अर्क, प्राकृतिक सैपोनिन और एसएलईएस (सोडियम लॉरिथ सल्फेट), एसडीएस (सोडियम डोडेसिल सल्फेट) और खनिज तेल के साथ हर्बल साबुन के विकास के बारे में भी बताया। यह साबुन प्रभावी एंटीफंगल, जीवाणुरोधी, सफाई और मॉइस्चराइजिंग लाभ प्रदान करता है। कांगड़ा टी प्लांट्स एसोसिएशन के अध्यक्ष अरुण ठाकुर



और पालमपुर सहकारी चाय कारखाने के अध्यक्ष राजिंद्र ठाकुर ने कांगड़ा चाय उद्योग को पेश आ रही चुनौतियों पर विचार रखे। केजी बुटेल ने स्वर्ण मंदिर परिसर में कांगड़ा चाय के विपणन की सुविधा के लिए राज्य सरकार को सुझाव दिया। डीसी राणा ने बताया कि राष्ट्रीय पहल के तौर पर उत्पादकता और गुणवत्ता पर जलवायु परिवर्तन के प्रभाव को कम करने के लिए कांगड़ा चाय पर एक परियोजना तैयार की गई है। उन्होंने चाय बागानों को आश्वासन दिया कि कांगड़ा चाय को बनाए रखने के लिए सभी उचित कदम उठाए जाएंगे। मुख्य वैज्ञानिक डा. आरके सूद ने बताया कि भारत की सिफारिश पर संयुक्त राष्ट्र ने चाय के औषधीय गुणों और सांस्कृतिक महत्व को मान्यता दी और 21 मई को अंतरराष्ट्रीय चाय दिवस के रूप में घोषित किया।

CSIR

Combating COVID-19: CSIR working on 10 different vaccines, drug trials

CSIR –IICB

22 May, 2020

Three drug trials to combat COVID-19 have started and seven are in the process, said Council of Scientific and Industrial Research (CSIR) Director-General (DG) Dr Shekhar C Mande on Thursday. “We have started three drug trials, namely, ACQH, Favipiravir and MW. The MW trial has started very well at three different sites. We bring about seven more into our basket of drug trials, some of which will also be combination therapies. These therapies will also come on to the trial combination of two kinds of drugs, possibly one targeting the virus and the other targeting the host.

“Of the 10 trials, seven trials are going on and for three trials, we are waiting for approval from the Drugs Controller General of India (DCGI). The DCGI will examine our papers and they will, of course, give approvals. We are expecting approval for remaining seven trials in another 10 to 15 days,” he added.

Dr Mande informed that CSIR is also working on four Ayush formulation, which is a collaboration between Ayush Ministry and CSIR. “These four formulations are ashwagandha, yashtimadhu, Gudruchi Pipli and Ayush-64. These four formulations have already come into the clinical trial registry. We have already identified the hospital. So the trial should start in a day or two,” he said.

Dr Mande further said that CSIR-Indian Institute of Chemical Biology (IICB), Kolkata, has got approval from the DCGI to start therapy on convalescent plasma. “Multiple hospitals in India are trying convalescent plasma therapy. In this therapy, the plasma is taken from the person who has recovered from the infection and then it is given to the person affected with the COVID-19 with the hope that antibody generated in the recovered person will help affected person to fight the virus,” he said.

“IICB, Kolkata, got approval from the DCGI to start therapy on convalescent plasma. They have tied up with few hospitals in Kolkata and have begun trials now,” he added.

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JK govt takes several steps to minimize farmers' economic distress amid COVID-19

CSIR –IIIM

22 May, 2020

Jammu, May 22 (PTI) The Jammu and Kashmir government has decided to set up several collection centres for various agricultural products in proximity of their production areas to enable farmers reach them directly to sell their products without any interference of brokers.

This is the part of a slew of measures that the Union Territory government has taken to minimise farmers' economic distress due to the COVID-19 lockdown, an official spokesperson said.

The other measures include steps to promote exports of basmati rice from Jammu region besides supporting high density plantation for fruits like apple, kiwi, peach, grapes and walnuts and decongestion of major fruit and vegetable mandies across J&K besides timely marketing of the agricultural and horticultural products.

The Agriculture Production Department has allowed deputy commissioners to notify various places in their respective jurisdictions, where farmers can bring their produce for marketing without any intermediary interference, the spokesman said.

The guidelines said a collection or aggregation centre in the proximity of production areas may be set up by a person after getting it registered by the concerned market administrative committees.

The person will have to comply with a set of guidelines, specially refraining from any kind of hoarding, under the Essential Commodities Act.

All the market administrative committees of the UT have been asked to allow and facilitate functioning of such Collection and Sale Centres without any hindrance, the spokesman said.

Similarly, the UT's principal agriculture product, the Jammu basmati rice, has been certified as “

Safe for Pesticides Residual Limits” by Quality Control & Quality Assurance Division of the Indian Institute of Integrative e-Medicine under the CSIR.

The CSIR had earlier collected 184 samples of basmati rice from its growers of in Jammu, Samba and Kathua districts and had certified them for their purity, the spokesman added.

A report issued by the IIIM in this regard will be shared with the Agriculture and Processed Products Export Development Authority (APEDA) and other relevant forums for promoting and popularizing the Jammu basmati rice and further removing bottlenecks in its export.

In another major move to reduce Covid-19 pandemic distress of farmers, JK Industries is to procure 60,000 kg of grade A and grade B cocoon from Jammu division and 50,000 kg from Kashmir division.

Meanwhile, concerted efforts are being made to develop horticulture and related activities in Jammu region by way of several government interventions.

The potential tapping of high density and ultra high density plantation for apple, kiwi, peach, grapes and walnut is the main focus of the government.

These fruits have huge potential in hilly areas of Kishtwar, Doda, Poonch, Rajouri, Udhampur, Reasi, Ramban and Kathua, the spokesperson said.

The services of Centre for Excellence for Horticulture are being utilized to promote the fruit growing in all types of regions of Jammu division.

Upgrading the infrastructure of the fruit and vegetable market on modern lines with all the necessary facilities has been prioritized.

The State Level Project Screening Committee (SLPSC) on Rashtriya Krishi Vikas Yojana (RKVY-RAFTAR), has recently approved the annual action plan envisaging mobilization of farmers producer organizations (FPOs) and promotion of local specialty crops, value addition, organic farming, farm mechanization and promoting agri-business entrepreneurship.

Aadhar seeding and 100 per cent assistance transfer through DBT for all beneficiary- oriented schemes have also been stressed upon. PTI AB RAX RAX

Telangana develops nine virology labs in five months

CSIR -CCMB

22 May, 2020



For a long time, there was a demand to establish high-end virology laboratory aimed at identifying and isolating such new viruses. Till last year, swab samples of H1N1 suspects used to get transported to NIV, Pune, for testing and the results were released after a delay of 24 hours to 48 hours.

In the last few years, high-end laboratories were set up at Fever Hospital, Institute of Preventive Medicine (IPM), Narayanguda and Gandhi Hospital. However, all these facilities were bogged down by lack of trained personnel, as conducting such diagnostic tests are highly technical and needs a lot of capacity building.

Given the Covid-19 pandemic, government laboratories now have enough trained manpower and infrastructure to conduct at least 2,000 PCR-based diagnostic tests which are widely considered as gold standard tests for detection of Covid-19. The health officials took the help of Centre for Cellular and Molecular Biology (CCMB) researchers who conducted a series of training sessions to equip lab technicians and healthcare workers from Telangana with

Hyderabad: For the first time in the medical history of Telangana, within a span of five months between January and May, the health officials have started nine government laboratories that are capable of conducting highly technical Polymerase Chain Reaction (PCR) test for diagnosis of SARS-CoV-2.

Before January, Telangana did not have a single high-end virology laboratory that could conduct a PCR test. In fact, Hyderabad, despite being the first Indian city to report swine flu (H1N1) way back in 2009, did not have a virology laboratory of its own or for that matter trained manpower to conduct such complicated tests.

knowledge on conducting the coronavirus diagnostic tests in high-end laboratories.

The researchers at CCMB have trained over 25 doctors, technical staff and students from these State-run healthcare institutions. The CCMB also created training videos on best practices for handling patient samples and on conducting tests on PCR, for the benefit of interested microbiologists and doctors.

Nationally, till January, the NIV, Pune, laboratory was the only facility with Covid-19 diagnosis. However, within the next few months, the ICMR managed to expand and set-up 555 laboratories across the country. As many as 12 private laboratories have also received permission from the regulatory authorities to start offering Covid diagnostics in Hyderabad.

एनबीआरआई बचा रहा लुप्तप्राय गैंती का पेड़

लखनऊ | विवेक त्रिवेदी

एनबीआरआई ने अवध परिक्षेत्र में पाए जाने वाले स्थानीय लुप्तप्राय पेड़ गैंती (वैज्ञानिक नाम- इंडोपिप्टेडेनिया अवधेंसिस) के संरक्षण व संवर्धन का काम शुरू किया है। संस्थान ने यह पहल करते हुए बॉटनिकल गार्डन में इसके कई पौधे उगाए फिर इनसे बीज तैयार करके नए पौधे तैयार किए जा चुके हैं। अब बड़ी संख्या में इसके पौधे तैयार हो चुके हैं। इन्हें उप्र व उत्तराखंड के उन्हीं प्राकृतिक स्थानों पर लगाया जाएगा जहां यह पाया जाता था।

एनबीआरआई के मुख्य वैज्ञानिक डॉ. एसके तिवारी ने बताया कि संस्थान में छोटे-बड़े दोनों प्रकार के पेड़ व पौधों की 7000 प्रजातियों का संरक्षण व संवर्धन किया जा रहा है। गैंती अवध क्षेत्र में पाया जाता था लेकिन पिछले कुछ वर्षों में धीरे-धीरे यह लुप्त होने लगा था। चूंकि यह अवध क्षेत्र की पहचान के रूप में जाना जाता था, इसलिए एनबीआरआई ने इसके संरक्षण व संवर्धन की जिम्मेदारी लेकर पहल की। कई वर्षों की मेहनत का नतीजा है कि आज इतनी संख्या में पौधे तैयार किए जा चुके हैं। इसे स्थानीय रूप से हाथीपौला के नाम से भी जाना जाता है। मुख्यतः यह घरेलू पशुओं के चारे के रूप में उपयोग किया जाता है। मध्यम आकार

जैव संरक्षण

- अवध क्षेत्र में पाया जाता है गैंती (इंडोपिप्टेडेनिया अवधेंसिस)
- बॉटनिकल गार्डन में नये पौधे तैयार किए जा चुके

कमल की किस्मों पर चल रहा काम

डॉ. तिवारी ने बताया कि फरवरी से देश के राष्ट्रीय फूल कमल की विभिन्न किस्मों के संरक्षण व इसके आर्थिक उपयोग के विभिन्न पहलुओं पर भी काम शुरू किया गया है। इसका उद्देश्य देश भर ने पाई जाने कमल की तमाम प्रजातियों का संरक्षण करना है। उन्होंने बताया कि लोटस रूट का दुनिया में बहुत बड़ा बाजार है। इसकी न्यूट्रीशनल वैल्यू बहुत अधिक होती है। सारी प्रजातियों को एक जगह लाकर विभिन्न किस्मों की उपयोगिता का अध्ययन भी किया जाएगा।

के पेड़ की पत्तियों का आकार गुर्दे जैसा होता है। इस प्रजाति के बारे में जागरूकता पैदा करने के प्रयास के तहत कॉलेजों, विश्वविद्यालयों और संस्थानों को भी पौधे वितरित किए गए हैं।

CCMB testing twin modules to fight virus

CSIR –CCMB

21 May, 2020

CSIR-CCMB, in the forefront of the scientific community's coordinated battle against COVID-19, is working on two twin modules these days.

One is sequencing of the coronavirus strain in large numbers to check for the varied ones prevalent across the country.

“We have about 250 samples right now and we hope to get up to five times more in the next couple of weeks to understand and isolate the virus strains that are spreading and those which are causing the asymptomatic cases among the infected,” said director Rakesh Mishra.

The premier research institute at Habsiguda here has already got the virus isolates from Tamil Nadu, Maharashtra and Hyderabad, while sister CSIR labs have samples from New Delhi and Punjab/Haryana. It is now seeking COVID-19 strains from places like Indore and Ahmedabad, where the virus appears to be acting differently on the affected persons.

The second project is to establish the cell culture platform to grow the virus within the confines of the labs. This and genome data study of all the virus variants prevalent across the country will give the complete genome data profile for scientists to work on antibodies, potential drugs or vaccines.

Dr. Mishra is categorical in stating that unless “we may luckily chance upon a miracle drug of treating the virus that will be a pleasant surprise,” the possibility of a drug effective in treating a particular illness, doing the same for another is remote. What is quite probable is to try a combination of available anti-viral drugs.

“For instance, we are treating HIV patients through a combination of various drugs but then it took years of research before we found the way,” he pointed out. Similarly, finding a vaccine is a distant possibility, considering the stringent testing norms required for use on humans.

“Even for proven vaccines, there are at times issues of negative reactions. So, scientists are very careful before validating any potential vaccine claims,” he said.

Meanwhile, research is also into understanding how our traditional medicine systems tackled such pandemics before. “Thanks to our available resources we can validate on the efficacy of the drugs in a few days,” the director added.

KAPPEC inks pact with CSIR-CFTRI and IIHR for tech in food processing

CSIR –CFTRI

21 May, 2020

Karnataka Agri Business Corporation, a special business vehicle of the Karnataka State Agricultural Produce Processing and Export Corporation Limited (KAPPEC), has now inked a memorandum of understanding (MoU) with CSIR-CFTRI Mysuru and Indian Institute of Horticulture Research (IIHR), Bengaluru. This is for technology transfer and training programmes in food processing.

“These technologies can be developed to harness the agriculture and food processing sector. It is here KAPPEC and KABC have designed a programme to provide the much-needed financial assistance to avail the technologies developed by the R&D organisations,” said Shivaraj, managing director, KAPPEC.

“Good opportunities exist in the state to develop food processing which provides infrastructure development in the rural areas, employment generation and better economic return for the produce grown by the farmers. It is here research and development in states like the CSIR-CFTRI, IIHR, IIMR, IFPT, DFRL and SAU have developed several innovative technologies for the growth and development of the food processing sector,” he added.

Farmers, startups and food park entrepreneurs can avail of the funding. Here the R&D centres can provide the turnkey solutions. It can also offer the insitu training, handholding and quality testing. KAPPEC will facilitate the interactions for entrepreneurs and provide financial assistance for transfer of technology and training.

For this there is a team of designated scientists and nodal officers which will coordinate. This includes Dr A S Chauhan, Senior Principal Scientist, and Dr Raghvendra, Technical Officer from CFTRI; and Dr Harinder Singh Oberoi, Principal Scientist, Post Harvest Technology,

IIHR. The KAPPEC representatives would be Dr Chandrakumar N, Assistant Director, Horticulture. Therefore the stakeholders can contact the designated officers.

A declaration that expresses the intent to establish the production unit within a period of one year after the transfer of technology will be provided along with the application. A screening and approval committee will view on the viability of the project before KAPPEC releases the funds. The farmer groups and food processing organisation self-help groups and organic federations will get a licence fee of 75 per cent along with the self-help groups.

Startups and food parks entrepreneurs are entitled for 60 per cent of the fee. Other food processing entrepreneurs along with private and public partnership companies will get 50 per cent. Maximum assistance during the period of two years, the beneficiary will get Rs 2 lakh. Within this limit, the beneficiaries can avail two or more technologies.

CSIR-IICT gets two more APIs for anti-viral drugs

About 25 drugs identified for 'repurposing' for quick deployment in treatment

V. GEETANATH
HYDERABAD

Council for Scientific & Industrial Research (CSIR) - Institute of Chemical Technology (IICT) has completed the process of making two more Active Pharma Ingredients (APIs) for anti-viral drugs - Umifenovir and Remdesivir. It had already handed over anti-viral Favipiravir API to a large pharmaceutical firm for approvals of Drug Controller General of India (DCGI) to conduct animal/human trials before releasing it into the market.

"We are in the process of transferring two APIs to select pharmaceutical organisations for them to approach the drug control authorities for conducting necessary trials and approvals before manufacturing them," said Director S. Chandrasekhar on Tuesday.



Indian Institute of Chemical Technology in the city.

CSIR had identified about 25 drugs for 'repurposing' for quick deployment in treatment for COVID-19 since new drugs take at least 10-15 years to reach the market. IICT had taken up development of synthetic 'process expertise' for molecules, which are showing promising data in various trials across the globe of five drugs including - Favipiravir, Umifenovir, Remdesivir, Baloxavir and Chloroquine/Hydroxychloroquine.

"We have zeroed in on a few molecules for repurposing based on World Health Organisation (WHO) recommendations. Using molecu-

lar modelling, which includes theoretical and computational techniques to study the structures and reactions of molecules, we made rapid progress," said IICT senior principle scientists Dr Raji Reddy and Dr. Prathama S. Mainkar.

IICT develops processes for APIs required to make the drug providing alternate cost-effective solutions and transfers it to interested pharmaceutical firms for commercialisation. Favipiravir, is a promising generic drug for treatment of COVID 19 developed in Japan and used for treatment of flu. Clinical trials of Favipiravir have begun in China, Japan and Italy and trials have so far had generated positive results, they said.

Yet, Favipiravir entry into market depends on the result of clinical trials and recommendations of DCGI. "If the results are positive, we believe it will be launched within a month or two. Umifenovir may take more time to generate additional data," explained Dr. Reddy and Dr. Prathama.



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