

Vijaya Bank to focus on agriculture sector

One of the focus areas for Vijaya Bank this year (2014-15) will be the agriculture sector, according to V. Kannan, Chairman and Managing Director of the bank.

He told *The Hindu* here on Tuesday that lending to agriculture sector now was about 10 per cent of its total credit. This was expected to go up to 12 per cent or 13 per cent this year. During the last couple of years, the bank has built its capabilities for sectors such as retail and MSME (micro, small and medium enterprises) lending. Credit to micro, small and medium-scale enterprises and retail loans grew by 23 per cent in 2013-14.

The total business of the bank has crossed the Rs.2-lakh crore mark in 2013-14 and is expected to grow by 20 per cent this financial year. While deposits grew by 23 per cent, assets increased by 15 per cent, he said.

The bank opened 159 new branches last year and plans to add another 190 or 200 this year. While it will look at continuity in States where it is strong, it will look at expanding to areas where it is not present. The bank will also expand its network in States that has good economic growth. The bank has 12,900 employees and plans to recruit 1,200 more this year (including officials). The recruitment would include about 150 specialists in areas such as information technology and agriculture, he said.

Adilabad mangoes the preferred variety for pickle

Despite the spells of heavy rainfall and hailstorm which occurred in February and early March this year, there are enough indications that the yield of indigenous variety of mangoes in Adilabad will be bumper this season.

The local variety, simply known as *desi aam* or *mamidi*, is also entirely consumed locally as it is the preferred variety for making pickles.

The desi variety mango trees are found by the side of the Gudihatnoor-Utnoor road and near Wankidi in Neredigonda mandal by the side of the road leading to Nirmal town and near Khanapur mandal headquarter village.

These trees can be seen laden with unripe fruit which is plucked in April-end and May.

The mangoes from Khanapur are more popular among the lot though all the indigenous fruits across these places seem to be of the same variety. The fibre content in the Khanapur variety is the lowest while sourness is of highest proportion.

The mangoes of Adilabad, most of the yield is sold in unripe condition, are also comparatively cheaper at an average price of Rs. 5 apiece. The price could go up by a couple of rupees as the season progresses.

While people in rural areas find the mangoes literally at their doorsteps, Adilabad and Nirmal towns are the only ones among urban centres where the local variety mangoes are sold. Adilabad also has a market for indigenous variety of the fruit from villages on the border.

The mangoes from Khanapur are more popular than the other varieties although they have low fibre content

[Revival of farmers' market enthruses buyers](#)

It has been running successfully for three months now

Every morning, Karthikeyan wakes up early and picks up a jute bag with wooden handles and hurriedly runs his hands through his hair and rushes out of the house. “I have to be there early, otherwise I won’t have the best pick of vegetables.”

He is rushing to Uzhavar Sandhai at Lawspet, where farmers all over the Union Territory bring their produce. There are others who bring fruits and vegetables from Koyambedu.

The market, which had been shut for a while, has been reopened. It has been running smoothly for three months and has received a huge response.

Parvathy is a regular at the market. “The biggest advantage of purchasing at Uzhavar Sandhai is freshness of the goods, especially those from the nearby villages. If we come before 8 a.m., we are sure to get the best goods,” she said.

For some time, the market had been closed. Regular customers shifted loyalties to nearby vegetables shops. “Now that the market is open, we have all decided to buy vegetables from our good old place. After all, why should we lose out on the fresh goodies available here,” said Vinodha.

Old projects

The Uzhavar Sandhai revival is just only one of the many old projects of the Pondicherry Agro Service and Industries Corporation Limited that was developed to provide support to farmers in the Union Territory.

It has re-started its mineral water plant, orchards, ornamental plant scheme, urban compost, borewell and civil works schemes.

Through this, the corporation hopes to help out the farmers who have been struggling in recent times, PASIC in-charge K. Ramamurthy said.

Salaries paid

For the past one month, PASIC has also been paying their employees 60 per cent of their salaries, which had been stopped for the past 19 months. The payment of the second month's salaries has also started, he said.

Sreenivasan all praise for pokkali farming



Pokkali farmers at Kadamakudy could not hide their joy on Tuesday when they received support for the unique farming practice from a celebrated actor and director in Mollywood.

Popular artiste Sreenivasan, who inaugurated the harvest fest of the cage fish farming in pokkali fields, termed pokkali farming system “a matter of pride to the entire Keralites”.

An active practitioner of organic and eco-friendly farming, Mr. Sreenivasan pointed out that society should support pokkali farmers as they produce pure organic rice and fish.

He said that such efforts need encouragement from all quarters at a time when toxic chemicals are widely used to augment production and profit.

Demonstrated by Krishi Vigyan Kendra, Ernakulam of the Central Marine Fisheries Research Institute, cage fish farming is being implemented in Kadamakudy, Ezhikkara, Nedungad, Kumbalangi and Pizhala.

Vacant channels and sluice pits in pokkali fields are used for fish farming as part of this process. The programme aims at attracting more farmers to pokkali farming which can bring in additional profit.

Experts at the Krishi Vigyan Kendra of CMFRI estimate that farmers engaged in cage fish farming would get an additional earning of about Rs. 80,000 per hectare. The kendra has plans to introduce suitable machinery for pokkali field preparation and paddy harvesting in the second phase of the project to revive pokkali farming.

Pokkali rice, which received the Geographical Indication registration and Plant Genome Saviour Community Award from the Ministry of Agriculture in 2011, is facing extinction.

Some of the factors adversely affecting the unique farming practice include white spot disease, high labour cost, lack of suitable machinery, climate change, low productivity of traditional varieties and environmental pollution.

Water level

The water level stood at 42.55 feet (maximum level is 143 feet) in the Papanasam dam on Tuesday. The dam had an inflow of 52.94 cusecs and 202.25 cusecs of water is discharged from the dam.

It stood at 69.86 feet (118 feet) in the Manimuthar dam. The dam had an inflow of 7 cusecs and 100 cusecs of water is discharged.

Kanyakumari:The level stood at 11.45 feet in Pechipparai dam, 36.61 feet in Perunchani, 2.89 feet in Chittar 1, 2.98 feet in Chittar 11, 2.20 feet in Poigai and 41.65 feet in Mamabazathuraiyaru.

Mettur:The water level in the Mettur dam stood at 45.39 feet on Tuesday, against its full reservoir level of 120 feet. The inflow was 147 cusecs and the discharge 3,006 cusecs.

THE HINDU BusinessLine

A lettuce that can yield edible oil

Chennai, April 8:

A new variety of lettuce yielding oil has been developed by Mysore-based Central Food Technological Research Institute (CFTRI).

Lettuce is primarily known as a leaf vegetable, which is used in salads. But CFTRI has identified and developed a new variety of lettuce which can yield oil. This plant was first detected in Uttar Pradesh as a weed.

A group of CFTRI scientists, comprising Malathi Srinivasan, RV Sreedhar and Sunny Rupwate, collected some seeds out of sheer curiosity and identified it as *Lactuca Sativa* (lettuce).

It later discovered from various literatures that there are different lettuce cultivar groups including this variety.

The seeds of this variety can yield edible oil.

CFTRI has grown this variety on its Bangalore farm and recently completed a toxicology study on the crop.

Prof Ram Rajasekharan, Director of the institute, who was instrumental in this discovery, told *Business Line*, that though the origin of this variety was not clearly known, it was understood that farmers in some pockets of Egypt had been growing this as an oil crop for its vitamin E property.

According to Rajasekharan, the seeds of the plant have exactly the same profile as that of sunflower and the oil extracted could be an ideal substitute for sunflower oil. “More interestingly,” Rajasekharan said, “as this variety is drought tolerant, it can be grown in poor, marginal and reclaimed soils as well.”

Besides, it behaves as a ratoon crop (one that grows from the remains of one already harvested) and will give two yields. The overall crop duration will be close to five months. The first harvest can be made in the fourth month and the second, a month later.

Ideal substitute

The yield will be up to 600 kg an acre against 500 kg that sunflower yields on an acre.

It is also photo-insensitive and hence can be cultivated round the year. “As the country meets more than 50 per cent of its edible oil requirement through imports, this variety can be considered a boon,” he said.

CFTRI plans to release this crop for farmers by August.

The finding is interesting since India imported over 10 million tonnes (mt) of vegetable oils during 2012-13 season ending October. This season, it has so far imported 3.42 mt against 3.64 mt.

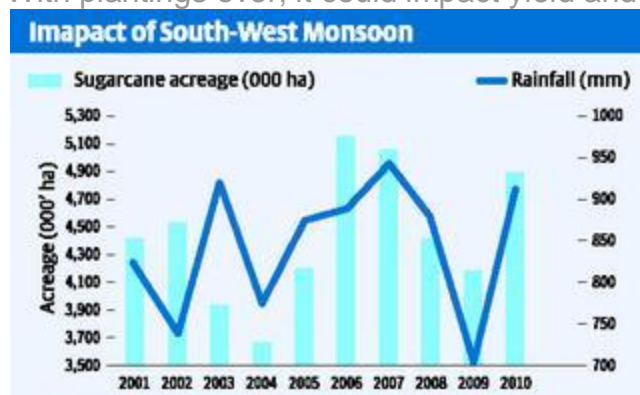
The foreign exchange outgo from such imports is over Rs. 60,000 crore.

Though the origin of this variety was not clearly known, it was understood that farmers in some pockets of Egypt had been growing this as an oil crop for its

vitamin E property.

Will El Nino impact sugarcane harvest?

With plantings over, it could impact yield and sugar recovery



Sugarcane planting for the 2014-15 sugar season starting October is almost complete in Maharashtra, Karnataka and Tamil Nadu; while in UP and other parts of North India the planting will continue till late May.

The total water requirement for sugarcane is 80-100 BCM (billion cubic meters) during the season, which is about 8-10 per cent of the total water requirement for all the irrigated crops, grown during same duration.

In sub-tropical region, sugarcane requires 1,500 mm water for a hectare, out of which about 600 mm is met through rain water, while the rest through irrigation.

In tropical zone, the average requirement is 2,000-3,000 mm, out of which 600 mm is met through rain water. It is one of the reasons why we require about 10 irrigations in sub-tropical and 25 irrigations in tropical zones.

Over 60 per cent of ground water irrigation is through deep wells. Therefore, for both rains and irrigation, monsoon is crucial. In India, South-West Monsoon brings about 70 per cent of the total rainfall.

Therefore, for an idea of 2014-15 sugarcane acreage, we need to examine the S-W monsoon during 2013, which was some 6 per cent higher than the normal average rainfall.

Tropical areas

Maharashtra and Karnataka contribute 30-35 per cent of total sugarcane production. In Maharashtra, about 75 per cent sugarcane is planted in central and southern regions, which have catchment areas in and around Konkan and Madhya Maharashtra. So examining the rainfall in these regions would help assess the progress in planting.

Planting for the 2014-15 season in Maharashtra started in mid-July to mid-August (*Adsali* i.e. the 18-month crop). During June-August 2013, Konkan and Madhya Maharashtra together received 21 per cent excess rainfall than normal. In 2012, rainfall was 13 per cent deficient. Usually, *adsali* accounts for 1-1.25 lakh hectares which could have increased with a good monsoon. The second set of planting happened during mid-October to mid-December, when Konkan and Madhya Maharashtra together received normal rainfall in 2013 as well as in 2012.

The third set of planting happened during January-March (*Suru*) 2014 for which plantings are going on in some places. Usually, the plant: ratoon ratio is 60:40, but in 2013-14 it was estimated to be 45:55, and looking at the monsoon trends, it is assumed that during 2014-15 it will be in the ratio of 65:35.

Normal ratio of *Adsali*, pre-seasonal and *Suru* is 20:45:35, which is estimated to be 27:55:18 in 2014-15 season. With good S-W monsoon, reservoirs in the 12 States are having more water compared with 2012.

Karnataka and UP

In north Karnataka, it is stated a majority of the plantation is done in October-December (Pre-seasonal) and the rest in January-March. In south Karnataka, it is done as *Eksali* in January-March (12-month crop).

In Karnataka, water level in reservoirs/dams such as Almatti Dam/Bagalkot, Ghataprabha and Malaprabha/Belgaum, Narayanpur/Bijapur and Kabini/Mysore, till mid-July 2013, was 60 per cent at FRL. In comparison, the level was 25 per cent of FRL in the same period a year ago.

In Uttar Pradesh, which alone contributes for about 35-40 per cent of total sugarcane production, autumn planting happens in mid-October to mid-December, which is just about 5-7 per cent. Spring planting, which happens in February to March, is the most common.

Farmers prefer this time for planting, as they get a longer duration for crops to mature. In January-February, rainfall was in excess, which, however, delayed the planting, which is still on. Late planting also happens due to wheat harvesting from April onwards.

El Nino and cane

A good monsoon in 2013 has given a boost to planting but any set back on the S-W monsoon this year may impact cane yield, particularly in Karnataka, Maharashtra, Tamil Nadu and Andhra Pradesh.

The good rainfall experiences in the last two years can be impacted with onset of climatic patterns such as El Niño.

Currently, the El Niño-Southern Oscillation (ENSO) is neutral for India.

However, the sub-surface of the tropical Pacific Ocean has warmed up substantially recently. It is predicted that the tropical Pacific is likely to continue to warm up in the coming months, with most metrological models showing surface temperatures either approaching or exceeding El Niño thresholds by August.

Although, Indian Metrological Department hasn't yet officially announced any impact of El Nino on S-W Monsoon, a few symptoms support the El Nino impacting countries such as Australia.

Apart from impacting monsoon and climatic patterns, sugarcane planting in the country depends on lot other socio-economic-political factors, including cane price arrears. ISMA, like every year, starts conducting satellite mapping from June-July to assess the actual position on ground and estimates the sugarcane crop acreage.

Moreover, by that time major planting would have been completed, so any impact of El Niño can be only be seen on the yield and recovery in 2014-15 season.

The author is with Indian Sugar Mills Association. Views are personal and might differ from factual positions.

Poultry-feed to rise on pricier inputs



Karnal, April 8:

POULTRY-FEED PRICES SET TO RISE

Following continuous uptrend in prices of key ingredients in the last few days, poultry-feed products are set to turn dearer in the coming weeks. Soyameal moved up by Rs. 200 and sold at Rs. 40,200 a tonne, while bajra eased by Rs. 300 and sold at Rs.

13,400 a quintal. Di-calcium phosphate went up by 10 paise and was at Rs. 36.70 a kg while maize improved by Rs. 10 and sold at Rs. 1,540 a quintal. DRB improved by Rs. 200 and sold for Rs. 9,000, rice bran oil ruled flat at Rs. 55 a kg, MBM was at Rs. 44 while mustard de-oiled cake was at Rs. 15,600 a tonne. Pre-lay mash sold at Rs. 1,100; Layer concentrate 25 per cent was at Rs. 1,520 while Layer concentrate 35 per cent was at Rs. 1,200. Broiler concentrate was quoted at Rs. 2,115 for a 50-kg bag. Our Correspondent

Coonoor tea Q1 turnover down 26%

Coonoor, April 8:

The cumulative turnover in the auctions of Coonoor Tea Trade Association in the first quarter of current calendar dropped 26.29 per cent compared with the same period a year ago, reveals an analysis of the market reports.

More than a quarter of last year's revenue was lost because the volume sold was less by 13 lakh kg and, on an average, every kilo fetched Rs. 19 less. In the 13 auctions held in the first quarter, a volume of 1.31 crore kg was sold compared to 1.44 crore kg last calendar.

Even this low volume could be sold only by sacrificing prices because of lower demand.

Export markets

Export purchase was scanty due to various reasons including prolonged snowfall blocking transport and trade in the US, Europe and Japan, geopolitical tension affecting trade in the CIS and eastern Europe; and higher availability of tea in the global market as also adequate stocks with the traders in Pakistan. In the absence of strong competition from exporters, upcountry buyers also confined their bids to lower levels and, on many occasions, chose only brighter-liquoring teas.

Collectively, prices dropped to an average of Rs. 81.50 a kg from Rs. 100.60 last year.

Prices dip

Consequently, the overall turnover dropped to Rs. 107.77 crore from Rs. 144.86 crore. This reduction of Rs. 38.09 crore marked a sharp decline of 26.29 per cent in the first quarter of 2014.

N. Indian orders lend colour to turmeric

Erode, April 8:

Spot turmeric prices at Erode increased Rs. 100 a quintal on the back of orders from upcountry.

“Demand for hybrid turmeric is high and so traders are buying quality ones quoting higher price. The fine variety Salem hybrid is available at Rs. 8,000, but of the 400 bags that arrived, only 40 bags were sold at a higher price. Other local varieties were offered at Rs. 6,200-6,500 based on the quality. Traders in Erode are receiving limited demand from merchants of North India and certainly, demand will increase,” said RKV Ravishankar, President, Erode Turmeric Merchants Association.

On Tuesday, 4,600 bags of turmeric arrived for sale and 60 per cent was sold. At the Erode Turmeric Merchants Association sales yard, the finger variety was sold at Rs. 4,809-6,604; the root variety Rs. 4,566-6,399 a quintal.

Salem Hybrid: The finger variety quoted Rs. 6,066-7,320 and the root variety Rs. 5,706-6,511. Of the 1,115 bags that arrived, 548 were sold.

At the Regulated Market Committee, the finger turmeric was sold at Rs. 5,959-6,779; the root variety Rs. 5,889-6,559 . Of the 534 bags on offer, 491 were traded.

Weather demons



Production freeze A farmer harvests wheat on the outskirts of Bharawan village near Hardoi in central Uttar Pradesh. Wheat harvest has been delayed by over a fortnight this year on prolonged winter and unseasonal rains. Prices of new wheat are ruling firm around ₹1,500 a quintal in key markets on strong demand from exporters, millers and stockists. Vishwanath Kulkarni

Deficit in global zinc, lead markets to continue this year also

Mine production of both metals set to increase

Mumbai, April 8:

The world market for refined lead and zinc will remain in deficit this year, according to the latest forecast made by International Lead and Zinc Study Group.

While the lead market will remain in deficit of 49,000 tonnes, zinc deficit, as in 2013, will be 1,17,000 tonnes.

The study group expects that global demand for refined lead will increase by 4.4 per cent to 11.73 million tonnes (mt). The increase will be driven by higher usage in China

(7.4 per cent). The Asian major accounted for 45 per cent of total global lead usage in 2013. Demand growth in other markets – mainly the US, Europe – will be modest.

Global mine production is expected to increase by 5.2 per cent this year (7.5 per cent in 2013) to 5.66 mt as the output in Australia and China is expected to increase. World production of refined lead is forecast to rise by 4.3 per cent to 11.68 mt. The output in South Korea, currently the world's third largest producer of lead behind China and the US, is expected to rise by 5.7 per cent to 5,00,000 tonnes. Elsewhere in Asia, production in China, India and Kazakhstan is forecast to rise.

Demand weakness

Given the evolving supply-demand mismatch and forecast deficit, lead prices ought to have been firming; but investors are somewhat disappointed by the weakness in lead prices. LME cash prices have been hovering around \$2,000/t. Recent demand weakness has put pressure on the market. There was contraction in Indian primary demand of close to 50,000 tonnes in the fourth quarter of 2013 following weakness in the domestic auto sector.

At the same time, a weak rupee stimulated refined export. With domestic market and currency outlook improving, India's effect on the lead market may become more positive, experts assert.

Refined zinc metal demand worldwide is expected to rise by 4.5 per cent (4.7 per cent in 2013) to 13.58 mt this year. Usage in China, currently accounting for 44 per cent of world demand, is forecast to rise by 5.8 per cent while in Europe and US increases will be a modest 3 per cent and 1.7 per cent respectively. Growth is seen in India, Korea and Turkey too.

Production increase

On the supply side, global mine production is projected to rise by 2.6 per cent to 13.57 mt in 2014, driven by increased Chinese and Australian supply. Chinese production of

refined zinc is expected to rise by 7.3 per cent this year which is set to drive growth in global production. Output in the US and Europe is also set to rise. Higher production is expected in India, South Korea, Mexico and Namibia, the group said.

Notwithstanding all these, the market is vulnerable to disruptions and slippages. Supply-driven tightening in zinc fundamentals is expected to develop gradually. Many analysts are bullish on zinc and see a 10 per cent upside between now (\$2,000) and the next three quarters. Much of the action may take place in the second half of the year.

Campco records Rs. 1,200-cr turnover, a 40-year high

Mangalore, April 8:

The Central Arecanut and Cocoa Marketing and Processing Cooperative (Campco) Ltd recorded a business turnover of Rs. 1,200 crore during 2013-14 against Rs. 936 crore in 2012-13.

K Padmanabha, President of Campco, said that this is the highest turnover achieved by Campco in its 40 years of existence.

Of the Rs. 1,200-crore business, arecanut division contributed a share of Rs. 975 crore and chocolate division contributed Rs. 209.38 crore.

The rubber division's share was Rs. 14.92 crore. The cooperative's copper sulphate division did a business of Rs. 1.03 crore. Farmers spray copper sulphate solution on arecanut plants to protect them from fruit rot disease.

Stable market

To encourage farmers, the cooperative paid an incentive of Rs. 1 a kg to the farmers for selling arecanut to the cooperative.

Stating that the arecanut market remained stable during 2013-14, he said the decision of the Directorate General of Foreign Trade to increase the minimum price for the import of arecanut helped in curbing the import, thus leading to the stability in the market.

The expert committee set up by the Arecanut Research and Development Foundation has fixed the production of cost during 2013-14 at Rs. 168 for white arecanut and Rs. 197 a kg for red arecanut, he said.

On the chocolate front, Padmanabha said that the cooperative paid a maximum of Rs. 65 a kg to farmers for the purchase of wet cocoa beans during 2013-14. The Campco has begun work on a new administrative block for its chocolate factory at Puttur in Dakshina Kannada district, he said.

Arecanut division contributed Rs. 975 crore and chocolate division contributed Rs. 209.38 crore.




Chennai - INDIA

Today's Weather

	Wednesday, Apr 9
	Max Min
Clear	34° 27°
Rain: 0	Sunrise: 06:00
Humidity: 84	Sunset: 06:21
Wind: normal	Barometer: 1008

Tomorrow's Forecast

	Thursday, Apr 10
Partly Cloudy	Max Min
	34° 27°

Extended Forecast for a week

Friday Apr 11	Saturday Apr 12	Sunday Apr 13	Monday Apr 14	Tuesday Apr 15
--------------------------	----------------------------	--------------------------	--------------------------	---------------------------



35° | 27°
Partly Cloudy



35° | 26°
Partly Cloudy



31° | 26°
Overcast



31° | 26°
Overcast



31° | 26°
Cloudy

Business Standard

Sugar extends gains on strong demand, lower production

April 9, 2014



Continuing its rising streak, [sugar](#) prices went up by another 0.50 per cent to Rs 3,205 per quintal in futures market today as speculators indulged in creating positions, supported by summer season demand from bulk consumers amid fall in production.

At the National Commodity and Derivatives Exchange, sugar for delivery in May gathered Rs 16, or 0.50 per cent, to Rs 3,205 per quintal with an open interest of 51,500 lots.

Analysts said apart from rising demand in the spot markets from bulk consumers, fall in

sugar production supported the persistent rise in sweetener prices at future trade.

The country's sugar production has dropped by 7 per cent to 21.5 million tonnes in the first six months of the current marketing year due to lower output in key producing states.

India to see genetically modified jute in a month

India is likely to see commercialization of [genetically modified](#) (GM) [jute](#) in a month.

Developed by the Kolkata University, GM jute is set to be sent for commercialization approval to the regulator - Genetically Engineering Approval Committee ([GEAC](#)), next month.

If approved, GM jute would be the second crop of its kind after GM cotton was approved for commercialization in 2002 with huge success.

"The GM jute is ready. The Kolkata University is set to apply with GEAC for commercialization in a month," said Swapan K Datta, Deputy Director General of Indian Council of Agricultural Research ([ICAR](#)) on the sidelines of a roundtable on "Addressing Challenges of Food Security" organised by the Confederation of Indian Industry here on Monday.

Farmers anticipate the success in cotton to be replicated in jute as well.

"Jute being a non - food crop, GEAC should not have any problem in approving it. The regulator has concerns only on food items," Datta said.

Opening up of GM seed segment and over all trend for using less of an agro chemicals and more and more use of hybrid seeds with heat, insects, weeds and flood tolerance. This has started putting pressure on agro chemical sector. Major agro chemical companies like [Monsanto](#), [Syngenta](#), [Rallis](#), [Bayer CropScience](#) and [Advanta](#) have increased focus on improved varieties of hybrid seeds with heat, insects, weeds and flood tolerance. This has resulted into lower usage of agrochemicals like pesticides, weedicides and herbicides.

Davor Pisk, chief operating officer of global agrochemical and hybrid seed major Syngenta said, "Our focus in future is going to be seed. At the same time, we will continue our research and development (R&D) in agrochemical as well considering the entire business a basket."

This has put India's Rs 21,000 crore agrochemical industry under severe stress for future growth. Government has also intensified effort of to use tolerance protection

hybrid seeds to minimize its usage of chemicals and eventually reduce the threat of their residues in the crop.

"Plants suck only 35 per cent of agrochemicals used for crop protection in the field. The remaining, 65 per cent however, goes into the environment and river to pollute air and water respectively. It is therefore important to reduce applicability of agrochemicals in the field for crop protection. Introduction of tolerance protection seeds may lower usage of agrochemicals going forward. Consequently, India's agrochemical sector faces severe stress for future usage and growth," said Swapan K Datta, Deputy Director General of the Indian Council of Agricultural Research.

India accounts for 16 per cent of the world's total foodgrain production and uses only around 2 per cent of agrochemicals. Low consumption can be attributed to the four major factors i.e. fragmented land holdings - low purchasing power, high dependence on monsoons and low level of irrigation, low awareness among farmers about the benefits of using pesticides and lower accessibility of products.

By contrast, the \$2 billion (Rs 12000 crore) Indian seed industry is growing at 12-13 per cent per annum and the commercial seed segment accounts for a mere 25 per cent of the total market. Hence, the growth opportunity for commercial seeds is substantial going ahead. As per one study wheat, groundnut, soybean and chickpea (high-volume lowvalue seeds) 80 per cent of the cropping area is sown with farm-saved seeds that are old and obsolete varieties.

Most notably, India's Genetically Engineering Approval Committee (GEAC) has granted approval for 11 new varieties of genetically modified (GM) seeds for field trails.

Can agricultural residues sow seeds of biochemicals?

India is one of the leading producers of agri-produce in the world and generates lots of agricultural material that is wasted. If put to good use, these can be used to make energy, as well as chemicals. There is certainly a need and an opportunity for the industry to explore greener and [renewable](#) sources that be used as building blocks for industrial chemicals.

Demand for more renewable and bio-based solutions is increasing with rise in population and consumption growth, climate change and energy & resource security. To meet this requirement, companies will have to investment in sustainable and bio-based products and production processes. This is expected to drive the bio-based chemicals industry to next level.

[G S Krishnan](#), Regional President – India, [Novozymes](#) South Asia Pvt Ltd, said, "Growing populations combined with oil scarcity and oil price volatility is creating an increasing global need for innovative alternatives to oil-based chemicals. Environmental and climate change concerns are further pushing the need to move away from oil based society towards a bio-based society by plugging into the power of plants and other

renewable sources.”

ALSO READ: [Bio based chemicals gaining ground to reduce carbon footprint](#)

According to him, [biochemicals](#) produced from renewable raw materials have the potential to meet this global need for sustainable alternatives. These biochemicals can be produced from renewable raw materials including agricultural residues. “The contribution of biotechnology is still modest in the chemical industry, but it is gaining momentum. Analysts and researchers estimate that biochemicals could contribute as much as 17% of the global chemical market by 2025,” said Krishnan.

[Biofuels](#), the story so far

Governments and companies all over the world are looking for increased substitution of petroleum-based products with biomass-based products. Increasing crude oil prices and growing petroleum subsidiary bill have forced Government of India to make mandatory blending of [ethanol](#) with petrol. This has resulted in growing demand for biofuels, ie bioethanol, in recent times.



Novozymes' G S Krishnan

“Demand for ethanol and sugars will increase both globally and in India. In India, ethanol is currently consumed as fuel in relatively modest volumes (less than one million m³/a). Indian government has set an E5 mandate for gasoline and E20 target for 2017 (gasoline shall contain 5% and 20% ethanol by volume),” said [Pasi Rousu](#), President, Asia & Pacific, [Chempolis](#) - a Finland based biorefining technology company that has signed an MoU with ONGC in October 2013 for biorefinery project in India.

ALSO READ: [ONGC to tie-up with Finnish firm Chempolis for cellulosic ethanol and biochemicals](#)

The selection of raw material has to be carried out carefully in order to really provide a sustainable solution for bio-based chemicals. At present, considerable amount of transportation fuels and chemicals are produced from food crops. However, experts consider such production to be unsustainable. “This is because it competes with food production and cannot considerably reduce greenhouse gas emissions. Therefore, demand for cellulosic fuel ethanol and cellulosic sugars for chemical industry are increasing all over the world,” said Rousu.

Considering this, demand for technologies which can convert non-food crops and biomass into ethanol is gaining traction. In fact, Pune-based Praj Industries began construction of second generation cellulosic ethanol demo plant at Sangli (Maharashtra) in August 2013. The plant, which South Asia's first cellulosic ethanol demo plant, will operate on different varieties of biomass with a capacity of 100 dry tonnes of biomass per day, which includes agricultural wastes such as corn stover, cobs and bagasse. The plant will also enable Praj to develop various biochemicals and bio-products.

Fueling biochemicals demand



Ethanol is one of the key raw materials used in chemical industry. And bioethanol can pave a road to green chemicals. “In addition to fuels production, various chemicals can be produced from cellulosic sugars. The mandates and targets for biomass-based chemicals are less defined than for fuel ethanol, but still government and companies have set targets for increased production of biomass-based chemicals,” said Rousu.

ALSO READ: [Agricultural residues is the only way to achieve ethanol production targets: G S Krishnan, Novozymes](#)

There are other agri-produce such as palm oil, veg oils, castor oil, etc, which can be used to make biochemicals. According TSMG, while traditionally bio-based chemicals have been used for niche applications such as personal care and food additives, these are now used in various new applications such as biolubricants, biopolymers, and biosurfactants. Many multinational companies are sourcing raw material for making bio-based chemicals and polymers from India.

For example, India is the world’s leading exporter of castor oil, a key starting raw material for making polyamides and polyols. As a result, a few global chemical manufacturers are eyeing to tie-up with castor oil suppliers in India for long-term benefits. A case in point is the formation JV between the Mumbai-based oleochemical company, Jayant Agro Organics Ltd, and two Japanese firms - Mitsui Chemicals Inc and Itoh Oil Chemicals Co Ltd – in August 2013 for manufacturing castor oil based polyols. This is a second deal announced by Jayant Agro Organics. In April 2013, Jayant Agro entered into an agreement with Arkema, a French chemical company, to develop castor oil production, which will used by Arkema to manufacture bio-polyamides.

Presence of burgeoning chemical industry and focus on increasing use of biofuels in

transportation make India a very attractive market for bio-based chemical manufacturers.

More than 70% chances of El Niño this year: Meteorologists

The chance of an [El Niño](#) weather phenomenon developing in 2014 now exceeds 70 per cent, Australia's Bureau of Meteorology said on Tuesday, raising the prospect of damaging floods and droughts across the globe.

In India too, El Niño might have a negative impact on the southwest [monsoon](#), expected to hit the mainland around June. In the past decade, 2002, 2004 and 2009 were the drought years in India, due to emergence of El Niño .

"It is now likely an El Niño will develop during the southern hemisphere winter," the Australian weather bureau stated on Tuesday. However, it qualified that it has still early to determine the strength of the current El Niño.

Reuters said a strong El Niño in India would trigger lower production of summer crops such as rice, sugarcane and oilseeds. India is the world's second largest producer of rice and wheat.

El Niño emerges after a gap of every three to seven years and affects rainfall in India during monsoon. The heat off the western coast of South America increases the sea surface temperatures above normal by 0.5 degree Celsius, affecting formation of rain-bearing clouds.

THE ECONOMIC TIMES

CropIn Technology raises funding to bring big data to farms



Agriculture technology provider CropIn Technology Solutions has raised funding from

US-based investment firm Invested Development

BANGALORE: Agriculture technology provider CropIn Technology Solutions has raised funding from US-based investment firm Invested Development.

The firm, which provides agriculture technology to farmers as well as large companies including PepsiCo and Mahindra & Mahindra, will use the money to scale up its technology, hire talent and also explore opportunities in markets such as Kenya, Philippines, Mexico and Indonesia.

"Large companies have not given technology to agriculture, we are focusing on that," said Krishna Kumar, 31-year-old chief executive of CropIn, who declined to share details of the amount invested.

CropIn offers web and mobile information and communication technology including enterprise resource planning and business intelligence for agriculture.

The platform enables farms become visible online and helps them adopt best global agricultural practices. It also makes crops traceable so that harvested crops meet global quality standards.

This technology has been implemented in 25,000 acres of farms belonging to 15,000 farmers and is used by large firms such as ITCBSE -0.42 % Group, RallisBSE -1.44 % and Nuziveedu Seeds.

CropIn also uses data analytics technology to sift through huge agricultural data and provide hidden insights to the customer to improve their next season crop productivity.

"For example, if there are pests in the farm, the farmer takes picture of the damaged crops, records a voice message and sends it to experts for diagnosis, who respond in seconds," said Kumar. India is one of the world's leading food producers, but accounts for less than 1.5% of international food trade.

Experts say there is a 30% loss from farm to fork. It is estimated that foodgrain worth Rs 90,000 crore is lost to pest attacks.

An electronics engineer from Visvesvaraya Technological University, Kumar quit his job at General Electric and cofounded Cropln with childhood friend and engineer Kunal Prasad in 2010. They pooled in Rs 7 lakh from friends to kickstart the venture. Later they raised total seed funding of Rs 1 crore from Seeders Venture Capital and Ankur capital.

"We liked the team. They are very passionate about agriculture and bringing in efficiency," said Pallav Nadhani, partner at Seeders. "Everybody is focused on ecommerce, but agriculture is the backbone of this country."

The initial six months were testing times for Cropln, but a successful pilot project with Safal, an arm of the National Dairy Development Board, helped the startup attract multinationals as customers. "PepsiCo and FieldFresh mentored us and also connected us to other customers," said Krishna.

Urea imports dip 12 per cent to 7.08 MT in 2013-14



According to data, the offtake of urea from Omiffco in the year 2013-14 has also increased to 2.12 MT against 1.83 MT in the year 2012-13.

NEW DELHI: India's urea imports have decreased by 12 per cent to 7.08 million tonnes (MT) of urea in the year 2013-14, due to carry over stocks from the last year.

The country had imported 8.04 MT of urea in the entire 2012-13 fiscal, according to the Fertiliser Ministry data.

Urea is imported by three STEs (state trading enterprises) - Indian Potash Ltd (IPL), MMTCBSE -0.16 % and STC on behalf of the government to meet domestic shortfall. The country produces about 22 MT against an annual domestic demand of 33 MT.

In the year ended on March 31 this year, nutrient imported by IPL and STC has decreased to 2.54 MT and 0.74 MT, respectively as compared to 3.62 LT and 2.03 LT in the year 2012-13.

However, there was an over three-fold increase in imports by MMTC to 1.68 MT as compare to .54 MT during the period under review.

Besides these three STEs, the government also imports urea from OMIFCO, which is a joint venture project of IFFCO and Kribhco, with an offtake agreement.

According to data, the offtake of urea from Omiffco in the year 2013-14 has also increased to 2.12 MT against 1.83 MT in the year 2012-13.

A Fertiliser Ministry official said the demand was expected to rise this year as sowing area rose on the back of good monsoon, but there was enough inventory of the last year which was carried over.

Urea is provided to farmers at a fixed subsidised maximum retail price (MRP) of Rs 5,360 per tonne. The difference between the cost of production and MRP of urea is provided as subsidy.