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# THE HINDU

## **KAU to provide technology support**

The Kerala Agricultural University ( KAU ) will provide technology support for the Haritha Keralam Mission.

The emphasis is on soil and water conservation and biodiversity conservation with focus on organic farming, said P. Rajendran, KAU Vice Chancellor.

“The KAU has developed feasible technology for waste management, one of the primary objectives of the project. We have developed two systems to convert bio-waste into bio-manure - Suchita developed at the College of Agriculture, Vellayani, and Bio-bin developed at the College of Horticulture, Vellanikkara. These technologies, currently being used by local bodies, will be useful in waste management, especially at source itself. The university also conducts a diploma course in solid waste management for the benefit of professionals,” he said. Water management strategies developed by the university and low-cost rainwater harvesting models and storage systems in various farms are apt models, which can be emulated throughout the State.

Studies conducted by the university have shown that harvested rainwater, if purified through this filter and kept closed, will remain safe for drinking for up to six months.

After storing the harvested water in storage tanks, the excess flow can be utilised for recharging groundwater, said the Vice Chancellor.

Director of Extension S. Estelitta said the university was willing to support local bodies by providing technology assistance and advice for purification and restoration of water sources, establishing vegetable gardens, and promoting waste management at source.

## **Farmers told to increase coffee productivity**

Coffee plantations will be expanded with Rs.526 crore and farmers will benefit more only if productivity is increased, Minister for Tribal Welfare Ravela Kishorebabu has said.

Participating in the Field Day-2016 organised by Coffee Board at Minimuluru on Thursday, he said at present the yield was between 80 and 150 kg but it should be increased to 300 kg.

Eliminating middlemen, remunerative price was being paid to farmers through GCC. Farmers should adopt new technologies and the suggestions of the Coffee Board to increase productivity.

To improve productivity, the State government had appointed retired IAS officer G.V. Krishna Rao as advisor on Agricultural Marketing and Tribal Welfare, the Minister said.

Mr. Krishna Rao said Field Day should be organised every year in the Agency. A senior liaison official would always be available at the Coffee Board office and farmers should discuss problems and means of increasing productivity.

Coffee Board Director Raghuramulu presided.

## **Warmer winter may hit wheat crop yield**

With the weather department predicting a warmer winter this season across the country, agriculture experts are wary of wheat crop's yield dipping in the ongoing rabi season, even as they believe that right now there is nothing to be alarmed.

Wheat sowing is in full swing across most of northern and central States of the country, including Punjab, Haryana, Madhya Pradesh and Uttar Pradesh. Till last week, wheat had been sown in 173.93 lakh hectares during the ongoing rabi season as against 152.56 lakh hectares in the corresponding period of last year.

“Wheat is a temperature sensitive crop and needs cold conditions to thrive. If temperatures are on the higher side, especially during the month of February and March then surely there could be a yield (productivity) loss, but right now there's nothing to worry,” senior agriculture expert and Punjab State Farmers Commission adviser P. S. Rangi told, *The Hindu*.

Mr. Rangi said an increase of temperature by 1 degree Celsius could result in a loss of nearly one quintal per hectare to the wheat crop.

India Meteorological Department (IMD) in its first ever winter forecast had predicted that seasonal temperatures across the country, from December to February, would be higher than normal with fewer cold waves over north and north-west India than what is typical.

### **Smooth sowing**

Mr. R.K. Gupta, principal scientist at the Karnal-based Indian Institute of Wheat and Barley Research, said as of now wheat sowing was smooth and there was nothing to worry.

### **Hi-Tech farmers' shop opened**

KOCHI: The Kochi Hi-Tech Farmers' Society, a hi-tech farmers' combine in Ernakulam district, opened its first sales outlet here on Thursday. P.T. Thomas, MLA inaugurated the facility. The outlet is located in the Ernakulam District Cooperative Bank building near the Thrikkakara bus station, said a press release here.

The shop will be open between 9 a.m. and 7 p.m., and it will sell fresh produce from farms. The press release said the products would reach the shop within 12 hours of harvest. District Horticulture Deputy Director Lissy Xavier was among those who were present at the opening of the shop.

### **Project on millets selected for State science congress**



The project exhorts the State Government to supply *ragi, saamai, thinai, varagu, and kuthiraivali* cultivated organically on the hills to the poor through ration shops.

### **Medicinal value**

The products have high medicinal value for diabetics.

But the poor people find the products expensive when sold through outlets dealing with organic products, S.C.Natraj, Director of SUDAR NGO, that runs the NCLP school said.

The idea behind the project is to drive home the fact that subsidies must be enhanced for nature farming and encouragement must be provided to cultivators on the hills to expand the crop area, he said.

The students who have handed over the project contents to District Collector S.Prabakar are hopeful about the State Government taking a positive look.

### **New course for CEOs of farmers' producer organisations**

A three-month certificate programme on 'Farmers' Producer Organisation Management' for Chief Executive Officers was inaugurated at Tata-Dhan Academy at T. Malaipatti near here by K. Arthanareeswaran, Deputy General Manager, National Bank for Agriculture and Rural Development, on Monday.

The course is to be offered in partnership with NABARD and Bankers' Institute of Rural Development, Lucknow. Under a memorandum of understanding, Tata-Dhan Academy will train CEOs of FPOs promoted by NABARD in Tamil Nadu and Kerala.

The objectives of the programme are to build conceptual clarity about institutional aspects and mandatory functions of FPOs; train CEOs in participatory planning, data analysis, accounting and auditing and develop the right attitude to make FPOs a successful and profitable social business enterprise.

A. Gurunathan, Director of Tata-Dhan Academy, said the programme would impart relevant knowledge, skills and attitude required for a CEO. K.S. Mahesh, District Development Manager, NABARD, underscored the need for CEOs to update their skills to make FPOs profitable.

M.R. Gopal of Bankers' Institute of Rural Development said the Lucknow organisation was collaborating with seven anchor agencies, including Tata Dhan Academy, to impart this course all over India.

Palaniraj, treasurer of Vayalagam Mutual Movement, highlighted the challenges faced by the farmers of Madurai district in application of tank silt to turn farming organic and increase production.

He requested NABARD to accord importance to selective lining of irrigation channels from tank sluices so as to control wastage of precious irrigation water.

### **Paddy growers urged to adopt drill sown rice pattern**



A large number of farmers from within the district and also from other districts, including Mysuru, Chamarajnar, Mandya, Kollegal and also neighbouring Andhra Pradesh, participated.

“You (farmers) save a lot if you adopt DSR method right from getting the plants from nurseries, on labour, use of fertilizers and pesticides, water and yet get more yield. Apart from that, you would be able to maintain the health and fertility of soil,” he said.

Stating that the DSR method was gaining popularity in the command areas served by the Krishna and the Tungabhadra, Mr. Byre Gowda stressed that this technique should be adopted by farmers in the upper reaches so that the farmers in the tail-end areas could get water and harvest a good yield.

“This demonstration is organised to propagate the new technique so that the farmers could see the results and adopt the new method,” he added.

Allum Veerbhadrappa, MLC, urged the Minister to announce a college of agriculture at the Hagari Agricultural Research Station, which had all the necessary infrastructure.

Lakshmikant Reddy, president of the District Krishik Samaj, spoke.

N.Y. Gopalkrishna, MLA, who presided over the programme, called upon the farmers to adopt innovative methods to make cultivation profitable.

He also reminded the Minister of the promise that he and Chief Minister Siddaramaiah had made to the people during the by-election campaign that they would set up an agriculture college here and wanted the government to initiate necessary steps to keep the promise.

### **Rabi crop loss survey to be taken up after Dec. 15**

Krishna Byre Gowda, Minister for Agriculture, has said that a survey to assess crop loss due to extended severe drought condition during rabi this year would be taken up after December 15.

“This year, the State was reeling under severe drought. As many as 139 taluks in the State have been declared drought-hit due to the failure of monsoon causing huge crop loss. The severe drought has also extended to rabi due to failure of post-monsoon rain. We have instructed the officials of the Agriculture Department to submit the crop position. After that, survey would be carried out to assess the extent of loss of crops and submit a detailed report along with a memorandum to the Union government seeking financial assistance,” he said.

Mr. Krishna Byre Gowda was here to participate in the demonstration of Drill Sown Rice (DSR) and mechanised bailing of paddy fodder at Charakunta village in Ballari taluk on Tuesday.

He said that the State government has submitted a memorandum to the Union government seeking financial assistance of Rs. 4,702 crore to compensate the loss of crop during this year’s kharif season and the Union government was yet to take a decision and release the required funds.

“Chief Minister Siddaramaiah will be meeting Prime Minister Narendra Modi very soon to prevail upon him to release funds. Once we get the funds, steps would be taken to transfer them directly to farmers,” he added.

To a question, the Minister said that the proposal to set up paddy procurement centres and also announce minimum support price would be decided by the Cabinet sub-committee. Admitting that demonetisation of currency had severely affected trading in APMC yard by 40 per cent besides bringing down the price of agricultural produces, he said that the government was committed to establishing procurement centres and make the payment through bank transfers.

## THE HINDU BusinessLine

### **Crop worry: Centre scraps import duty on wheat to ease supply, check prices**



But release of stocks by FCI will be crucial in curbing price rise, say analysts

New Delhi, Dec 8:

The government has scrapped the 10 per cent import duty on wheat with immediate effect in the face of an imminent shortage of the cereal this year.

Trade analysts say that while the move should technically result in checking a rise in domestic prices of wheat, the actual price movement would depend on factors such as the Food Corporation of India's ability to release stocks in the market, private imports and global prices.

On Thursday, Finance Minister Arun Jaitley informed the Lok Sabha about the government's decision to scrap the import duty on wheat without an end-date.

This was a long-anticipated announcement as the industry had been raising doubts about the government's wheat production estimate of 93.5 million tonnes in 2015-

16 and had instead pegged it between 80 million tonnes and 84 million tonnes. India's demand for wheat this year, on the other hand, is likely to be over 94 million tonnes.

### **Timing is crucial**

“If the government wants to ease supply and prevent a rise in prices, FCI has to release substantial stocks of wheat in the open market right away. Simultaneously it has to enter the international market to get its stock replenished,” said agriculture expert Tejinder Narang.

Narang said it was not clear yet whether the government itself wished to import or it would want private parties to import.

“It is not clear what the stock will be this year and what the total sown area is. If the government decides there is abundance, it might not import. But if it takes a realistic position on future production, it would import and be in a better position to release stocks,” he added.

Private traders such as Cargill, Louis Dreyfus, Bunge and Glencore are expected to benefit from the decision as their imports would get cheaper.

### **Stocks depleting**

FCI's wheat stocks have already started depleting and the agency has restricted wheat sales to bulk users.

Imports are generally much higher if the government steps in because private importers can't handle very large volumes.

It also has to be seen to what extent private traders import wheat after the scrapping of duties, which in turn would also depend on the prevailing global prices. “If global prices move up a few dollars, it could impact the decision to import,” said Narang.

Private millers have imported 1.72 million tonnes of wheat from Australia, France and the Ukraine this year since duties were reduced to 10 per cent from 25 per cent in September.



Congress members raised objections when Minister of State for Finance Arjun Ram Meghwal placed the notification of scrapping the wheat import duty on the table of the Rajya Sabha.

Senior Congress MP Digvijaya Singh said farmers have already engaged in distress sale of wheat due to non-availability of notes. He said the decision would further harm farmers as the minimum support price could not be put into operation.

“This is a conspiracy,” he said. Singh was supported by members of the Left, JD(U) and the Trinamool Congress.

### **Hardy Tequila plant, a potential drought-resistant crop**



London, December 8:

Agave, the cactus-like plant used to make tequila, can survive the driest of conditions by ‘breathing’ at night, say scientists who hope to harness the plant’s reverse ‘body clock’ to engineer drought-resistant crops that can adapt to changing climate.

Researchers found for the first time that the stomata — or ‘breathing’ pores — on the Agave’s leaves are kept shut during the day to minimise water loss. The process is opposite to that of most plants which keep their stomata open during the day so they can take in carbondioxide (CO<sub>2</sub>) and use the sunlight for photosynthesis. However, this also means they lose water rapidly through evaporation.

“Photosynthesis needs three key ingredients — CO<sub>2</sub>, water and sunlight — so it follows that most plants keep their stomata open in the day when it is sunny and

shut at night when it is dark,” said Anne Borland, professor at Newcastle University in the UK.

“But for a plant living in hot, arid conditions such as the Agave, this would be disastrous,” Borland said. “They need to conserve every drop of water they can and leaving their stomata open during the day would result in such rapid water loss they would simply die,” she said.

“Storing the carbon from the CO<sub>2</sub> taken up overnight, the plants photosynthesise in the day like other plants but are able to carry out the process without opening their stomata,” said Borland.

“If we can harness these genes and engineer new drought-resistant plants then the potential is huge in terms of developing crops and biofuels,” the professor added.

The findings were published in the online science journal Nature Plants.

### **Oil prices shed early gains amid doubts over OPEC output cut**



**Logo of the Organization of the Petroleum Exporting Countries (OPEC) is seen at its headquarters in Vienna, Austria. File photo: Reuters**

Seoul/Singapore, Dec 8:

Oil prices erased early gains to trade almost flat in Asian session on Thursday on mixed US crude stocks data and doubts over OPEC's implementation of an output cut, although a weaker dollar aided the sentiment.

International Brent crude futures were trading up 2 cents at \$53.02 a barrel at 0807 GMT. Prices fell to \$52.81 a barrel earlier in the session.

US benchmark West Texas Intermediate crude was up 3 cents at \$49.80 a barrel after dropping to \$49.61 earlier.

## **Crude stocks**

Crude oil inventories in the United States dropped 2.4 million barrels in the week that ended on December 2, compared with analyst expectations for a draw of 1 million barrels.

But stocks at the Cushing, Oklahoma, delivery hub for US crude futures, increased by a hefty 3.8 million barrels last week, the most since 2009, according to data from the US Energy Information Administration (EIA) on Wednesday.

“Momentum continues to wane in crude with mixed EIA crude inventories data and shale producers hedging via futures,” said Jeffrey Halley, senior market analyst at OANDA brokerage in Singapore.

## **OPEC agreement**

Oil prices have rallied since the Organization of Petroleum Exporting Countries (OPEC) and Russia had reached a landmark agreement last week to cut production to erode a global supply overhang and prop up prices.

The US dollar index fell as Treasury bond yields eased and as investors eye next week's Fed meeting.

“A slightly weaker U.S. dollar is supportive of oil prices,” Michael McCarthy, chief market strategist at Sydney's CMC Markets said. A weak dollar makes dollar-denominated oil less expensive for importing countries.

Oil prices initially rose on Thursday, supported by upbeat investor sentiment on the underlying strength in the U.S. economy, McCarthy said.

But doubts remain over whether OPEC will be able to comply with output cuts and whether those curbs will be enough to rebalance markets.

“Talk about OPEC compliance worries is a bit of a red herring. As in the past, OPEC compliance/non-compliance is a known unknown. What the crude rally really needs is new news to reinvigorate a speculative market already positioned long,” added Halley.

OPEC and non-OPEC oil producers will meet again this weekend in Austria's capital to discuss the details of last week's agreement, which aims at an overall reduction in output of around 1.5 million barrels a day.

“Oil markets might see a pick-up in volumes as we enter the European trading session,” McCarthy added.

China's crude oil imports rebounded strongly in November from the previous month and were up 18 per cent on a year ago, while exports of refined fuel hit a record high as refiners rushed to ease an expanding domestic surplus.

### **Pepper continues to stay firm**

Kochi, December 8:

Pepper markets continued to stay firmer on Thursday on tight availability amid good buying interest. Spot prices moved up further by ₹100 a quintal on tight supply to ₹67,700 (ungarbled) and ₹70,700 (garbled). December, January and February contracts on the IPSTA increased by ₹1,000 a quintal to ₹73,000, ₹66,000 and ₹61,000. Export prices were at around \$11,000 a tonne c&f for Europe and \$11,250 for the US.

### **Coconut oil gains in online sale**

Erode, December 8:

The price of the coconut oil was increased on Thursday. “ Prices improved to ₹1,530 plus tax for a 15-kg loose pack. But the sales were very poor. The buyers have done the trading and fund transactions online,” said RM Palanisamy, a trader. He said the copra sale was also brought under e-tender and e-trading. On Thursday, copra went for ₹6,800-7,000 a quintal.

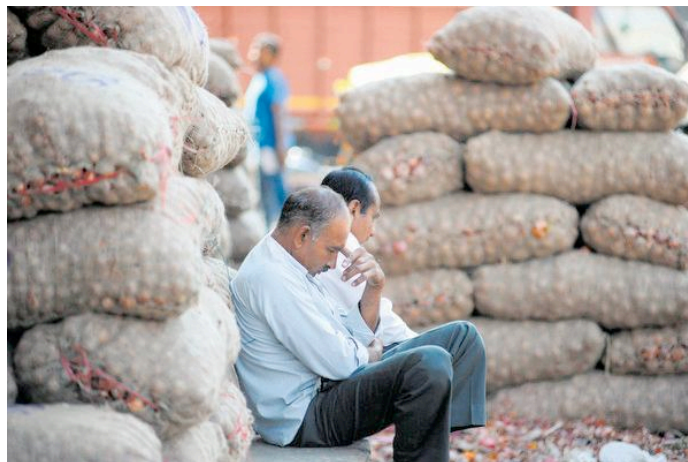
## Sugar steady amid higher volumes



Mumbai, December 8:

Maharashtra's sugar mills witnessed a sharp jump in volumes as upcountry buyers purchased 4-5 rail rakes (of 27,000 bags each) of S-variety at prevailing rates plus about 35,000 bags to local stockists taking total volumes over 1.50 lakh bags. However, prices ruled steady. Freight rates were steady. Arrivals were at 56-57 truck loads and local dispatches were at same level. The Bombay Sugar Merchants Association's spot rates: S-grade ₹3,542-3,762 (3,542-3,770) and M-grade was ₹3,650-3,900 (3,650-3,900). *Naka* delivery rates: S-grade ₹3,520-3,590 (3,520-3,590) and M-grade ₹3,610-3,690 (3,610-3,690).

## A bitter harvest for farm sector



## **The scrapping of high value notes did disrupt trading at the agriculture markets impacting the market arrivals of various commodities**

Cash shortage with traders has affected payments to farmers

Bengaluru/Ahmedabad, December 8:

For the cash-dependent Indian farm sector that was hoping for a recovery on near normal monsoon this year after two consecutive droughts, the demonetisation and a resultant currency crunch, which coincided with the kharif harvest season, has dealt a major blow, aggravating the hardships of not only farmers, but also of the labourers dependent on the sector for their livelihoods.

Farmers who grow perishables, mainly vegetables, were the worst affected by the cash crunch compared with their counterparts who produced foodgrains, cereals and cash crops such as cotton and sugarcane. With no option to hold back their produce, growers of vegetables such as tomatoes, cabbage and cauliflower, among others, were seen resorting to distress sale across key growing regions.

### **Production cycle**

This may disturb the next production cycle as vegetable cultivation is input intensive in nature and farmers, reeling under the impact of losses caused by the distress sale, may prefer to go slow on taking up fresh plantings.

Further, the scrapping of high value notes did disrupt trading at the agriculture markets impacting the market arrivals of various commodities, including cotton, soyabean and maize among others as cash shortage with the traders affected payments to farmers.

However, left with no other option of accepting payments through cheques and RTGS, farmers have been slowly bringing their produce into the markets. The market arrivals are still lower than last year. Lower arrivals of commodities such as cotton did fuel a short-term shortage pushing up the prices in the past few weeks to around ₹41,000 per candy (356 kg), an unusual trend during the harvest season. However, with the pick-up in arrivals, prices are seen easing now and hovering around ₹39,000 a candy.

Except for segments such as sugar and dairy that are relatively organised and where payments are credited into the producers' accounts by the processing industry, all other sectors, including poultry and plantations among others, are

reeling under the impact of the currency crunch. The cash crunch has not only elongated the credit cycles, but also brought back the age-old barter system in several areas as the rural populace try to deal with the crisis. Also, the ongoing crisis has brought a large section of farm labourers, especially in the plantation sector, under the ambit of banking.

### **Sowing picking up**

Though the rabi plantings were initially impacted by the after-effects of demonetisation, the pace of sowings has picked up in the past two weeks and the acreages now are seen higher than last year. The pick-up in sowings may help sustain the foodgrain output levels for the year ahead. The cash crunch has impacted the consumption pattern in the rural areas with the populace hesitant to spend on non-essentials. Even farmers are holding back their spends on new initiatives such as drilling a borewell or purchasing a tractor, among others.

Market players feel that normalcy could be restored only after the currency supplies improve in the rural areas. Lack of adequate banking facilities in the rural areas and market yards has also added to the woes of the growers.

China's grain output shrinks by 5.2 mn tonnes

China's grain production stood at around 616 mn tonnes this year



[China](#) is likely to import more grains after its output dipped by about 5.2 million tonnes this year compared with last year as the [planting area](#) shrank and the [per unit yielded](#)ged down, according to official data.

National grain output stood at about 616 million tonnes in 2016, down by about 5.2 million tonnes, about 0.8 per cent, compared with last year, data released by the National Bureau of Statistics (NBS) said.

Grain [planting area](#) has shrunk by 3.15 lakh hectares, while the [per unit yield](#) dropped by 30.7 kilograms per hectare, it said.

Facing unbalanced supply and demand among grain varieties, many areas reduced corn planting in favour of soy and used the grain for feedstuff and oil, to Huang Bingxin, a senior statistician with NBS said.

The reduction in the [planting area](#) impacted high-yield grain and severe national extreme weather such as drought and heavy rain also dented grain productivity, Huang was quoted as saying by state-run Xinhua news agency on Thursday.

As it resorted to massive urbanisation, converting the largely agrarian country into urban settlements, China's agricultural output slowed over the years with the Communist nation resorting to massive grain imports in recent years not commensurate with the growth of population which is over 1.3 billion.

[Grain production](#) last year was over 621 million tonnes, higher than 2014's 607 million tonnes.

Excluding imports the supply was 25 million tonnes less than what was needed, China's Agricultural Minister Han Changfu said.

"More people will live in cities. Compared with rural residents, urban dwellers eat less rice, but consume more meat, eggs, milk, fruits and vegetables. Based on our calculation, a person living in cities generally consumes far more agricultural products than a person living in villages," he was quoted as saying by Hong Kong media in March this year.

Han said that the large amount of grain imports were due to the shortage of specific products and lower prices in international market.

Among the 120 million tonnes of grain imported, more than 80 million tonnes were beans that came mainly from the US and Brazil. The rest were mostly cereals.

During the 13th five-year plan, which started this year the country will not pursue a continuous growth of grain output, but a bigger capacity, the minister said.