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## THE HINDU

### **Pesticide lab to boost export potential of food industries**



A technician tests samples at the upcoming Pesticide Residue Testing Lab at the Institute of Frontier Technology of the Regional Agricultural Research Station, Tirupati.

Chittoor district, which hosts a number of food processing industries, has a vast export potential. But indiscriminate use of pesticides has become the Achilles heel of farmers and entrepreneurs in exploiting that potential.

To assess the residue levels in agricultural produce, a state-of-the-art Pesticide Residue Testing Lab is being established at the Institute of Frontier Technology (IFT) in the Regional Agricultural Research Station (RARS) of Tirupati.

Aided by Rs. 83 lakh sanctioned under the Rashtriya Krishi Vikas Yojana (RKVY) and other programmes, the laboratory aims to guide farmers in cultivating pesticide-free produce to suit the export market.

The facility is expected to start operations within a month's time.

“Crops such as tomatoes, chillies, brinjal, gherkins, tamarind, grapes and mango, which are widely grown in Chittoor district, have good international demand. In addition to this, the southern zone (covering Chittoor, Nellore and Kadapa districts) has the potential to export paddy, groundnut and jaggery. But the increasing usage of pesticides has become a problem,” said IFT principal scientist T. Murali Krishna.

The entomologist said that farmers, knowingly or unknowingly, spray pesticides disregarding the prescribed waiting period i.e., the duration for which chemical residue remains on the crop. “With help from the Pesticide Residue Testing Lab, we can assess the residue persistence in soil/crops, the maximum residue limits (MRL) of various pesticides and the level of pesticide contamination. This data will allow us to offer suggestions to farmers to reduce use of chemicals,” he added.

The facility will work in collaboration with the pesticide lab at the Acharya N.G. Ranga Agricultural University's (ANGRAU) at Rajendra Nagar, Hyderabad to validate protocols in quantifying both new and traditional pesticide molecules.

The laboratory can also be used to impart training to farmers, government personnel and others for developing/upgrading skills pertaining to handling and application of pesticides.

ANGRAU vice-chancellor A. Padma Raju, director of research K. Raja Reddy and RARS associate director of research T. Giridhar Krishna have been instrumental in getting the facility to Tirupati. Proposals have been sent to the National Bank for Agriculture and Rural Development (NABARD) for strengthening infrastructure at the lab.

They are also working to obtain NABL accreditation for the lab which will enable it to issue certificates authenticating farmers' produce.

Chittoor district's proximity to Tamil Nadu and Karnataka as well as the Krishnapatnam port in Nellore and the upcoming international airport at

Renigunta will certainly open up export opportunities for the region, officials said.

***Aided by Rs. 83 lakh sanctioned under RKVY, the lab will guide farmers in cultivating pesticide-free produce***

### **College prepares a plan for drainage based on geological mapping**

The city's water-logging problems during the rainy season could be resolved by using geological mapping to design a scientifically accurate drainage system, according to K. Anbarasu, Principal, National College, and a qualified geologist.

Dr. Anbarasu was responding to questions in the backdrop of UN World Science Day (November 10), whose motto this year is "science for a sustainable future".

"Drainage has not been planned in the city taking the slopes into consideration," Dr. Anbarasu told *The Hindu*.

"Real Time Kinematic Global Positioning System (RTKGPS) can map the city's altitude down to the millimetre, and generate a three-dimensional model that could be used by town planning authorities to design a new drainage system for Tiruchi.

Thus the city will not get flooded every time it rains," he said.

While there was considerable excitement about Tiruchi being earmarked for the "Smart City" development plan, very few know what it really entails, said Dr. Anbarasu.

"There are fertile areas around Tiruchi where banana, sugarcane, and paddy are cultivated. Instead of disturbing these, the new city can be developed in regions on the way to Manapparai and Madurai that are not used for agriculture," he said.

“Maybe you cannot change the cityscape in the old areas. But the smart cities that are being planned will benefit from consulting geologists. We can really create a new environment for the new cities,” Dr. Anbarasu said.

Asked how the potential building boom of the smart city would affect mining of river sand, Dr. Anbarasu said: “We cannot stop it because we need the construction. But there should be an annual limit on the number of tonnes that can be mined.”

The sedimentary layer, which is brought by the upstream part of the Cauvery to the delta, is replenished every year naturally. However, to make it sustainable, the level of sand that is mined should be equal to the amount deposited, not more, said Dr. Anbarasu. “Nobody has studied how much sedimentation occurs in the Cauvery delta, though people have researched the level of sedimentation in the sea,” he said. “We must plan for sedimentary budgeting.”

## **Conservation**

The college has proposed a novel way to deal with water scarcity, through its plan to reuse the water generated by air-conditioning units.

“The prevailing ways of providing water and sanitation in India are based on piped water supply and centralised sewage treatment using a series of accepted technologies,” Senthil Kumar Sadasivam, Associate Professor, PG & Research Department of Biotechnology, said.

Instead of finding new ways to supply water to the metros, it would be more eco-friendly to reuse air-conditioner water condensate (AWC), said Dr. Sadasivam, particularly because India’s tropical climate ensured a high level of atmospheric moisture.

“While we have gone as far as desalination and rainwater harvesting, we prefer to let AWC flow into the sewage. An average 1.5 tonne air-conditioner, when it runs for 6 hours, gives around 60-70 litres of pure

water. While this is technically distilled water and cannot be used for drinking, we can add certain salts to it or in a scientific definition, pollute it, with regular water to make it potable,” said Dr. Sadasivam.

“A commercial building that is installed with 350 tonnes of air-conditioning capacity, will produce an average of 3.7 litres of condensate per minute.

Using the condensate on-site would save the city 2,192 kilowatt-hours (kWh) and 1.15 tonnes of carbon dioxide production per year,” he added. The project proposal had been submitted to the Department of Science and Technology, Government of India.

### ***KEY TAKEAWAYS***

***‘If the drainage is prepared based on natural slope, there will be no flooding’***

***On an average 1.5 a/c unit can produce 50 to 60 litres of water***

***Water discharged by ACs can be re-used after adding some salts***

***Sand mining permits should be based on sedimentation rate to save the rivers***

***The city’s expansion should be in relatively arid or semi-arid belts***

**“Jasmine growers need to be alert to flower discolouration”**



Discoloured jasmine flowers in a field at Padmanabamangalam in Srivaikuntam taluk in Tuticorin district.

Jasmine growers have to be more alert and adopt suitable methods to avoid discolouration of the flower. The fragrant flower is cultivated by small farmers in limited area and its cultivation is affected by insects and pests. The bud, when exposed to toxic substances, gets easily affected, according to T. Abdul Razak, Entomologist, Agricultural College and Research Institute, Killikulam.

Talking to *The Hindu* here recently, he said that jasmine buds were affected by the larvae of blossom midge *Contarinia maculipennis*. This insect would feed the inside of buds causing discolouration and the affected buds would finally dry up and fall.

The change of colour of buds to purple was due to the toxic saliva of the larvae. Normally, in a single flower bud, there would be more than five larvae feeding inside.

After attaining full maturity in five to seven days, the maggots would come out of the flower buds and drop down to the soil for pupation. In the subsequent stage, the adult flies would emerge from soil after a period of 12-15 days and the females would lay eggs on the tip of the flower buds. Within 24 hours, larvae would come out of the eggs and start feeding inside the flower buds.

Dr. Razak said that the farmers used costly and toxic chemical insecticides, often failing to control the pest. Hence, they were advised to collect and destroy fallen and discoloured flower buds, make use of light traps to attract adult flies and to rake up the soil well to expose the pupae to the sun.

The chemical insecticides such as monocrotophos or profenophos should be sprayed to avoid the problem of discolouration, he insisted.

He said that Tamil Nadu ranked first in the production of this fragrant flower and the major districts producing jasmine were Tirunelveli, Madurai, Erode, Krishnagiri and Dindigul.

The flowers harvested in Tamil Nadu were also exported to countries such as Sri Lanka, Singapore, Malaysia and the Middle East, Dr. Razak added.

### **Call for conserving natural resources**



Farmers taking part in the paddy harvest festival in Mangalpady panchayat in Kasaragod on Tuesday.

Paddy harvest festival was celebrated here on the Deepavali day underscoring the need to conserve natural resources.

Addressing a function to mark the festival on Tuesday, Sri Yogananda Saraswathi Swamiji of Kondevoor Math also stressed the need for conserving ecology and environment for the well being of mankind.

The programme, organised jointly by the Krishi Vigyan Kendra (KVK) attached to the Central Plantation Crops Research Institute (CPCRI) here and Nityananda Yogashrama, Kondevoor in Mangalpady panchayat, was inaugurated by H.P Maheswarappa, Project Coordinator, AICRP (Palms), CPCRI, here.

Mr. Maheswarappa lauded the efforts taken by the ashram in disseminating organic farming technologies by promoting safe food for healthy life. CPCRI has been according importance to organic cultivation through field-

level extension activities and frontline demonstrations in the district and showcasing organic cultivation of paddy at Kondevoor.

The procedure involves soil test based acidity and nutrient management, selection of varieties suitable for organic cultivation, mechanization to reduce cultivation cost and organic plant protection measures to create awareness among the farming community.

T. Vanaja of Kerala Agricultural University stressed the importance of conservation of traditional varieties for promoting nutritional security. K V K has introduced three varieties suitable for organic cultivation Viz; Ezhom I, II and III .

Senior KVK officials took part in the function, attended by over 200 farmers.

### **Andiappanur Dam receives surplus water**



Andiappanur dam near Tirupattur has reached its full capacity in the incessant rains.



After three years, the Andiappanur Dam near Tirupattur has received surplus water following incessant rain in the last three days. This has come as the much-needed source of water for irrigation as it will benefit about 5,025 acres of agricultural lands in the nearby villages.

Officials said the water level in the dam has reached its full capacity of 112.20 mcft. On Tuesday, 991 cusecs of water was discharged, while 266 cusecs of water was released on Wednesday, an official of the Public Works Department (PWD) said.

“The last time when the water level had reached its full storage capacity in Andiappanur dam was in 2012. But then, there was no surplus of water. This time, there was good rainfall following which there is surplus water in the dam,” he said.

Among the other two Water Resources Department dams in Vellore, Mordhana reservoir, which has a storage capacity of 261.36 mcft, has 53.91 mcft of water. It is getting an inflow of 181.13 cusecs of water. Rajathoppu reservoir is devoid of water.

### **11 tanks full**

There are 519 tanks of the PWD in the district. The rains have also helped in filling up 11 of these irrigation tanks across the district - Kelmelkuppam Chitteri Tank and Ananthalai Illupanthangal Tank in Walajah taluk, Peruvalayam Tank, Eralacheri Tank, Arakkonam Big Tank, Mulvoy Tank, Kavanur Chitteri Tank in Arakkonam taluk, Bommikuppam Tank, Simanapudur Tank, Madapalli Tank, Kanamandur Tank in Tirupattur taluk have reached 100 per cent storage capacity.

Among the remaining tanks, 30 tanks have water up to 75 per cent of the capacity, while 52 tanks have 50 per cent. The remaining tanks have less than 25 per cent water. “Water level in the Tirupattur big tank is likely to touch its full storage capacity in a day or two,” he added.

## **Heavy rain paralyses normal life**

After a long dry spell, rain battered some districts of coastal Andhra and Rayalaseema, resulting in considerable loss to agriculture and affecting normal life. In Nellore district, two children were electrocuted after they came into contact with electric wires. The incessant rain paralysed normal life in Chittoor town.

Meanwhile, the showers brought the much-needed relief to farmers in Prakasam district. The district received 21 mm rainfall in the last two days. The downpour saved chilly, red gram and cotton crops from drying up in the constituencies of Ongole, Kondepi, Kandukur and Kangiri.

In Tirumala, all drinking water projects were filled, as both the crest gates of the Gogarbham dam were lifted on Wednesday. According to TTD, the hill town received a rainfall of over 550 mm in the past four days, with a maximum of 300 mm on Monday alone. While the Akasa Ganga dam reached its full reservoir capacity by Tuesday, the other three major dams – Papavinasanam, Kumradhara and Pasupudhara dams – are near full.

## **India sees clean cooking as climate action that saves lives**

*The constant exposure to indoor air pollution kills some 4.3 million people every year across the world 30 percent of them in India.*



Kamlesh feeds the flames of a crude clay cook stove with kindling, kerosene and sun-baked discs of cow dung. She breathes in the billowing smoke, as she does for hours every day. Her eyes water and sting. Her throat feels scratchy and sore.

Kamlesh is one of hundreds of millions of Indian housewives who, with the simple act of cooking family meals, fill their homes every day with deadly airborne pollutants. The constant exposure to indoor air pollution kills some 4.3 million people every year across the world 30 percent of them in India. The menace of cookstove pollution, which contains high concentrations of tiny particles known as black carbon, does not stop in the home. It compounds many environmental problems as well, from glacial melt to falling crop yields.

India, the world's third largest climate polluting nation, has spent decades encouraging cleaner cooking technologies, with limited success. Such a shift would have little impact on India's emissions of climate-warming greenhouse gases, and many of the alternatives pollute as well.

But countries like India far behind the industrialized world in economic and infrastructure development argue that it's a crucial step in saving lives and ensuring energy justice for the poor.

Impoverished women like 40-year-old Kamlesh remain unconvinced. She and her neighbors in Ganora Sheikh, a north Indian village about 80 kilometers (50 miles) from New Delhi, aren't thinking about the climate, or about melting glaciers hundreds of kilometers (miles) away. They wonder why they should spend \$30 to \$60 on a cookstove when they can build a fire and find fuel in the forest for free.

Even as Kamlesh, complained that cooking on her old stove "is very difficult ... the smoke, the heat, it makes my eyes burn," she doubted any of the smoke-free alternatives could do the job right. Pure black carbon is a significant climate pollutant, with some studies suggesting it is responsible for up to 20 percent of climate change. It is also a major component of the

tiny particulate matter known as PM2.5 that is now one of the most common measures for air pollution.

About a quarter of the world's black carbon pollution comes from cookstoves, with the rest released by car exhaust, forest fires, agricultural burning and other sources.

The soot is blackening glaciers and polar ice so that they absorb more solar radiation and melt more quickly. It's creating hazy layers in the atmosphere that block sunshine from reaching the Earth, a phenomenon called "global dimming" that can harm crops. And it messes with the weather by interacting with clouds in complex ways. Carbon pollution is entirely unregulated, poorly measured and unevenly distributed, pooling in the air above wherever it was released. The climate-change benefits of replacing traditional cookstoves are even more muddled because common replacements also pollute. Gas stoves create more emissions of methane, a highly potent greenhouse gas. Emissions from electric stoves depend on how the electricity is generated; in India, it's largely from coal, another major contributor to global warming.

"It can be politically incorrect to advocate for gas cooking, since it's not a renewable energy source," said Kirk R. Smith, professor of global environmental health at the University of California, Berkeley.

Still, he and other health experts say the health benefits justify the change. Despite the unknowns, India has listed cleaner cooking as part of its national climate action plan, submitted to the U.N. before the world's nations begin negotiating a new agreement to limit climate-warming greenhouse gases. AP

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### ***WHAT IS GLOBAL DIMMING?***

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### **Tea industry sees return on investment, labour policy as hurdles**

The reform measures pertaining to the plantation sector are unlikely to attract foreign capital to the Indian tea industry, observed a senior industry representative.

As per the earlier FDI policy for the plantation sector, only tea is open to foreign investment. The government has now decided to open other plantation activities including coffee, rubber, cardamom, palm oil tree and olive oil tree plantations also for 100 per cent foreign investment. Foreign investment in the plantation sector would henceforth be under automatic route.

Despite these relaxations, the Indian tea sector is unlikely to attract overseas investment due to lack of competitiveness, industry officials said, adding that the labour policy guided by the Plantation Labour Act is seen as an impediment in attracting overseas capital.

“At present it is the other way round...as it is the Indian industry which has pumped in capital in the plantation sector in other countries through acquisitions,” Azam Monem, vice-chairman of the Indian Tea Association said. Over the last few years, gardens in Uganda and Vietnam, have been acquired by Indian companies, looking to boost their crop volumes.

Multinational companies and domestic majors such as Tata Global Beverages have been seeking to de-risk their operations by reducing their exposure to plantation activities, officials said.

The recent reports of deaths on tea estates and incidents of workers' unrest are also unlikely to help draw capital even if the policy is relaxed, according to a majority of officials from an industry, whose offerings include the exotic Darjeeling tea.

## **Planters in South India welcome new norms**

While planters in south India welcomed the Government's announcements on FDI reforms for the plantation sector, they do not expect a major influx of funds.

N. Dharmaraj, President of the United Planters' Association of Southern India, said that though FDI is permitted in the tea sector since 2002, it has not attracted foreign investment. "We are not cost competitive in the global market. None of the tea producing countries have such high social costs and the taxes are also high in India." Now, even in coffee and rubber, there might not be major foreign direct investments. Investors are going to rubber plantations in south east Asian countries and Africa. While allowing FDI is good as the sector will attract international investment, the government should also address the challenges such as high taxes and social costs. "We are not competitive in any of these crops. The Government should have a dialogue with the industry," he said.

## **Farmers urged to insure crop**

The last date for insuring the 'samba' paddy crop is December 15. While it is compulsory for all borrowers of farm loans it is open for non-borrowers too, said S. Palvativu, Joint Registrar of Cooperative Societies. In a release issued here on Wednesday, Ms Palvativu said appealed to farmers to immediately insure their crop so as to be eligible for relief in case of crop damages.

## **Heavy rain in Salem, Namakkal**

The continuous widespread rainfall claimed four lives in Salem and Namakkal districts in the last two days.

The Salem district received heavy rain on Monday and Tuesday which affected the normal life of the people to a big extent. Many low lying areas and standing crop were inundated.

Three persons were killed in rain related incidents in the district.



S. Manivasagam (24) of Semmanatham village in Yercaud, employed in a private lodging house, was returning home in his two wheeler on Tuesday night, when he was washed away in flash floods while crossing a bridge across a jungle stream. His body was recovered about 2 km away from the bridge on Wednesday evening.

Nagaraj (65) of Taaramangalam was killed when the mud wall of his hut fell on him on Wednesday. Subramani (65) was drowned in a pit dug for a drainage at Annadanapatti on Tuesday.

The Kannankurichi big tank on the outskirts of the city started overflowing on Wednesday. This led to heavy flow of water in the Sarabanga River near Omalur.

About 20 houses collapsed in the villages of M. Settipatti, Thumbipadi, Palpakki, K. N. Pudur villages surrounding Omalur.

The heavy flow of water in the Sinnayeri Vayalkadu Oodai in the city led to flooding.

Edappadi K. Palanisamy, Minister for State Highways, accompanied by the District Collector V. Sampath, Mayor S. Soundappan, and Corporation

Commissioner K.R. Selvaraj inspected the oodai and directed the officials to clean all the drainages to avoid flooding of residential localities.

The Minister visited the Doraisamy layout, and Arisipalayam where rain water had damaged six houses fully and 16 partly.

He distributed Rs. 5,000 for the fully damaged houses, and Rs. 4,100 for the partly damaged houses, along with rice, kerosene, dhoti, and sari.

He directed the officials to increase the height of the bridge across the oodai. The tapioca crop standing on about 10,000 acres in Vazhappadi and surrounding villages such as Muthampatti, Vadakkukadu, Ponnarampatti, Thukkiyampalayam, Mannayakkanpatti, Neermullikuttai was inundated.

The farmers said that they had raised the crop by spending about Rs. 15,000 to Rs. 20,000 an acre.

The rain affected the standing makkacholam crop on about 1,000 acres in Attur.

The rainfall recorded in the district in the last 24 hours that ended at 8 on Wednesday was: Yercaud 64 mm; Sankagiri 33; Omalur 17.4; Mettur 14.4; Vazhappadi 12; Salem and Edappadi 11, Attur 2.4; and Thammampatti 1.2 mm.

## **Namakkal**

The widespread rainfall claimed the life of Palaniappan (70), a farm labourer in Karumanur Koothampalayam village in Mallasamudram panchayat near Tiruchengode on Tuesday night.

He was sleeping in his thatched hut, when the mud wall fell on him. Tiruchengode revenue officials said that the government compensation of Rs. 4 lakh will be sanctioned to his family.



The canal leading to Amsakuttai, near Senthamangalam, was in spate on Wednesday. This led to a breach at Pallipatti.

### **Reservoirs storage improves, residents weary of rain**



Youngsters share an umbrella in the heavy rain on Wednesday.

*Rain-related problems reopen long-festering civic problems with inundation of roads in residential localities being reported across the city*

In Wednesday, Chennai and its suburbs received rain that was not as severe as the torrential downpour witnessed on Sunday and Monday, but nevertheless seemed to aggravate the rain-related problems that has been plaguing residents since Sunday.

Inundation of roads and public buildings has been reported from across the city. According to the Meteorological Department, as the upper air circulation lies near Kerala and areas proximate to it, there will be a decrease in rainfall over the city. Chennai will experience only light-to-moderate rainfall and one or two spells of rain or thundershowers may occur in some areas.

However, the rain of the past few days has been sufficient to raise the storage in the reservoirs in Poondi, Cholavaram, Chembarambakkam and Red Hills. On Wednesday, they touched 15 per cent of their total capacity.

According to Chennai Metrowater, the reservoirs have received copious inflow that will help sustain water supply to Chennai for three months.

On Wednesday, Chennai received 5 cm of rainfall; Avadi and Chembarambakkam recorded over 2 cm.

Meanwhile, rain-related problems reopened long-festering civic problems in certain neighbourhoods. At Senthil Nagar 13th Cross Street, Kolathur, there is a stagnation of rain water that is mixed with sewage. V.S. Sundar, an advocate, attributed the problem to ineffective stormwater drains.

He said that despite several complaints, the civic authorities had not visited the area falling under Division 65 of Ambattur zone.

Delay in flood-relief work sparked off an argument between residents and officials at Thirumalai Nagar, Sembakkam municipality.

Residents of Sembakkam alleged that the municipality officials refused to remove obstacles in water course linking Sembakkam and Nanmangalam lakes stating that it was not under their jurisdiction.

After several calls, a team of revenue officials arrived in the area. The revenue officials said instead of carrying out repairs, the municipal officials got into an argument with office-bearers of the association regarding removal of hyacinths.

However, on Tuesday, Pallavaram municipality workers removed obstacles in a portion of the water course, said S. Jaikumar, secretary of Thirumalai Nagar Welfare Association. Sembakkam municipal officials were not available for comment.

Residents also demanded that Sembakkam lake be monitored as there were possibilities of breaching by encroachers during night.

## **Holiday for schools, colleges**

CHENNAI: The State government has declared holiday for schools and colleges in Chennai and Tiruvallur districts on Thursday on account of rain. Anna University has cancelled examinations and new dates will be announced later, officials said.

## **Study on pollution level in Coimbatore**

The Tamil Nadu Pollution Control Board officials installed respirable dust samplers at three locations in the city to study air and noise pollution levels before and on Deepavali day.

### **Installed**

According to officials in the board here, the samplers were installed at a college (sensitive zone), Collectorate (mixed zone), and Ponnaiahrajaapuram (residential area). Samples were collected for 12 hours for air quality testing on November 5 and on November 10.

Noise pollution level was tested at two locations – near Saibaba Temple junction and at Ponnaiahrajaapuram – on November 5 and November 10 for six hours.

### **Result**

The average results for November 5 are within the limit for noise and air pollution and analysis is on for November 10, the officials said.

## **Water level in collection wells brings cheer**

There is some heartening news to residents and administrators of local bodies in the southern suburbs of Chennai.

The level of water in collection wells sunk on Palar riverbed has increased owing to rainwater flowing into it from the Cheyyar river near Pazhayaseevaram in the district.

The catchment areas of the Palar and Cheyyar rivers received good rainfall owing to the deep depression formed in the Bay of Bengal.

As a result, water drained into the Palar river in Vellore district and diverted into Cheyyar from Thamaraiakkam anaicut, officials said. Subsequently, floodwater let into Cheyyar from towns along its once again joined Palar river at Thirumukkoodal, near Pazhayaseevaram, along Chengalpattu-Kancheepuram Road.

The rainwater, which entered Palar at Thirumukkoodal filled up the huge craters formed in Palar riverbed due to the indiscriminate sand mining. The groundwater table in and around Pazhayaseevaram and downstream areas got recharged during 2005 when Palar river received heavy rain in the catchment areas of the river in neighbouring Karnataka and Andhra Pradesh in October 2005, officials recalled.

### ***Catchment areas of the Palar and Cheyyar rivers received good rainfall***

#### **Water level rises**

Inflow of water to the Mettur Dam increased on Wednesday to 16,426 cusecs. The water level stood at 79.11 ft against its full level of 120 ft. About 500 cusecs of water is being discharged from the dam for farm activities in delta region, PWD sources said.

#### **Efforts on to prevent dengue fever**

Intensive measures have been put in place in the district to prevent dengue fever. Apart from a cleaning campaign, a sensitisation drive has been launched across the district, said Collector N.Subbaiyan here on Wednesday. Inaugurating the supply of Nilavembu Kashayam at the Government Raja Mirasudar Hospital here, Mr. Subbaiyan said the kashayam, which boosts

immunity, is being supplied through all government hospitals, primary health centres and block and taluk level hospitals.

Surveillance has been mounted in all private and government hospitals to check for dengue fever cases. Diagnostic and treatment facilities were available at government hospitals. Those suffering from fever, fatigue and joint pain should immediately approach the nearest government hospital or primary health centre for treatment.

Steps have been taken to clear all mosquito breeding sources in Corporation, municipal, town panchayat and panchayats in the district. Special teams of field workers were working across the district to carry out house-to-house checks to weed out mosquito breeding sources and fogging operations, he said.

### **KVASU to host workshop on veterinary nursing**

The Kerala Veterinary and Animal Sciences University (KVASU) will host two workshops on 'Animal health and welfare in the area of veterinary nursing' on its Pookode and Mannuthy campuses from Monday.

The programme is organised in association with Royal Dick School of Veterinary Medicine, University of Edinburgh, as part of an international collaboration between the two universities, B. Ashok, Vice Chancellor, KVASU, said. The programmes would facilitate the participants an opportunity to learn about the best practice in veterinary medical care during pre-and-post treatment, Dr. Ashok said.

Faculty members and eight veterinary students from University of Edinburgh and Edinburgh Napier University will participate in the workshop. At a time when animal welfare issues were emerging across the country, workshops on veterinary nursing would pave the way for formulating a course on veterinary nursing for Plus Two students, T.P. Sethumadhavan, Director of Entrepreneurship, KVASU, said.

The first workshop would be held on Pookode campus from November 16 to November 20 and the second one on Mannuthy campus from November 23 to November 27, Dr. Sethumadhavan said.

Shyam K. Venugopal, Professor, Department of Veterinary Surgery, KVASU, will be the coordinator of the programme.

*The programme is organised in association with Royal Dick School of Veterinary Medicine, University of Edinburgh.*

**hindustantimes**

**Go slow on energy drinks, else your BP will start racing**



If you thought an energy drink is the answer to all your lethargy problems, you need a rethink real fast. According to a new study, just one energy drink is enough to cause potentially harmful spikes in both stress hormone levels and blood pressure in young, healthy adults.

Anna Svatikova of the Mayo Clinic and colleagues randomly assigned 25 healthy volunteers (age 18 years or older) to consume a can of a commercially available energy drink and placebo drink within five minutes, in random order on two separate days, maximum two weeks apart. The

placebo drink, selected to match the nutritional constituents of the energy drink, was similar in taste, texture, and colour but lacked caffeine and other stimulants of the energy drink (240 mg of caffeine, 2,000 mg of taurine, and extracts of guarana seed, ginseng root, and milk thistle).

Energy drink consumption has been associated with serious cardiovascular events, possibly related to caffeine and other stimulants. The researchers examined the effect of energy drink consumption on hemodynamic changes, such as blood pressure and heart rate. Participants were fasting and abstained from caffeine and alcohol 24 hours prior to each study day. Serum levels of caffeine, plasma glucose and norepinephrine (noradrenaline) were measured and blood pressure and heart rate were obtained at baseline and 30 minutes after drink ingestion.



**Researchers say that consumption of energy drink recorded a 6.2% increase in systolic blood pressure and the diastolic BP increased by 6.8%.**

Caffeine levels remained unchanged after the placebo drink, but increased significantly after energy drink consumption. Consumption of the energy drink elicited a 6.2% increase in systolic blood pressure; diastolic blood

pressure increased by 6.8%; average blood pressure increased after consumption of the energy drink by 6.4%. There was no significant difference in heart rate increase between the two groups.

These acute hemodynamic and adrenergic changes may predispose to increased cardiovascular risk, the authors write. Further research in larger studies is needed to assess whether the observed acute changes are likely to increase cardiovascular risk. The study is published in JAMA.



## THE TIMES OF INDIA

### **Rain God spares Coimbatore revellers for Diwali**

The district enjoyed a sparkling Diwali on a rather sunny Tuesday, while heavy rain lashed many parts of the state on the festival day. It almost seemed that the rain Gods had decided to withhold showers on the festival day, allowing residents to have a gala time bursting crackers and enjoying with their near and dear ones.

Some pockets of the district had witnessed mild to heavy rainfall on Monday evening and at night, but the skies were more or less clear by Tuesday morning. Except for drizzling in the afternoon and early evening, it was pretty much a sunny day across the district. According to Skymet's readings, Coimbatore recorded just 0.3mm rainfall on Tuesday, compared to 10mm on Monday.

Weather experts, however, predicted that mild rainfall was likely to continue for the next two days in the district. "The district will receive around 5mm rainfall a day till Friday morning," said Mahesh Palawat, meteorologist at Skymet. "It will, however, be received in patches with one area receiving almost 10mm rain and another area just 2mm," he further said.



The regional meteorology office, meanwhile, said the rainfall was an indication of cyclone withdrawing.

A section of weather experts said heavy rain would lash the city around November 19. "There is another weather system forming above the Bay of Bengal. This is likely to move towards Tamil Nadu, bringing with it a lot of rainfall for the coastal areas. But its intensity will be lesser, compared to that of the current cyclone," Mahesh Palawat said. "The district will receive rainfall from it for around three to four days -- November 19 to 22 or so," he further said.

While clear skies brought smiles on the faces of tens of thousands of residents in the city, who enjoyed bursting crackers, there was a flip side to it. The heavy smoke in the air caused by continuous bursting of crackers coupled with fog in the air, resulted in poor visibility on the runway at the Coimbatore International Airport. "The visibility on the runway dropped to less than 1,500m, the minimum requirement for a flight to land or takeoff," said the airport director, G Prakash Reddy.

Due to poor visibility, the late night Indigo flight from Mumbai could not land at the airport, leaving the passengers in a difficult situation. "The flight coming from Mumbai, which was supposed to land in the city at 9.55pm and depart to Chennai at 10.25pm, was diverted to Chennai and passengers were told to reschedule their flight," said Reddy.

### **Jayalithaa announces relief for rain related miseries**

Tamil Nadu chief minister J Jayalithaa on Wednesday announced that a compensation of Rs 4 lakh would be paid to relatives of those who die in rain-related incidents in the state. Last year, the government paid Rs 2.5 lakh.

She also announced compensation in the case of damage to houses and crops and deaths of cattle and poultry.

In a statement, Jayalalithaa said a fully damaged house would get a relief amount of Rs 95,100 while a hut would get Rs 5,000.

The state government would sanction Rs 30,000 each to people who lose cow and buffalo. For loss of goats, each owner would get Rs 3,000. The owner would get Rs 100 for lost poultry.

"I have also ordered to release Rs 1,000 in cash, 10kg of rice, a dhoti and a sari, besides a litre of kerosene to each of the family that stay in relief centres," Jayalalithaa said.

For the crop loss, she announced compensation of Rs 13,500 and Rs 18,000 depending on categories.

Jayalalithaa also announced compensation of Rs 32,000 and Rs 10,000 to the fully-damaged and partially-damaged catamarans respectively. A subsidy of 50% will be extended to fully-damaged fibre reinforced plastic (FRP) boats, and the maximum ceiling would be Rs 75,000.

On the basis of 35% subsidy, a maximum ceiling of Rs 5 lakh would be extended for fully-damaged mechanized boats.

A sum of Rs 10,000 would be extended towards damage to nets and Rs 5,000 to machineries.

The officials had also been asked to send reports on the damage to roads, bridges and government buildings, the chief minister said.

## Everything you wanted to know about the benefits of rice



*Regular rice is much maligned and is fast being dropped in favour of its unpolished avatar. But are the charges valid? Sports nutritionist Rujuta Diwekar separates the grain from the husk*

The Chinese eat rice with every meal, breakfast included, and the average Chinese on the street is thin, if not skinny. In our country, however, we are getting skeptical about rice and yes, we are all getting fatter. We either give up rice or replace it with wheat or 'brown' rice. What is wrong with this approach?

Replacing rice with wheat is not a good idea since it means reducing your intake of amino acids (protein's building blocks) and Vitamin B. As for brown rice, it has the outer layer (husk and bran) intact thereby making it high in fibre. Now of course we want fibre but if your rice has more fibre than you can digest, brown rice will only cause indigestion. On the other hand, rice that emits blinding whiteness may not be the best source of nutrients either.

Thus, to get the best of both worlds, polish your rice to the extent that helps it retain its nutrients (proteins, Vitamin B and fibre) and looks brownish or reddish. Remove the outer bran but allow the rice grain to show off its brown/red strains. Don't worry, this won't compromise the taste and yes, you can eat basmati rice with the brown/red strains as well.

The protein in this rice (red-rice or hand-polished rice) is absorbed much better by your body than in brown rice. It is also way easier to cook and digest as compared to brown rice. It is easy to digest, easy to absorb, easy to assimilate proteins from and easier on your excretory system too. This is exactly how the farming community of India eats its rice.

In fact, Ayurveda uses rice based diets in treating various imbalances in the body. Dal-chawal is a nutritious meal, possessing the entire spectrum of amino acids, vitamins and minerals. It also accelerates fat burning. In fact, the essential amino acid methionine found pre-dominantly in rice helps mobilize fat from the liver. As India is dominantly vegetarian, getting proteins from rice, especially the essential amino acid methionine and the conditionally essential amino acid (becomes essential under conditions of stress) tyrosine is crucial for us. Diabetics should also eat rice since they need these proteins.

Know that rice is not a bad thing. The bad thing is when we mindlessly decide if one thing is good for us and that if we do it a lot, it becomes only better. We do that with rice so often now. A humble dal-chawal meal is so satiating that it makes you eat slower and improves your chances of eating the right amount (the cornerstones of fat loss or accelerated metabolism, good digestion and health itself).

Rice is auspicious in both China and India: the dead are offered rice to wish them good health for life outside their physical selves. It is sad then, that in India, even when we are still in our bodies, we make fads out of rice.

## **FDI in plantation: Rubber sector wants flexible, investor friendly rules**



The rubber sector has reacted cautiously to the Government's move of allowing 100 per cent foreign direct investment (FDI), saying that the issues in the plantation sector should be sorted out first before going ahead with the move.

With no major investments happening in the cash-strapped Kerala's plantations sector, the 100 per cent FDI is an important component due to low commodity prices, C Vinayaraghavan, Chairman, Association of Planters of Kerala (APK), said.

### **Land allotment**

However, the need of the hour is to make the FDI rules little more friendly and attractive to investors, he said citing the rigid land laws in Kerala which bars inter-cropping in the plantation sector.

"The FDI is definitely a welcome move. But it is only a question for its implementation part. There should be more flexibility in rules especially in respect of land allotment," he said.

Recalling the 100 per cent FDI in tea sector in 2002, N Dharmaraj, President, UPASI, pointed out that no investments had happened in the

sector following the move. If the government is seriously looking at foreign funds in the rubber sector, there should be a level playing field with respect to other competing countries.

The government, he said, should first sort out the issues in the domestic sector. “Otherwise the entire process will be a paper exercise and never attract any foreign investments”, he added.

### **N-E may gain**

According to N Radhakrishnan, Advisor, Cochin Rubber Merchants Association, allowing 100 per cent FDI will benefit the plantations in the North-East rather than in the South. Asked how will it benefit the North-East, he said lakhs of acres spread across various States are available for cultivation there and the MNC’s could start the farming in the next 6-8 months once they took the possession of those lands.

However, he pointed out that 90 per cent of the plantations in Kerala belong to small farmers and FDI will not benefit them. Majority of them are reeling under severe crisis due to low prices which is hovering at ₹110/kg. The prices are coming down in the international market due to growth in cultivation and declining demand especially in India and China.

### **What's in for farmers**

Radhakrishnan was of the view that the FDI should also benefit the farmers and the government has to make serious efforts to rehabilitate the 10 lakh members who are in a crisis due to low prices. The government, he said, is neglecting the sector which is evident from the delay in appointing a new Chairman for the Rubber Board, the post which is vacant for quite some time.

Sibi Monippally, General Secretary, Indian Rubber Growers Association, wondered how the FDI would benefit the small farmers in Kerala, who are passing through a very difficult situation due to price fall.

It is uneconomical now to tap rubber due to low prices and higher wages. This has affected the production too. Today, a farmer needs an average price in the range of ₹130-140 a kg to increase the production.

“Given this scenario, I don’t think the 100 per cent FDI will benefit the sector, especially the farming community. The government should set the house in order before moving towards FDI,” he added.

### **New technologies**

According to Mohinder Gupta, President of All India Rubber Industries Association, the foreign direct investment would bring in new practices and technology for giving much-needed fillip to natural rubber production in India.

Rajiv Budhraj, Director-General, Automotive Tyre Manufacturers Association, said that allowing 100 per cent FDI will result in infusion of funds and technology.

### **New stocks of white arecanut rule above ₹200 a kg**

With the arrivals started for the new stocks of white arecanut, farmers are seeing a positive trend this year. The new stocks have opened above ₹200 a kg in the market this season.

Terming it as an encouraging trend, Ramesh Kaintaje, a farmer from Bantwal taluk of Dakshina Kannada, told *BusinessLine* that the season for new stocks of white arecanut opened in the range of ₹130-145 a kg in 2013 and ₹165-180 in 2014. Private traders are offering more than ₹220 for the new stocks during the opening of the current season, he said.

(New stocks of white arecanut start arriving to the market during Diwali festival. The stocks that are considered new till then will become old stocks. Old stocks command good price compared to the new ones.)

Kaintaje said that the increase in the minimum price for import of arecanut from ₹110 to ₹162 a kg in June this year has helped the domestic growers, besides boosting the price.

Raveesh Hegde, General Manager of the Sirsi-based Totagars’ Cooperative Sale Society (TSS) Ltd, said that the increase in the cost of cultivation over the years is one of the reasons for this hike.

## **Note of caution**

K Mahesh, a grower from Adyanadka village in Dakshina Kannada district, said that the production of white arecanut (which is coming as new stocks now) is up by 10-15 per cent this year. He cautioned that this may have an impact on the price when the present new stocks become old stocks during the same period next year.

Kaintaje said that due to the decline in the rainfall this year, arecanut crop is ready for harvest early. He said that new stocks of arecanut were ready during end of November last year in his farm. However, this year the stocks are ready a month in advance. Other farmers also expressed such views.

## **Arrivals thin**

Suresh Bhandary, Managing Director of Central Arecanut and Cocoa Marketing and Processing Cooperative (Campco) Ltd, told *BusinessLine* that the arrival of both old and new stocks of arecanut to the market is thin till now. Now the cooperative is getting around 20 per cent of what it was getting in the previous year.

He opined that the farmers are holding back the stocks expecting a higher price in the days to come.

Sridhar Bhide, President of Mangaluru Agriculturists Sahakari Sangha, urged the farmers to release the commodity in regular intervals so that there will not be glut in the market. This will help stabilise the market to a large extent, he added.

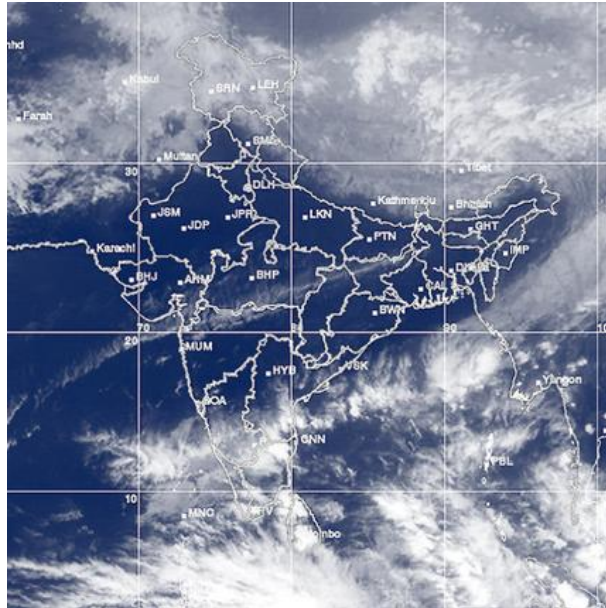
The country produces around 5.5 lakh tonnes of arecanut a year. Of this, Karnataka's share is around 40 per cent. Srinivasa Achar, President of All-India Arecanut Growers' Association, said that generally white and red arecanuts are produced in the ratio of 60:40.

## **Rains seen for TN coast despite storm enabler checking out**

The storm-enabling Madden-Julian Oscillation (MJO) wave in the higher levels of the atmosphere has rode out of the equatorial Indian Ocean and the adjoining Arabian Sea and Bay of Bengal.



But that would not prevent the Bay from getting into active mode from the weekend, as per projections by India Met Department as well as international models.



### **Easterly wave**

The surmise is that an easterly wave will carry a rain-head from around Sumatra and set it on a course towards the Sri Lanka coast.

From here, its west-northwest track would likely take it to the South-East coast of Tamil Nadu where it would break up into thunderstorms (mostly over the Central region and the South).

India Met projects the system as waiting in the sea off the North-East Sri Lankan and South-East Tamil Nadu coasts by November 18.

Pilot rains are expected to lash the Tamil Nadu coast from at least three days ahead as stronger easterly winds buffeting the system blow in.

### **Record storms**

The Australian Weather Bureau said the MJO wave has left equatorial Indian Ocean to reach within the longitudes of the island continent.

The wave was particularly active over the Arabian Sea helping generate two of the strongest cyclones in quick succession, a spectacle not witnessed any time during the past.

Just one week after tropical cyclone ‘Chapala,’ the second-most intense tropical cyclone on record for the Arabian Sea, another major tropical cyclone ‘Megh’ had impacted the region.

Since 1990, when reliable records commenced, only five tropical cyclones of this intensity have been recorded in the Arabian Sea, and no previous season has seen more than one.

### **El Niño update**

The El Niño has been in place for about six months and has been a strong one, comparable to the events of 1997-98 and 1982-83, the Bureau said.

International models suggest the peak in El Niño sea surface temperature is likely to occur within the next month or two. The event is expected to persist into the first quarter of 2016.

The positive Indian Ocean Dipole (IOD) event also persists. It has been in place for over three months. International climate models expect the positive IOD to break down during November and early December.

The El Niño has been generally helpful for the North-East monsoon though the exact impact of the IOD, which mimics El Niño in the Indian Ocean, would become known only later.

Earlier, India Met Department had forecast a normal to above normal North-East monsoon during this year.



### **Early farmers minded their own beeswax**

**Chemical traces of honeybee products discovered on Neolithic pottery from Europe to the Middle East.**



*Lightpoet/Shutterstock*

Neolithic farmers may have been well-acquainted with bees and beeswax.

Early farmers had a sweet tooth. Pieces of Neolithic crockery from Europe, the Middle East and North Africa dating back 9,000 years bear chemical traces of beeswax, according to an analysis of thousands of potsherds that appears in *Nature* today<sup>1</sup>.

Farming cultures of the time probably sweetened their food with honey, but bee products may have also found use in religious ceremonies and early medicines, researchers suspect.

The relationship between humans and bees is much more ancient. A 40,000-year-old lump of beeswax from Border Cave in South Africa may have been used to help bind stone points to wood to make spears<sup>2</sup>, for instance, and depictions of beehives are common in prehistoric rock art found all over sub-Saharan Africa.

But the latest research is the strongest evidence yet that early farming cultures widely exploited products from honeybees (*Apis mellifera*).

Agriculture emerged in the Middle East around 10,000 years ago, and waves of migrants carried the practice to Europe. A team led by Mélanie Roffet-Salque and Richard Evershed, chemists at the University of Bristol, UK, looked for beeswax residues in more than 6,400 clay cooking vessels across Eurasia dating from between 9,000 and 4,000 years ago. Evershed's team has previously discovered fat signatures of [meat](#), [dairy](#) and [cheese](#) in some of the same ancient crockery.

### **Rare but widespread**

Traces of beeswax fats were relatively uncommon — just 4 out of the 570 vessels from northwestern Anatolia bore traces of bee products — but geographically widespread, the researchers found. Neolithic pottery from southern Britain and Denmark to the Balkans contained beeswax, as did artefacts from a 7,000-year-old site in Algeria. An iconic, nearly 9,000-year-old site in Turkey called Çatalhöyük contained the oldest beeswax-bearing pot. A honeycomb pattern is painted onto a wall at this site, the authors note.

Roffet-Salque says the widespread use of bee products among Neolithic groups could mark the beginnings of honeybee domestication. Neolithic farmers began co-opting cattle, pigs and other animals around this time, and may have seen honeybees in a similar light.

But climate limited the spread of bees — whether wild or farmed — into Northern Europe. Pottery from Ireland, Scotland and northern Scandinavia contained no traces of beeswax, Roffet-Salque notes.

“The paper is fantastic for what it shows about how bees are being used as a resource,” says Helen Anderson, a rock-art specialist at the British Museum in London. She has catalogued bee-related imagery in rock paintings from

Africa, including Zimbabwe and Tanzania. She suspects that ancient Africans were honey hunters, not bee-keepers, but she wonders whether there are parallels between how humans used bees in Europe and the Middle East, and how they used the insects in Africa. “Perhaps while the archaeology isn’t there in Africa, we can start to make those comparisons,” she says.

## THE WIRE

### **An Agriculture Officer Uses Facebook to Win New Converts to Farming**

As young professionals in India tire of their daily ‘cubicle’ life and look to social media to ‘cultivate’ new interests, a dedicated agriculture officer in Tamil Nadu is using Facebook to promote the idea that they should set their sights on farming.

Madhu Balan, an assistant agriculture officer from Dharmapuri, Tamil Nadu has started the [Vivasayam Karkalam community page](#) and more than 16,000 Facebook users have become members. Nearly half of them are between the ages of 35-42 and many are professionals like doctors, lawyers and chartered accounts doing part-time farming as a hobby.

“Right from seeds to marketing, I have tried to give the right information and taken care to see that the page is full of relevant information and photos,” says Balan.



Vivasayam Karkalam – most of whose content is in Tamil – has become popular among farmers, young professionals and students of agriculture in Tamil Nadu, who browse the page everyday for new information being posted. “Working in a government office for the past three decades, I always wanted to do something worthwhile and useful. But there was nothing challenging coming my way. I have another two years to retire. I started this site a year back and expected a lukewarm response as there are many pages on different topics. Honestly, I never imagined we would get so many members involved. This only proves how hungry people are for good information on farming and agriculture,” he says.

The most interesting thing about Balan’s site is that a majority of its members are young farmers who are new to this area.

Balan uploads information on different aspects of farming. “There is something for everybody connected with agriculture,” he says. If there is some information on a progressive farmer, then his complete contact details are given to enable users to contact him directly. Unlike many government agriculture officers who spend their weekends at home, Balan travels to different places and meets farmers and others associated with farming in search of new information for his community page.

Compared to 15-20 years ago, young people today are interested to try their hand in agriculture, Balan says. Many youngsters, especially from the IT sector, have actually quit their jobs for farming. Thanks to WhatsApp, Facebook, etc., information on practically any issue or subject can be shared across the globe free of cost. “And that is not all. On social media, you don’t need to worry about advertising revenue to run a page specifically on agriculture/rural issues,” he explains.

“I started this out of my own interest and the response has only encouraged me to do more,” he says. Under his guidance, millets growers in Dharmapuri have started a federation to market their items. “I am on Facebook for two hours every day and anybody can contact me regarding their doubts and I am only too happy to help them.”

Balan offers not just farming advice but also practical information on where to source seeds as well. He also posts the requirements of his FB friends and has created an interactive portal where marketing has also become a little easy for farmers. In short, by using a freely available social media platform, he has been able to bring in a big change among both rural and urban internet users. The information sought could be on setting up terrace

gardening and its implements or where to buy a particular variety or what type of organic or inorganic fertiliser to be used – there is something for everybody interested in crops.



A contraption for the direct sowing of paddy

*For more details, interested readers can contact N. Madhu Balan, No. 351, HIG, TNHB, Vennampatti, Dharmapuri – 636705, Tamil Nadu. His mobile number is 0-97515-06521, Skype ID: madhubalan2006, and email: balmadhu@gmail.com.*