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THE HINDU

Forest personnel search orchards for carnivore

A team of Forest department personnel from the Tindivanam Forest Range on Friday inspected cashew orchards at Pillaichavadi near Auroville after locals reported sighting a carnivore in the area last week.

According to a forest department official who visited the spot, Muthukrishnan, a farmer first sighted the carnivore crossing the road while he was on a routine inspection of his cashew orchard last week.

The animal was sighted between 4 a.m. and 5 a.m. The incident triggered panic in surrounding villages.

A team of forest department officials from Tindivanam reached the spot on Friday but could not find the animal.

“Going by the description of the animal it might have been a jungle cat. We scanned the entire area but couldn’t find any pugmarks or the carnivore. However, we are not taking any chances and have asked locals to remain alert and report to us if they sighted any carnivore,” the official said.

‘Conserve endangered species’

Participants at the national seminar on sustainable development held here on Thursday stressed the need to understand the importance of

conserving endangered species. Every living organism has a role to play in the ecosystem, they said.

Harish Bhat, IISc. scientist, said that without butterflies and honey bees, humans would not get any food. “Many scientists have said that the human race would vanish within a few years if honey bees and butterflies were to disappear,” he said. Dr. Bhat said shepherds considered wolves as good friends. “I was surprised when a shepherd said that wolves eat only diseased sheep to keep themselves healthy,” he said.

Bird festival begins at Ranganathittu

B. Ramanath Rai, Minister for Forests and Environment, inaugurated the three-day Karnataka Bird Festival (KBF) at the Ranganathittu Bird Sanctuary near Srirangapatna in the district on Friday evening.

The Karnataka Eco-Tourism Development Board is organising the festival, in association with the Karnataka Forest Department and a private firm R Square Consulting.

Migratory birds

The motive behind the event is to highlight the significance of migratory birds which flock the Ranganathittu Bird Sanctuary continuously and also to put focus on birds and bird watching in Karnataka, Mr. Rai, addressing the gathering, said.

Protection

The State government will take measures to protect birds at the sanctuary and will develop the sanctuary into international standards to attract tourists in a big way, he said.

Mr. Rai also inaugurated a picture-gallery at the sanctuary. Srirangapatna MLA A.B. Rameshbabu Bandisiddegowda, Principal Chief Conservator of Forests (Wildlife) Vinay Luthra, Zoo Authority of Karnataka (ZAK) chairperson Rehana Banu, Deputy Conservators of Forest V. Karikalan and Ramalingegowda and others were present.

Bird watching, photo exhibition, bird photography, workshop on bird sketching, speeches and panel discussions on various issues pertaining to birds will be held at the sanctuary on Saturday and Sunday.

Registration fee is Rs. 2,500.

According to sources at R. Square Consulting, around 150 delegates, 300 students and a good number of officials and volunteers are participating in the festival.

Farmers to be provided training in natural mango ripening method

The Department of Horticulture plans to organise a series of training programmes for farmers in the district on natural methods of ripening mango.

Deputy Director of the Department of Horticulture M. Vishwanath told The Hindu that currently, farmers and vendors were using calcium carbide to ripen the mango. The research had proved that consumption of mangoes ripened with calcium carbide would cause health problems like cancer, ulcer, insomnia and loss of appetite.

Scientists at the Indian Institute of Horticultural Research (IIHR) have developed a technique of ripening mangoes with ethylene, which was also cost-effective. The research had proved that usage of ethylene for ripening mangoes was not harmful to consumers, he said.

Under this method, the mango craters should be placed in a chamber and then release ethylene gas into it. It would take 24 to 48 hours for mangoes to ripen under this method. Farmers could have easy access to ethylene as it was sold in the form of a powder at all fertiliser shops, he said. The mangoes ripened with calcium carbide would look attractive. However, their pulp would not be sweet. Mangoes ripened with ethylene gas would retain their natural colour and taste, he said.

Small and marginal farmers and retail mango vendors could construct ripening chambers by using plastic sheets. Experts from IIHR would be invited to provide a training for farmers and vendors in the process of ripening mango with ethylene. The department would also distribute certificates to vendors who sold mangoes ripened under this method, which they could display at their outlets, he said.

Mango is being grown in about 3,450 acres of land in the district. It had been planned to organise training programmes from second week of April. The department had sought a grant of Rs. 6 lakh from the Karnataka State Mango Development and Marketing Corporation for the purpose, he said.

THE TIMES OF INDIA
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NIF, ICAR join hands to promote agricultural innovations

National Innovation Foundation, India (NIF) has entered into an understanding with the Indian Council of Agricultural Research (ICAR) to verify, validate and promote innovations from the agricultural sector.

The agreement was signed by Prof Anil K Gupta, Executive Vice Chair, National Innovation Foundation - India and Dr S Ayyappan, Secretary, DARE and Director General, Indian Council of Agricultural Research earlier this month at New Delhi in presence of R. Rajagopalan, Secretary, ICAR, Dr SN Mauria, Additional Director General, ICAR, Dr Vipin Kumar, Director and Chief Innovation Officer, NIF and other distinguished scientists.

NIF, an autonomous body of the Department of Science and Technology, Govt of India is engaged in scouting, documentation, augmenting and adding value to the innovations at the grassroots level where ICAR, is engaged in conducting research and development in agriculture and allied sectors in a number of institutions spread all over the country.

Under the agreement, NIF will share with ICAR, promising technologies from its database comprising innovative agricultural machineries, plant protection practices, improved plant varieties, farm practices *etc*., which will be verified and validated through ICAR's available R&D facilities. A Joint Implementation Committee (JIC) chaired by Director General ICAR will monitor and steer the activities proposed under the agreement. This collaboration is expected to convert many of ideas and innovations from the grassroots to the value added products and generate wealth for innovators, and value for society. These technologies will also generate livelihood options for the youth and self- help groups in rural areas.

India turns to 'satellite god' for crop mapping

Sher Singh, a farmer from desert state of Rajasthan, prays to Varuna, the Hindu god of water, for a bountiful harvest. Now, he is also looking to the heavens for satellite imaging to boost his crop.

Prime Minister Narendra Modi wants to promote a "per drop, more crop" approach to farming to make better use of scarce water, and aims to have a new satellite crop monitoring system working in time for the peak of this year's monsoon in July.

Using remote analysis to assess soil moisture and crop development has the potential to cut input costs and raise yields, say experts, in a country of 1.25 billion where half of workers make a living from agriculture.

Under the scheme, farmers would be able to access advisories on their mobile phones to help them to choose seed varieties, apply the right

fertilisers or time irrigation 'shots', though some are sceptical about how effective the plan will be given natural or other obstacles.

"I hope to cut at least a tenth of input cost with the help of the 'satellite god'," said Singh, 55, who farms less than a hectare of rapeseed and hopes to use savings to educate his two grandchildren.

By his own admission, Singh doesn't know how much to water his crops, the right fertiliser mix — or even the right crop to plant given the land's soil type.

After last year's landslide poll victory, Modi's government rolled out a national Soil Health Card scheme modelled on an initiative he launched as chief minister of Gujarat to help farmers plant crops suited to their farmland.

In addition, satellite analysis can assess vegetation cover down to field level, helping to determine how a crop is developing and whether it has been harmed by pests or needs more water.
"The idea is to integrate information under the Soil Health Card with satellite images to raise productivity," said N Chattopadhyay, a weather department official who is involved in the project.

Precision farming, Indian style

The approach seeks to apply 'precision' farming methods pioneered in North America that use geo—location technology to help farmers micro—manage exactly how much seed, fertiliser or pesticide they apply to their fields.

In countries such as the United States and Canada unmanned aerial vehicles, or drones, are also used to overfly farms to map soil and crops accurately.

The next—best option is satellite analysis, more affordable for India, that uses a method called Normalized Vegetation Difference Index assess how well a crop is developing.

Chattopadhyay said the analysis can be provided to farmers on a near real—time basis and could also be used for impact assessment after natural hazards like floods.

India can use its own geostationary satellites, but some see obstacles to its plans including a need to check findings on the ground or the risk of cloud obscuring images.

"Don't be under any illusion that the remote sensing based crop mapping technique will be a penance for all problems in the farm sector," said BC Barah, a New Delhi—based agriculture economist.

From the top

India's top bureaucrat Ajit Seth has urged wider use of remote sensing to benefit farmers, many of whom live a precarious existence on tiny plots of land.

Just over half of India's nearly 200 million hectares of arable land is rainfed, leaving farmers at the mercy of an often uncertain the monsoon.

The remaining arable is under irrigation, which the government plans to expand by a tenth over three years.

The loss of more than half of a crop can trigger government payments to farmers, of $72 per hectare for rainfed areas and $144 for irrigated lands.

India is also preparing to use satellite based crop forecasts to develop

insurance for farmers. Currently, insurance products cover primarily crop loans and exclude farm activities.

THE HINDU BusinessLine

Kindling the biomass flame

New-age companies across the country are investing in scientifically designed stoves that reduce smoke, save fuel and cut cooking time

During the recession in 2008, Nashik-based metal fabrication firm Swami Samarth Enterprises found itself in the doldrums. Its order book shrank with its revenues, down from Rs. 50 lakh a month to Rs. 3 lakh. Just as hope was dying out for the firm, a customer approached the owner, Soumitra Kulkarni, with an order for 100 coal-based stoves. He paid an advance of Rs. 10,000, but didn't come back to collect the manufactured stoves.

Weeks later, when Kulkarni tracked him down, the customer said he was not interested in buying the product as he had changed his field of work. Due to their poor design and lack of safety features, the stoves had to be scrapped. The painful episode however ended up giving Kulkarni his next big idea amidst the dwindling industrial demand — the manufacture of biomass stoves for households that were wasting fuel and time cooking on mud *chulhas* .

Obviously his customer didn't realise the potential inherent in the stoves he had scrapped. "I took his permission and invested in R&D to refine the stoves. I was looking to make and sell products that could bring in revenues immediately. Biomass stoves fit the bill," says Kulkarni.

Biomass stoves too use wood, charcoal, animal dung or crop residue as fuel, but are scientifically designed to reduce smoke by up to 70 per cent, fuel use by 60 per cent and cooking time by half. Most importantly, they reduce the indoor air pollution caused by cooking fire, which causes over a million deaths globally each year.

By May that year, Kulkarni was ready with about 5,000 biomass cookstoves, which sold out over the next four months. Having found his calling, Kulkarni continued to invest in refining the stoves to make them more fuel-efficient, smokeless and eco-friendly.

Miles away in Auroville, the City of Dawn near Puducherry, a group of engineers, designers, a physicist and marketing professionals spend days refining the design and efficiency of biomass stoves. "We also have on staff full-time cooks from local villages — the absolute stove-design experts. Every day, they prepare lunch using our stove prototypes and help us refine them," says Mouhsine Serrar, founder of Prakti Designs — the largest supplier of biomass stoves to the UN World Food Programme.
As for Neha Juneja and Ankit Mathur, a different kind of smoke trail led them to biomass cookstoves. After graduating from the Faculty of Management Studies in Delhi and IIM-Ahmedabad, respectively, the duo ventured into energy finance, which led them to undertake solar, hydro and biomass energy projects in rural areas. Although the finance venture did not succeed eventually, it helped them uncover the potential in biomass stoves and they set up Greenway Appliances, which operates the country's largest biomass cookstove manufacturing plant in Vadodara, Gujarat.

The stoves manufactured by Greenway, Prakti and Kulkarni's Swami Samarth are not only portable and easy to use, they are also suited for traditional utensils and cooking methods. According to the 2011 Census, over 61 per cent of rural households use firewood as cooking fuel, leading to deforestation as well as health problems for women and children.

"The difference between a modern biomass stove and a traditional *chulha* is in the design, engineering, and material. The purpose

is to allow optimal combustion (reduce emission), minimal fuel consumption (efficient heat transfer), faster cooking, and durability at minimal cost without compromising usability and cultural preferences," says Serrar.

Some of these companies have secured patents for their cookstove design and others have applied for them. Greenway stoves provide complete combustion by deploying a patent-pending air induction mechanism. The air-fuel ratio ensures good combustion unlike in mud stoves, which demand the use of ventilating pipes and don't burn efficiently.

Raghunath Funde, a farmer in Bela village of Maharashtra's Bhandara district, says the biggest advantage in using the Greenway stove is that his wife and mother don't have to sit beside it to adjust the wood or blow air. "The wood is fully burnt, there is no smoke and the cooking time is much less. My mother's health is now improving. She earlier had a lot of respiratory problems," he says. After using the biomass stove for about seven months, he has recommended it to his friends and extended family. The stoves are priced between Rs. 1,100 and Rs. 1,500. Greenway's Smart stove for homes is priced Rs. 1,499 and the Jumbo stove for commercial use is priced Rs. 2,499. Agneeka, Swami Samarth's cookstove brand, is priced similarly and offers discounts of up to Rs. 400 to needy families.
The sales have increased steadily. Prakti has sold 15,000 household stoves and nearly 900 institutional stoves (that can cook for up to 500 people per meal) in the last two years. Juneja and Mathur began with selling 100 stoves in the first month. Today, they sell 40,000 units every month and their factory can manufacture eight lakh units annually.

"Given the market size, the value proposition of the product is very strong," says Juneja.

Serrar says Prakti has been constantly improvising its stoves over the last few years. "We are on track to release a new stove version every year with better performance and 30 per cent cost reduction," he says.

A major challenge for all of them lies in reaching out to the end-users and convincing them to buy. Kulkarni says there is still little awareness about the availability of biomass stoves and their benefits.

“People are not ready yet to switch over from age-old mud *chulhas* . We explain the health benefits of using biomass cookstoves and then try to convert them. It will take time,” he says.

Juneja agrees that affordability is not as much an issue as lack of awareness is. This is precisely why Prakti is roping in local communities and cooks in the design of the stoves, to enable them to identify with the product. “Our stoves are distributed and assembled through local partners. As local distribution and marketing mature, we transfer production to the local partners,” he says. Prakti stoves are currently made at its factory in Chennai, allowing for continuous rapid prototyping and mass customisation.

For distribution, too, the manufacturers are banking on innovation to reach out to a large number of people. Greenway has partnered with banks, including Canara Bank and Bank of India, to finance the stoves. Instead of paying Rs. 1,499 upfront, customers can pay in installments. There are also tie-ups with microfinance institutions to take the stoves to families in rural as well as urban areas.

Greenway has additionally tapped small retail outlets in the central market at the taluka level, which customers visit at least twice a month. Prakti’s Serrar is stocking the products at all outlets where solar lights are sold to villages. He is also relying on sales tie-ups with distributors specialising in rural areas, including Dharma Life. “We have realised that product development calls for a lot of effort and distribution requires a different set of skills. We get optimal synergy by separating product development and distribution,” he says.

The appeal of biomass stoves is unsurprisingly not limited to rural households. It is equally popular with many urban families without an Aadhar card or bank account for LPG subsidy. Even households with an LPG connection are using the stove to heat water in the winter months or in cooking to achieve a smoky flavour. A major segment, however, are the institutional users — school canteens, caterers and restaurants. Kulkarni sells his commercial biomass stoves, each above 50kg, only to the Pune-based alternative energy company First Energy.

Continuous R&D is helping develop newer versions of the biomass stove — double pot cookstoves, charcoal cookstoves, wood cookstoves, and institutional stoves of varying capacities — to reach out to more customers. Prakti is already selling in some African countries and Nepal,

besides India. Greenway has started exporting to Mexico — 1,500 units per month — and is now looking at East Africa and South Africa. It has seven warehouses across India and expects to double the number next year. “We want to make this the de-facto standard of cooking in India,” says Juneja. Given the investment and efforts kindling it, this is one mission that promises to burn bright.

‘Domestic, export markets offer a toast to State food processing sector’

The fast emerging domestic market and a steadily growing export market are the two pillars of growth for the State’s food processing industry.

Availability of raw materials and trained manpower; a proactive local market; a vibrant retail chain; track record of existing players; and a large diaspora ensuring a captive market abroad are its advantage.

Favoured destination

The government’s industrial policy seeks to convert Kerala into a favoured destination for agro processing, according to M Beena, Managing Director, Kerala State Industrial Development Corporation (KSIDC).

She said this while speaking at a session on value-added agriculture and food processing for the micro, small, medium enterprises organised here on Friday by the Confederation of Indian Industry and National Bank for Agriculture and Rural Development (Nabard).

KSIDC has developed three food parks at Kozhikode, Ernakulam and Pathanamthitta districts; a seafood park in Alappauzha district; and n incubation centre at Kakkancherry, Kozhikode.

It has also proposed a mega food park at Wayanad; a spices park at Idukki; and two quality control laboratories, Beena said.

Farm is mainstay

Babu Thomas, Vice-Chairman, CII-Thiruvananthapuram, opened the session by stating that 49 per cent of the total employment in the State is realised form the agriculture sector. As for the country as a whole, the booming services and industrial sector apart, agriculture continues to

remain the mainstay of the economy from an employment and livelihood perspective.

The food processing sector has become a catalyst for the development of Indian agriculture and is of enormous significance due to vital linkages and synergies it promotes between industry and agriculture.

Shivdas Menon, Convenor, CII Agriculture and Food Processing Panel, said that CII should initiate hi-tech agriculture for vegetables and fruits and value addition for the produce and processed food and packaging.

There is a lack of trained people in the greenhouse segment; even government greenhouses are not yet fully complete. A PPP model might work here, he said.

Ramesh Tenkil, Chief General Manager, Nabard, said that the average ownership of land is comparatively small and so farmers have to learn to achieve maximum crop productivity.

The food processing sector is a sunrise sector and there is a potential to make growth sustainable here. For this to happen, a new generation of agripreneurs needs to be developed.

Vinod Manjila, Partner, Manjilas Food Products, said that in future, the modern kitchen will become non-existent and it will be processed food shall take over.

Others who spoke on the occasion included Alex Thomas, Managing Director, Tierra Foods India; Sunilkumar S, Managing Director and Principal Consultant, AUM Consulting; and D Sivakumar, Joint Commissioner for Food Safety.

The session ended with a panel discussion of senior officials from Federal Bank, Canara Bank, State Bank of India and State Bank of Travancore.

Best Foods to expand domestic footprint

Best Foods Ltd (BFL), which owns the Best Rice label, is seeking to expand its footprint across the domestic market to strengthen its position in the packaged basmati segment, which is growing at 30-35 per cent a year.

“We will continue expanding aggressively in India where we understand the retail format. We are already present in 250 cities and towns around the country and will cover at least 350 by the end of the next fiscal,” said Aayushman Gupta, Chief Executive Officer here on Thursday.

“We will sell mainly through modern retail stores since it’s difficult to reach consumers buying packaged basmati through mom-and-pop shops. Penetration is also higher in cities and towns since conversion of loose to packaged formats is far higher,” Gupta said. He was speaking on the sidelines of the ‘I Love Best Rice’ campaign that highlights the “goodness” of rice as a staple and is supported by TNS Global Research Consultancy, a market research firm.

The campaign had earlier been held in Kolkata and Hyderabad.

Iran ban

Bulk trade accounts for most of the four-year-old company’s sales. At present, BFL exports 70 per cent of its basmati stock to markets such as West Asia and Europe.

Asked if Iran’s temporary ban since last October had impacted the company, Gupta said it was limited.
“Domestic consumption of basmati is quite low, so most of it is exported. Our markets are diversified, so we did not depend on Iran entirely. The growth in the segment, however, slowed a little due to the ban, which affects the industry as a whole,” said Gupta.

“Buyers there were unable to get permissions for imports, but we possessed the norms of certification the Iran government had required, something that quite a few exporters don’t have,” he added.

India exported 2.57 million tonnes of basmati rice between April and December this fiscal, a decline of 6.19 per cent from the corresponding period last year.

Iran, the largest importer accounting for 60-65 per cent of India’s basmati exports, had clamped down on issuing import permits due to a large carryover stock resulting from record domestic production and heavy imports from two years previously.

Kochi tea gathers steam on short supply

Tea prices at Kochi auctions have increased on short supply, with the dust average price moving up by Rs. 2.86 a kg.

The auctioneers Forbes, Ewart & Figgis attribute the reasons for price surge to decline in quantity of future offerings and the absence of sales for next week due to Easter holidays. However, they said that chances are better for further improvement in prices in the forthcoming auctions.

In sale no 13, the quantity on offer in dust category was 9,88,500 kg.

With 86 per cent sold, the market for Good Liquoring and teas was firm to dearer by Rs. 2-4.

It was more as the sale progressed especially for the smaller grades. Others were irregular and sometimes lower. Export demand was subdued and covered only a small quantity.

With a less demand, the quantity on offer in Orthodox varieties was 16,000, registering an improvement in arrivals. In Cochin CTC Dust quotation, Good varieties quoted Rs. 85-148, mediums fetched Rs. 76-118 and plain grades stood at Rs. 60-72.
In leaf grades, the quantity on offer for both Orthodox and CTC was 89,500 kg, which was low compared to last week. In Orthodox sale, the market for Nilgiri Brokens and Fannings was firm to dearer following quality. Good Liquoring Whole Leaf was higher, while others were irregular and lower and witnessed some withdrawals. In the CTC market, Clean, black, well-made Fannings barely remained steady. All other grades were irregular and lower by Rs. 2-3 and sometimes more.

Decision-makers Members of a farmer producer company discuss business plans Lalit Singh

Jawaja development block, in the southern end of Rajasthan's Ajmer district, falls in the rain shadow area of the Aravalli hills, receiving a low average rainfall of 300 mm annually.

The average land size is just about 0.4 hectares. The limited natural resources and groundwater have spurred the growth and success of nearly 300 self-help groups in the 23 Gram Panchayat Samitis. There are also two women producer groups involved in aloe vera cultivation and goat rearing, respectively.

Farmer Producer Companies (FPCs) are a new way of agglomerating producers to help them participate in competitive markets. Formed under an enactment in 2003 of the Companies Act 1956, producer companies are being formed in various states for marketing seeds, fertilisers, horticultural products, forest produce, local handicrafts and related products.
In Jawaja, the all-woman Grameen Aloe Producer Company Limited (GAPCL) received support from the United Nations Development Programme in 2009. It was further supported by Aravali, a voluntary organisation working through the Aga Khan Foundation Innovation Fund, until February 2012. The Grameen Development Society supporting it currently is committed to livelihood augmentation for the poor, with presence in Uttar Pradesh, Bihar and Rajasthan.

GAPCL has been a long and exciting journey for its members, who started out as poor farmers. Apart from juice, the company blends aloe

vera with cucumber to make cosmetics and with amla to make packaged ready-to-use health products.

At a recent training programme, the self-confidence of the women was evident as they have crossed many a hurdle along the way. They started with making wasteland fit for the cultivation of aloe plants, then learned to harvest the succulent leaves and, finally, perfected the manufacture of market-ready packaged products.

Bhanwari Devi leads the sales team that markets to urban consumers the aloe vera juice and aloe vera cream enriched with rose and cucumber. Kamla Devi has been taking the products to exhibitions across the country. The women carry pamphlets and brochures to promote their products actively.

From the way the group functions, the social mobilisation and inclusion of women farmers is clearly evident and the panchayat samiti supports them. A member of both the samiti and GAPCL, Santosh Rawat attends all company meetings, including the annual general meeting.

However, under the joy there is anxiety too. During the training, all members had the same questions: How do you get the produce to move faster and continuously in the market? When will they finally have a non-stop cycle of cultivation, harvesting, production and sales? Aloe, after all, is a wonderful product that can heal wounds and other skin ailments, finds use in treating diabetes, asthma, epilepsy and osteoarthritis, and is popular as a health food.

The marketing challenges were perhaps unforeseen. There was need for sustained demand to keep the factory running full steam for decent profits A first step is to ensure market access but not before redefining the products for the market. GAPCL needs to assume the role of market leader rather than follow established marketing practices. It needs a business plan and consistent training in branding the product as a health drink.
The CCS National Institute of Agricultural Marketing (NIAM) has trained the women in establishing market linkages. Surely, the hard work of these women farmer-producers will not go in vain.

Hema Yadav is Deputy Director, NIAM, Jaipur and Lalit Singh is Director, Vandana Welfare Society, Ajmer

Business Standard

Sowing Area under Rabi Rice and Summer Crops

As per the latest reports received from States, the area under rabi rice as on today stands at 39.43 lakh hectare as compared to 43.55 lakh hectare at this time last year. Total area under rabi rice and summer crops moves to 52.20 lakh hectare as compared to 55.28 lakh hectare at this time last year.

It is reported that 0.53 lakh hectare area has been covered under summer pulses in Bihar followed by Gujraat (0.30 lakh ha), Utter Pradesh (0.20 lakh ha), West Bengal (0.17lakh ha), Karnataka (0.15 lakh ha), and Madhya Pradesh (0.05 lakh ha). Sowing of summer oilseeds has been reported from the state of Karnataka (2.19 lakh ha), West Bengal (1.85 lakh ha), Odisha (1.26 lakh ha), (Gujarat (0.98 lakh ha), Tamil Nadu (0.68 lakh ha), Maharashtra (0.38 lakh ha),Andhra Pradesh (0.34 lakh ha), Chhatisgarh (0.25 lakh ha), and Telangana (0.21 lakh ha).

Ministry of agriculture starts study on onion futures

Study to be oriented towards farmers, their concerns and as to how they are going to be benefitted futures market

The ministry of agriculture has started a study on the prospects of future market in onion and the risks associated with it. According to officials, the study will be oriented towards farmers, their concerns and as to how

they are going to be benefitted the futures market.

Earlier, NCDEX had obtained the approval for launching onion futures but did not proceed due to difficulty in storage problem since the commodity is perishable.

The issue assumes significance as fluctuations in production of onion is becoming a sensitive socio- political issue and farmers are at the receiving end of all adversities.

When onion production cannot be reduced, there should be adequate alternatives for the farmers to reap benefit out of the crop. “When one is advising farmers not to shift to alternate crops, in case of onion, then ready alternatives should be available, be in excess production or scarcity, said officials.

Since onion is a perishable commodity, storage of this commodity is a big issue. Thus proper warehousing facility is being given priority to the extent that the ministry proposes subsidy for building cold storages. In this regard, State of Maharashtra has been asked to study the feasibility of cold storage in comparison to conventional storage.

As per the first advance estimate, the area and production of onion will be lesser at around 11.92 lakh ha and 193.57 lakhs MT, respectively, compared to 12.04 lakhs ha and 194.02 lakhs MT last year.

However rabi onion area covered during the current season is around 5.70 lakhs ha area, is 12% more compared to last year’s rabi onion area of 5.07 lakhs ha in the major rabi onion growing states of the country.

The onion is coming in market presently from the harvest of late kharif

onion grown in Maharashtra, Gujarat and Madhya Pradesh. As per reports of National Horticultural Research and Development Foundation, the harvesting of rabi onion, which is expected from mid March onwards is delayed and in some of the pockets crop damaged due to hailstorm in different states.

The damage to the onion bulb crop in Maharashtra due to recent rains & hailstorm in Nashik, Ahmednagar, Buldhana, Akola, Beed, Jalna, Aurangabad, Parbhani, Hingoli and Nagpur district is estimated to be around 20-25% of the total crop. Nashik district is most affected.

As far as rabi crop is concerned, recent rains particularly in Gujarat, Haryana, Punjab, Rajasthan and Madhya Pradesh have not much affected the rabi onion bulb crop, barring northern states especially Haryana and Punjab. There has been no damage to rabi onion bulb crop in the State of Gujarat.

However, due to rains overall Rabi onion production in the country may not be less compared to last year, since Rabi crop area estimated 12% more in the current year ends.

Agricultural waste may power future cars

Researchers at University of East Anglia have identified five strains of yeast that can turn agricultural by-products into bio-ethanol

Agricultural by-products, such as straw, sawdust and corncobs, can be used to create environment friendly biofuelto power cars, scientists say.

Researchers at the University of East Anglia (UEA) have identified five strains of yeast capable of turning agricultural by-products into bio-ethanol - a well-known alcohol-based biofuel.

Researchers estimated that more than 400 billion litres of bio-ethanol could be produced each year from crop wastage.

Processes to generate bioethanol from straw and other by-products are currently complex and inefficient. This is because high temperatures and acid conditions are necessary in the glucose-release process.

But this treatment process causes the waste to breakdown into compounds which are toxic to yeast (furfural and hydroxymethylfurfural) - making fermentation difficult.

One way to avoid these problems is to use genetically modified yeasts. However, the new research has found five strains of naturally occurring yeasts which could be used successfully in the fermentation process.

"Bioethanol is a very attractive biofuel to the automotive industry as it mixes well with petrol and can be used in lower concentration blends in vehicles with no modifications," said lead researcher Dr Tom Clarke, from UEA's School of Biological Sciences.

"In Brazil, vehicles which run purely on bioethanol have been on the roads since 1979.

"Breaking down agricultural waste has previously been difficult because many strains of yeast necessary for fermentation are inhibited by

compounds in the straw. Their toxic effects lead to reduced ethanol production," Clarke said.

The research team investigated more than 70 strains of yeast to find the most tolerant. They found five strains which were resistant to the toxic compound furfural, and which produced the highest ethanol yield.

Of the five furfural tolerant strains S cerevisiae NCYC 3451 displayed the greatest furfural resistance. The genomic lineage of this strain links it to yeast used in the production of the Japanese rice wine Sake.

"These strains represent good candidates for further research, development and use in bioethanol production," said Clarke.

The research is published in the journal Biotechnology for Biofuels.