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THE MEHINDU

Pest attacks hit jasmine, paddy

White fly, mite, and bud worm have attacked the jasmine plants



A group of scientists taking a look at the pest-hit leaves of jasmine plants at Inampuliyur near Tiruchi on Thursday.— PHOTO: A. MURALITHARAN

Multiple pest attacks have been causing a serious problem to the jasmine cultivators and paddy growers in six villages in Andhanallur block and the agricultural scientists have been camping to guide the farmers about the remedial strategy.

A group of scientists from Central Integrated Pest Management Centre, Tiruchi, Krishi Vigyan Kendra, Sugarcane Research Station in Sirugamani visited Inampuliyur, and conducted a detailed study for assessing the extent of damage caused to the crops.

"Application of pesticides has been a weekly phenomenon at these villages. Excess use of organic chlorides and synthetic pyrichlorides have done enough damage to the jasmine crop," says V. Baskaran, Assistant Professor of Entomology, Sugarcane Research Station.

The scientists found that at least three pests had attacked jasmine besides a crop disease. "White fly, mite, and bud worm were the important pests which attack the jasmine farms," says S. Umamaheswari, Plant Protection Officer, and R.K. Jain, Assistant Plant Protection Officer from the Central IPM Centre, Tiruchi.

As white fly is attracted by yellow colour, scientists advised the farmers to use a yellow board with grease or neem oil applied on it. "All the white fly will be destroyed through this simple technique," they said.

For clearing the mite, the scientists suggested application of "azardirachtin". To control bud worm, farmers were advised to use neem seed kernel extract before bud initiation.

A progressive farmer, A. Nagarajan, State president of the Tamil Nadu Horticulture Producers Association, and R. Thangavel, a progressive farmer of Inampuliyur, said fungal rot was a major disease in jasmine in the area. Scientists said that this too was caused by overdose of chemicals in the soil. Use of copper oxicholoride and bodo mixer would check the disease.

An estimated 60 hectares of jasmine had been affected in Ettarai, Podhavur, Mudhalaipatti, Kaundampatti, Inampuliyur, and Koppu villages. "We recommend simple bio-methods to avoid the pest attack in jasmine.

Farmers have applied the fertiliser on their own without consulting the scientists. We have been addressing fertiliser dealers to properly guide the farmers," say the scientists.

Special cell

The scientists have formed a special cell to address the problems of farmers. Farmers in need of any assistance can contact 0431-2614417 or 2614217.

☐ Scientists find large presence of white fly and other pests								
	Bio-technique nure in soil	advised	to control	pest at	tack and	for stepp	oing up	bio-

90 per cent of surface water in State is exploited, says expert



K. Palanisami, Director of International Water Management Institute, Hyderabad, speaking at a workshop in Madurai .— Photo: G. Moorthy

Nearly 90 per cent of surface water in Tamil Nadu had been exploited, said B.J. Pandian, Director of Water Technology Centre at Agriculture College and Research Institute (ACRI), Madurai, on Tuesday.

Speaking at a workshop on 'Agriculture and irrigation,' conducted by Water Technology Centre of Tamil Nadu Agriculture University (TNAU), Coimbatore, and the ACRI, he said, "We have only groundwater resources left after over-exploitation of tanks. The demand for water in non-agriculture sectors is also growing. All stakeholders should take part in addressing issues related to water management," Mr. Pandian said.

The workshop formed part of 'Tamil Nadu Water Week 2014' celebration organised by Dhan Foundation.

In his inaugural address, K. Palanisami, Director of International Institute of Water Management, Hyderabad, said better techniques must be employed for water management in the State. "We have scientific techniques, but the problem lies in implementing them. Updating technology and reaching out to people are important factors," he said.

V. Veerabadran, retired professor of TNAU, insisted that the gap between demand and supply of water should be addressed. "The quality of water is deteriorating in several places. Every person should be concerned about these issues," he said.

Stressing the importance of maintaining quality of water, C.R. Shanmugam, former dean of ACRI, said the issue required more attention.

The experts noted that the Water Week facilitated interaction between farmers, academicians and other stakeholders, leading to better water management and sustainable development. Seminars on water management in tank-fed irrigation, economic dimension and new thinking, issues and challenges in water management and various other topics were organised at the ACRI.

"We have scientific techniques, but the problem lies in implementing them"

Farm input subsidy

The following is the farm input subsidy and compensation to others affected by Cyclone Hudhud announced at the farmers' empowerment convention on Thursday.

Agriculture: Crop affected in 32,167 ha; number of farmers 1,52,806; Rs.46.46 crore.

Horticulture: 61,617.68 ha; 1,84,507 farmers; Rs.161.56 crore.

Other horticulture crops: 4,365.69 ha; 1.5 lakh farmers; Rs.129.68 crore.

Oil palm: 872.29 ha; 3409 farmers and Rs.2.85 crore.

Coffee: 15066.16 ha; 30,936 farmers and Rs. 29.03 crore.

Houses damaged: 1,47,467; compensation: 75.99 crore.

Clothes and utensils: 10,584 families; Rs.4.23 crore.

Push carts, kiosks and autos; 4,619; Rs.2.3 crore.

Farmers nurture hopes of good harvest post rains



Cultivation of paddy and pulses is taken up in full swing across Tuticorin district.— Photo: N. Rajesh

The drizzle in Tuticorin on Thursday chilled the atmosphere and residents were jubilant over the prevailing weather. The sky remained overcast for most of the day. The farmers were delighted as well since the early onset of Northeast monsoon in the district helped increase in agricultural productivity. The monsoon rains played a significant role in ensuring a good yield. With good amount of rainfall this year, pulses cultivation exceeded its average coverage of 66,000 hectares in the district. At the fag end of last month, the area under cultivation of pulses crossed 73,000 ha and it is expected to increase to 75,000 ha, Joint Director of Agriculture, N.K. Dhakshinamoorthy told *The Hindu*.

Moreover, paddy transplantation was also going on in full swing depending upon the water sources available in the wake of rains. Paddy cultivation is expected to touch 18,000 ha in the district.

The rainfall had surpassed expectations, improving the prospects of good harvest in early 2015. A record rainfall of 717.56 mm so far this year has exceeded the average annual rainfall of 662.2 mm. 'The average rainfall during the Northeast monsoon in the district is 429.4 mm and it has received above the average level of 509.68 mm of rainfall. During November, the district received 198.74 mm surpassing the average rainfall of 184.7 mm during the month. So far in December, which usually maintains an average of 94 mm, 16.48 mm rainfall has been received. With this favourable situation, the paddy farmers had also been relying on rainfed cultivation in blocks of Kovilpatti, Kayathar and Ottapidaram. As for millets, the area of cultivation stood at 45,000 ha, so far while its average cultivation area was 60,000 ha. But, cotton cultivation had increased this year on over 6,400 ha against its average cultivation area of 4,000 ha. Anticipating more rains in the coming days, cotton cultivation is expected to go up to 7,000 ha, Mr. Dhakshinamoorthy said.

Nagercoil

Intermittent drizzle continues across Kanyakumari district since Wednesday. Occasional drizzle was reported in Colachel, Mullanginavilai, Eranial, Anaikkidangu and Mayiladi, Kottaram, Kanyakumari, Suchindram and Nagercoil town resulting in chilly weather persisting on Wednesday night.

A total of 18 mm rainfall was recorded in Mullanginavilai. The water level in Pechiparai dam continues to be at 45 feet and in Perunchani Dam it was 75.09 feet. Water level in Chittar I was 15.84 feet, Chittar II 15.94 feet and Poigai Dam 15.20 feet. Mambazhathuraiaru and Mukkadal dams were already full.

Quality of edible 'Pongal' sugarcane takes a beating

Poor rainfall, irrigation affects size and quality of the cane



A farmer carrying a budle of cane from his field near Pudukottai on Thursday.

Inadequate rainfall and poor irrigation facility has affected the quality of edible sugarcane raised for the forthcoming 'Pongal' festival.

A cross-section of cane growers said that sugarcane needs a huge volume of water but the poor rainfall in the district has affected its growth – in terms of size and quality.

S.Manickam (35), a farmer of Sirunchunai village near Tiruvengaivasal, said he anticipated a serious fall in the quality of the edible variety of the sugarcane raised on one acre of land this year. The usual scramble among the merchants to purchase sugarcane is not to be seen this year.

S.Mahendran (24), another farmer of Annavasal block, said that he had cultivated the crop in five acres and the yield would be 8,000 canes this year against the usual 10,000. The uneven distribution of water during the northeast monsoon had not benefited Annavasal and surrounding villages, he said.

With the increase in cultivation cost, he has to incur a huge expenditure for raising the seasonal crop.

Farmers fear damage to paddy crop after rain

Officials say productivity of the crops appears promising

A day after Erode and surroundings experienced a sudden downpour, farmers had their fingers crossed due to the impact of the rain on paddy fields.

On Thursday, mature paddy plants on swathes of fields on either side of the Kalingarayan canal were found in a slanting position, causing apprehension among farmers about their suitability for harvest in such a condition.

Agriculture Department officials say the slant need not be a matter for concern. The position of the plant is immaterial when combined harvesters are used, M. Selvaraj, Joint Director of Agriculture, said.

Also, the sown paddy varieties DBT, ADT 38 and ADT 39 have long-duration seed dormancy, and do not germinate for a month-long period.

Even the moisture content would dry up as there was no scope for any more rainfall, Mr. Selvaraj said, adding that the productivity of crops appears promising.

Perundurai received the highest rainfall of 28 mm in the last 24 hours ending 8.30 a.m. on Thursday.

Rainfall in other places: Bhavani - 17.6 mm, Erode - 13 mm, Thalavadi - 9 mm, Gobichettipalayam - 8 mm, Bhavani Sagar - 8.2 mm, and Sathyamangalam - 5 mm.

With a depth of 84.87 feet, the storage in Bhavani Sagar Dam was 18.4 tmcft. There was an inflow of 2,890 cusecs.

Discharge of 500 cusecs was made into the Bhavani river, and 1,850 cusecs into Lower Bhavani Project canal.

Agriculture Department officials say there is no need for concern regarding the paddy crop

Tender committee formed for Centre for Excellence in Horticulture

The Telangana government has issued necessary orders for establishment of a Centre for Excellence in Horticulture at Jeedimetla in Ranga Reddy district, proposed and aided by the Central government.

A committee was announced for calling global tenders for establishment of the centre, with the Commissioner of Horticulture as the chairperson, and the Executive Director of the State Horticulture Mission as the convener.

Managing Director of A.P. Agros, scientist (Engg) from Prof. Janashankar Telangana State Agricultural University, Principal Scientist (Floriculture) from Horticulture University, Principal Scientist, Precision Farming Development Centre, Managing Director, CIPET and Deputy Director or Additional Director of Horticulture will be the members of the committee.

Earlier, the Empowered Monitoring Committee under the Central government's Mission for Integrated Development of Horticulture has proposed the establishment of the Centre for Excellence for Flowers, Vegetables, and Fruits production with technical assistance from State Horticulture Mission, Haryana.

The project is estimated to cost Rs. 10 crore, of which the Central assistance will be to the tune of Rs. 9.2 crore. The remaining Rs. 80 lakh would be borne by the State government. The infrastructure to be established includes hi-tech nursery, net house, green house with fan and pad cooling systems, poly house, low tunnel, and post-harvest management facilities.

The project is estimated to cost Rs. 10 crore and Central assistance will be Rs. 9.2 crore

Sustainable\ green revolution needed: scientist

'GM trial ban hinders farm sector growth'

With farmlands depleting steadily across the country, what India needed was not just green revolution but a sustainable and never-ending green revolution, agricultural scientist M.S. Swaminathan has said.

He was inaugurating an international symposium on Plantation Crops, hosted jointly by the Indian Council of Agricultural Research (ICAR) and the Indian Institute of Spices Research (IISR), Kozhikode, here on Wednesday.

Dr. Swaminathan said that an authority should be established to ensure and safeguard the stability and continuity of the biodiversity of the country and experts from all streams of science and technology should be included on that.

'Paradigm shift vital to save agriculture'

Maharashtra Chief Minister Devendra Fadnavis on Thursday said that a "paradigm shift" was needed to get the agriculture sector back on track.

Replying to a debate in the State Assembly on the drought situation in the State which claimed hundreds of farmers' lives, he said, "It is difficult to provide proper price to every agriculture produce because of low productivity. Long-term planning is needed to increase productivity. We need to enhance irrigation facilities and implement proper crop planning."

Recounting the "tragedies" his State has witnessed on the agriculture front in last five years, Mr.Fadnavis emphasised on the need to develop basic agriculture infrastructure.

The Chief Minister also stressed on the need to increase micro-irrigation. "We have targeted to bring at least 10 lakh hectares farmland under micro-irrigation in next few years. A substantial amount will be spend on collective and dry land farming," he said adding that the government would spend around Rs. 34,500 crore to build agriculture infrastructure in the state in next five years.

Mr. Fadnavis also pledged to tighten the noose around illegal money lenders.

Nabard to form 3,000 Joint Liability Groups

Around 50 banking correspondents and branch managers of Indian Overseas Bank took part in a training programme organised by National Bank for Agriculture and Rural Development (Nabard) on Joint Liability Groups (JLG) for farmers here on Wednesday.

According to R. Shankar Narayanan, Assistant General Manager of Nabard, Madurai, the rural development agency has set a target of forming not less than 3,000 JLGs in the district this financial year.

Through the training programme, banking correspondents and managers were sensitised to the importance of bringing farmers deprived of finance into the JLG fold.

"Each group will have four to 10 farmers. The aim is to make credit available to small, marginal and landless farmers," he told *The Hindu*.

Mr. Narayanan said the scheme envisaged financial assistance not just for farmers, but those in micro and small-scale businesses and members of self-help groups.

Farmers, members of non-governmental organisations, district coordinators of banks and other stakeholders would be sensitised to the programme next, he added. Farmers' clubs, federations and associations would be involved in promoting the groups.

Speaking at the training programme, R. Murugaprabhu, Lead Bank Manager, Madurai district, sought the cooperation of all banks to achieve the target. L. Thirugnanasambandan, Chief Regional Manager, IB, inaugurated the training programme. The concepts and procedures of JLG formation and incentives provided by Nabard to the JLG members were elaborated at the event.

Considering the increasing number of landless farmers in the country, Finance Minister Arun Jaitley had set the target to form five lakh JLGs of farmers this year.





L. Sanjivi, NABARD District Development Manager, addressing a workshop in Dindigul on Thursday.— PHOTO: G. KARTHIKEYAN.

Adoption of latest technologies and farm mechanisation, maintenance of hygiene in farm and natural measures to control pests and birds' menace will make horticulture crops a profitable business.

Farmers should shift to highly remunerative horticulture crops like hybrid pomegranate, fig, and anona instead of producing traditional crops like mango, sapota and amla to tap potential fruit market and increase income.

These recommendations were made at a workshop on area development scheme on 'Pomegranate and sheep and goat rearing' here on Thursday.

Progressive farmer Juileo of Pattiveeranpatti said that natural control measures to check entry of birds and squirrels will prevent loss of fruits. Display feed and water in a plate on bird antennas in farm will prevent squirrels and birds from destroying fruits. Buffer planting will also prevent entry of birds. The farm should be clean and neat and hygienic to protect trees from diseases.

"High-density planting will increase disease owing to high humidity condition in Dindigul."

Another progressive farmer Moorthi of Kodaikanal said Maharashtra stood first in the country in pomegranate production. It cultivated export quality pomegranate on 98,000 hectares. In Tamil Nadu, the total area was less than 500 hectares. Drip irrigation with fertigation will minimise water use and better nutrient use and shade net prevent bird attack. Hybrid saplings were available only in Maharashtra. One tree would give 100 to 150 fruits a year. Each fruit will weigh around 350 gram. Banks should be flexible and liberal in lending and pay special attention to motivate small and tiny farmers, he appealed.

NABARD District Development Manager L. Sanjivi said that agro-climatic conditions in Coimbatore, Dharmapuri, Dindigul, Erode, Krishnagiri, Namakkal, Tirupur and Salem were suitable for pomegranate cultivation.

Average farm gate price was Rs.80 a kg and average net income will be around Rs.1.5 lakh to Rs.2 lakh per acre. In the second year of plantation, they could get 50 per cent of their investment costs. Plenty of funds were available with National Horticulture Mission. Flowering plants could be grown as intercrop to enhance their income, he added.

Nature's sweetening agent

When we think sugarcane, we invariably think sugar and when we think sugar we think, "Oh! So unhealthy!" Yet, this is not the whole story of sugarcane, a plant that belongs to the grass family and is native to South and South-East Asia. Did you know that the process of making sugar from sugarcane was invented in India in 800 BC? Let us now see the various ways in which sugarcane was or is used here and what are its benefits. Sugarcane juice seems to have been part of our food culture for several centuries, and rightfully so, packed as it is with the goodness of calcium, chromium, cobalt, copper,

magnesium, manganese, phosphorus, potassium and zinc as well as several vitamins, iron and folates. It is also a good source of the skin-friendly alpha hydroxy and glycolic acids. Its cooling property, combined with its high mineral content, makes it an ideal drink for the scorching summer months, especially as *juicewallahs* add salt, ginger and lemon to it, upping both its nutrition and taste quotients. It is a very effective home remedy for jaundice. Diluted with coconut water, it is known to relieve pain caused by urinary tract infection. Its highly alkaline nature helps combat acidity while also being beneficial to cancer patients. What is surprisingly amazing is its low glycemic index despite its high sugar content.

It is the juice that is boiled and processed in *kohlus* to be made into *gur*, a highly valuable product of sugarcane. *Gur*, known as jaggery in English, is brown in colour since it internalises all the beneficial elements of the sugarcane; therefore its dark colour is a sign of its goodness. Just consider that 1 teaspoon of *gur* contains 4 to 5 mg calcium, 48 mg potassium, 8 mg magnesium, 2-3 mg phosphorus, 0.5 mg iron and traces of copper, zinc as well as B vitamins and nyacin.

Gur is recommended to those who suffer from asthma, joint pain or acidity. As a home remedy, often people have a piece of gur after meals to counter acidity and help digestion. Given its iron content, gur is also indicated in cases of anaemia. To purify blood and inhibit acne and pimples, do bite into a piece of jaggery. These apart, those suffering from menstrual pain can also find relief by consuming gur. Given that its carbohydrate content is highly complex, it releases energy very gradually into the body and since it does not alter the blood sugar level, it is considered diabetic friendly.

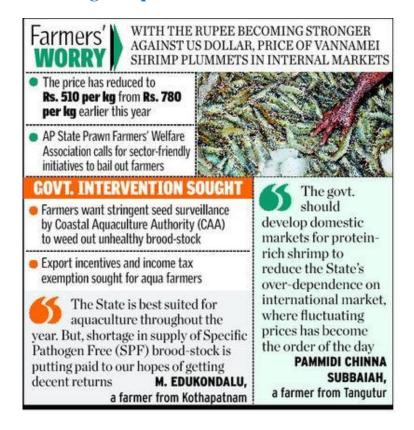
From sugarcane we obtain several other products through artisanal processing; these include boora or molasses, which is the syrup obtained after the sugar has been extracted from the juice and sugarcane vinegar. It is quite evident, if we look at traditional knowledge systems, that artisanal sugarcane products are not culprits. We should avoid industrially processed white sugar and adopt the artisanal sugars, such as gur, which have great culinary uses in Indian cuisine.

A delicious *gur ki roti* can be made by dissolving jaggery in milk over low heat and kneading the *atta* with the mixture; for added health benefits, add a few fennel seeds to the dough and cook the *rotis* in pure ghee or virgin coconut oil. When making *halvas*, substitute the sugar with *gur* for an extra caramelised

chawal; use it in your tea or coffee to savour its complex sweetness .And don't forget the nightcap of milk, turmeric, cardamom and gur.

As we end this sugarcane journey, let us turn our minds to the UP sugarcane farmers, some of whom have committed suicide under the stress of not being paid their dues for the sugarcane sold in 2013-14. We can bring back sweetness to their lives by ensuring their livelihood through our choices. Say no to industrial white sugar and yes to the healthier artisanal sugars.

Stronger rupee leaves Ongole aqua farmers in dire straits



Shortage of disease-free brood-stock hits the sector hard

Aquaculture farmers in Ongole district have kept their fingers crossed as a stronger rupee against US dollar and shortage of disease-free brood-stock is hitting the sector hard.

The farmers were all smiles when Vannamei shrimp produced by them fetched a premium price of up to Rs. 780 per kg for a 30-count early this year, in the wake of a fall in production in East and Southeast Asian countries.

"We are spending sleepless nights with the price of Vannamei shrimp plummeting to Rs. 510 per kg. We will be in a big trouble if there is any further fall in the sale price," said a group of aquaculture farmers in Kothapatnam, with worries writ large on their faces.

With more than 1.20 lakh hectares of wastelands under aquaculture, the State government could easily double or treble the production of two lakh tonnes last year with some sector-friendly initiatives, opined Andhra Pradesh State Prawn Farmers' Welfare Association secretary A. Kondal Rayudu while speaking to *The Hindu*.

Explaining that seed surveillance by the Coastal Aquaculture Authority (CAA) had become a worry for aquaculture farmers, he suggested that the process be made more stringent to weed out unhealthy brood-stock before their entry to aqua farms.

"The State, having a vast coastline and tropical climatic condition, is best suited for aquaculture throughout the year. But, shortage in supply of Specific Pathogen Free (SPF) brood-stock is putting paid to our hopes of getting decent returns," lamented M. Edukondalu, a farmer from Kothapatnam.

Another farmer from Tangutur, Pammidi Chinna Subbaiah, said the government should accord top priority to developing domestic market for protein-rich shrimp to reduce the State's over-dependence on international market, where fluctuating prices had become the order of the day.

Yet, another farmer, Tella Ramaiah, said: "We do not get assured returns throughout the year. The Centre should consider providing export incentives and income tax exemption to us as the sector earns precious foreign exchange for the nation."

Thousands march for climate justice in Lima



Thousands marched through Lima on Wednesday to protest against climate change as the United Nations climate summit, COP20, nears its final days.

"Water yes, Oil No", said a banner at the march for climate in Lima on Wednesday, indicative of the life and death battles over natural resources for the indigenous people in the Peruvian Amazon and other parts of the world.

Large green banners unfurled all over the street as people marched to demand action of the government on climate change and not mere words. Alejandra Alayza of OXFAM, Peru said people are urging the government to take notice of the many environmental violations in the country. The march is in the defence of the rights of mother earth, she said and everyone from NGOs, indigenous people, trade unions and those struggling for control over their land and natural resources were on the street.

"We are asking for coherence from our governments, we need to see climate leadership and while we are holding talks on climate, governments are doing the opposite of protecting the environment," she said.

An estimated 15,000 people took to the streets of Lima on Thursday for the People's Climate March, calling for the ministers to shift to 100 per cent clean energy by 2050, according to the NGO Avaaz.

The march follows the delivery of a 2.2 million person petition by 100 children to UN Secretary General Ban Ki Moon, Peruvian President Ollanta Humala and the conference of parties President Manuel Pulgar Vidal. In Peru the

government was opening up more land for oil and mineral extraction, giving concessional rates for mining and at the same time weakening environmental laws and regulation and diluting impact assessments, say activists.

As the climate talks began, a new report showed that, despite public commitments to protect Peru's forests, the first Amazonian host of the UN COP is ignoring the real drivers of deforestation and failing to safeguard the rights of indigenous peoples. The report, Revealing the Hidden: Indigenous Perspectives on Deforestation in the Peruvian Amazon, was compiled by Peru's national indigenous peoples' organisation, AIDESEP, and an international human rights organisation, the Forest Peoples Programme (FPP).

Contrary to official discourses that blame migrant farmers for deforestation, the report suggests that the "invisible" drivers of current and future deforestation in Peru include road construction, oil, gas and mining projects, palm-oil plantations, illegal logging operations and mega-dam projects. The threat to indigenous peoples and lands became all too real to Edwin Chota and other leaders of the Ashéninka community of Saweto in Ucayali when they were murdered in September 2014, allegedly by logging mafia, in reprisal for their longstanding efforts to protect their lands from illegal logging and to secure title to their territory, the report said.

Addressing climate change a test of global leadership: Kerry



U.S. Secretary of State John Kerry with Peru's President Ollanta Humal in Lima, Peru, on Thursday. Mr. Kerry is in Lima along with delegates from more than 190 countries to work on drafts for a global climate deal that is supposed to be adopted next year in Paris.

On a day when there was much despair about the climate talks, U.S. Secretary of state John Kerry flew into Lima and made an impassioned appeal for a global commitment to tackle climate change impacts. He said addressing climate change promptly and effectively is as big a test of global leadership and every nation has a responsibility to do its part to pass this test.

Addressing a packed press conference here on Thursday, Mr. Kerry who is en route Colombia, made a 35 minute speech which was more like a political statement where he slammed climate sceptics and emphasized that no single country, not even the United States, can solve this problem or foot this bill alone.

He said there is no time to sit around going back and forth about whose responsibility it is to act. It's everyone's responsibility, because it's the net amount of carbon that matters, not each country's share," he said.

He accepted that the biggest emitters, including the United States have to contribute more to the solution. And only those nations who step up and respond to this threat can legitimately lay claim to any mantle of leadership and global responsibility. And yes, if you're a big, developed nation and you're not helping to lead, then you are part of the problem, he declared. He called for giant, measurable, clear steps forward and concrete actions and ambitious commitments.

However, he also issued a warning to developing countries to act, saying that while industrialized countries have to play a major role in reducing emissions, that doesn't mean that other nations are just free to go off and repeat the mistakes of the past and that "they somehow have a free pass to go to the levels that we've been at where we understand the danger."

"We have to remember that today more than half of global emissions – more than half – are coming from developing nations. So it is imperative that they act, too, "he said.

Speaking of the urgency to combat climate change, he said it ranked equally with the array of global threats— terrorism, extremism, epidemics, poverty, and nuclear proliferation — all challenges that know no borders. An ambitious agreement in Paris is not an option, it's an urgent necessity and he was optimistic that the world can get there.

And while no one here believes that a global climate agreement is going to be the silver bullet that eliminates this threat, he said it certainly won't be eliminated without an agreement. Now you don't need a PhD to see for yourself that the world is already changing, Mr. Kerry said and listed out various impacts of climate change and extreme events. He blamed "bad habits" for the current state of affairs but pointed out that the challenge that may be immense but it's not insurmountable.

Unlike some other problems this one already has a ready-made solution which is energy policy, he said. The energy market today is a \$6 trillion dollar market with 4 to 5 billion users today, and it's going to go up to that 9 billion users.

There is still time to come together as a global community and make the right energy choices. Science shows that at this moment there still is a window and there is time to change course and avoid the worst consequences – but the window is closing quickly, he cautioned.

The United States and other industrial nations have contributed significantly to this problem, he said and they recognize the responsibility they have now to lead the global response.



Chef's Corner: How to make Potato and Asparagus Soup with Bacon Rashers



Potato and Asparagus Soup with Bacon Rashers

By Chef Anirban Sinha

Potato and Asparagus Soup with Bacon Rashers

Makes 4 servings

Start to Finish: 30 mins

Ingredients

Fresh asparagus spears, trimmed (400gms)

Potatoes, peeled and chopped (1/2-inch pieces or smaller) (400 gms)

Milk (500ml)

Salt (½ teaspoon)

Ground black pepper (½ teaspoon)

Water (1 1/4 cup)

Slice bacon (6 no)

Honey (1 teaspoon)

Butter (50 Gms)

Garlic chopped (50gms)

Parsley (10gms)

Bread roll (soft) 6 no

Method

- * Reserve about one-third of the asparagus.
- * Combine remaining asparagus, potatoes, evaporated milk, salt, pepper, and the water in a saucepan.
- * Bring to boiling; reduce heat. Simmer, covered, for 10 minutes or until potatoes are tender.
- * Cool slightly. In a blender or food processor, blend or process soup, half at a time, until smooth.
- * Meanwhile, in a skillet cook bacon until crisp. Drain on paper towels; set aside. Reserve 1 tablespoon bacon drippings in skillet. Add reserved asparagus spears to the drippings in skillet. Cook for 5 to 6 minutes or until asparagus is crisp-tender, stirring occasionally.
- * Coarsely chop bacon and place in a microwave-safe pie plate. Drizzle bacon with honey; cover with vented plastic wrap. Just before serving, microcook on 100 percent power (high) for 30 seconds.

- * To serve, ladle soup into bowls and top with asparagus, bacon mixture, and, if desired, toppings.
- * For garlic butter soften the butter first and then add chopped garlic and parsley in to it.
- * For the bread rolls slice them length wise and then toast under salamander and apply garlic butter on it.

Nutrition Facts

(Creamy Potato and Asparagus Soup)

Per serving:

356 kcal cal.,

15 g fat

(7 g sat. fat,

1 g polyunsaturated fat,

6 g monounsatured fat),

41 mg chol.,

673 mg sodium,

43 g carb.,

4 g fiber,

17 g sugar,

15 g pro.

(Per cent Daily Values are based on a 2,000 calorie diet)

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Today's Weather Tomorrow's Forecast

Friday, Dec 12 Saturday, Dec 13

Max Min Rainy

Cloudy

29° |23°

29° |25°

Rain: 4 Sunrise: 06:21

Humidity: 94 Sunset: 05:43

Wind: normal Barometer: 1014

Extended Forecast for a week

Sunday Monday Tuesday Wednesday Thursday

Dec 14 Dec 15 Dec 16 Dec 17 Dec 18

29° | 24° | 27° | 26° | 27° | 25° | 27° | 23° | 27° | 23°

Cloudy Sunny Partly Cloudy Partly Cloudy Partly Cloudy



Waffles recipe



Preparation time: 10 minutes

Cooking time: 5 minutes

Ingredients

2 1/4 cups flour

4 teaspoons baking powder

1/2 teaspoon salt

1 1/2 tablespoons sugar

1 teaspoon vanilla

2 1/4 cups milk

1/2 cup oil

2 eggs

Directions

- -First beat the eggs in a food processor. Next, add all the remaining wet ingredients and mix.
- -Then add all the dry ingredients and mix. Spray your waffle maker with a non-stick spray and turn on. It takes about four minutes on level 31/2. It comes out golden and crunchy. Adjust time according to your waffle maker. Remember the mixture sets well in the refrigerator for a week. Waffles go well with honey, maple syrup, vanilla ice-cream or fresh strawberries, blueberries, powdered sugar and whipped cream. You can also have it with a few orange slices or with blueberry syrup and a steaming cup of hot coffee.

Did you know?

March 25th marks International Waffle Day, which originated in Sweden. Varfrudagen, a Swedish name for "Our Lady's Day" sounds (in Swedish) like Vaffel-dagen (waffle day). The waffles as we know today first appeared in the Middle Ages. Thomas Jefferson's Belgian cook brought one of the first waffle irons to the US.

5 healthy Indian soups for winter



5 healthy Indian soups for winter (Pictures by: Crowne Plaza, Rohini, New Delhi)

A soup can do what a medicine never can - soothe and relax you in an inexplicable way when you're down with cold, cough and fever. It's by far the most comforting food, not to mention, healthy and delicious too.

This winter, we bring you five different kinds of Indian soups that will keep you warm in the cold weather. Each soup benefits you differently and each one is unique in flavour. Executive Chef Aditya Jamini of New Delhi's Crowne Plaza, Rohini, lists five best Indian soups for you to try out this season.

1. Pepper Rasam

Winters are synonymous with common cold and cough. Besides right medication, it is imperative to consume comforting and effective foods. The spices in Pepper Rasam help in digestion and soothe your senses, and therefore is a perfect recipe for incessant sneezes and running nose.

Ingredients

100 gm Tomato

50 gm Tamarind

1 tsp Whole black pepper

1 tsp Cumin seeds

2 Cloves of garlic

2 gm Turmeric powder

Few curry leaves

Salt to taste

1 gm Coriander leaves

750 ml Water

Seasoning

10 gm Ghee

2 gm Mustard seeds

1 gm Curry leaves

2 gm Red chilli whole

Method

- 1. Soak the tamarind in a cup of warm water, extract its juice and throw away the pulp. Grind cumin seeds, pepper and garlic for a few seconds in a mixer.
- 2. Take a cup of tamarind extract, add chopped tomatoes, turmeric powder,

crushed pepper, cumin, garlic, salt and curry leaves. Boil them together.

- 3. Once it starts boiling, keep the flame low and let it simmer for 10-15 minutes or until the raw smell of the tamarind goes off.
- 4. Heat a tsp of ghee and add mustard seeds to it. When it begins to splutter, add the red chilli, curry leaves and pour it over the Rasam.

2. Lemon Coriander Soup

Lemon is a rich source of vitamin C, which in turn helps build immunity from cold and cough during winters. Relax with a bowl of hot Lemon Coriander Soup in the evening for a comforting experience.

Ingredients

50 gm Chinese cabbage

25 gm Carrots

20 gm Spinach

25 gm Mushroom

15 gm Fresh coriander

Salt to taste

5 gm White pepper

40 gm Lemon

800 ml Water

A coriander sprig to garnish

Method

- 1. Cut all the vegetables into triangles, blanch and refresh.
- 2. Prepare coriander stock with fresh coriander and water.
- 3. Remove coriander from it and add blanched vegetables to it.
- 4. Add cleaned de-veined prawns cut in to dices.
- 5. Add salt, lemon juice and white pepper. Serve hot!

3. Khumb Nimbu Ka Ras

The nutrients in mushrooms are different from those of other vegetables and provide the B group vitamins, especially riboflavin (B2), niacin (B3), folate, pantothenic acid and biotin. Mushrooms also contain Vitamin D, the sunshine vitamin that helps keep bones strong and fights disease. Khumb Nimbu Ka Ras is a brilliant concoction of health and flavour!

Ingredients

250 gm Mushroom

25 gm Desi ghee

30 gm Garlic

20 gm Fresh cream

50 gm Onion

30 gm Spring onion

Salt to taste

30 gm Lemon

5 gm Fresh coriander

750 ml Water

For garnish

2 gm sauteed and dried mushrooms

1 gm coriander

Method

- 1. Heat desi ghee in a pan, add mushroom and cook till it gets dry.
- 2. Remove mushroom from pan, and add garlic, onion in the same oil, and saute.
- 3. Add mushrooms, water and bring it to a boil.
- 4. Set seasoning, add spring onion, cream and serve hot!

4. Murgh Makkai Shorba

Corn is an excellent source of dietary fibre and potassium and baby corn kernels are an excellent source of folate. When teamed with chicken, Murgh Makkai Shorba makes for a soup rich in health as well as taste.

Ingredients

1 litre Chicken stock

150 gm Corn

25 gm Garlic

25 gm Fresh coriander

15 gm Cumin seeds

Salt to taste
5 gm Turmeric
30 gm Oil
30 gm Chicken breast

For garnish

5 gm Diced chicken Coriander sprigs

Method

- 1. Heat oil in a pan, add garlic and cumin seeds. Wait till they crackle.
- 2. Add chopped garlic and saute. Add corn paste and cook.
- 3. Add chicken stock and cook, adjust seasoning.
- 4. Serve hot and garnish with chopped coriander, and chicken dices.

5. Carrot and Beetroot Shorba

While Beetroot is rich in nutrients like calcium, potassium, iron, folic acid, fiber and anti-oxidants, carrots are an excellent source of vitamin A. Beetroot also has natural properties of cleaning the kidneys and gall bladder. The deeper the orange colour of a carrot, the higher is the beta carotene content. Carrot and Beetroot Shorba is excellent for children as it benefits their vision, skin and immune system.

Ingredients

300 gm Carrot

300 gm Beet root 20 gm Ginger

5 am Ray leaf

5 gm Bay leaf

5 gm Green chilly

20 gm Fresh coriander

20 ml Oil

8 Cumin (whole)

750 ml Water

Salt to taste

For garnish

2 gm Beetroot

2 gm Carrot

Method

- 1. Heat oil. Add bay leaf, cumin and ginger to it. Saute for 1 minute.
- 2. Add carrot, beetroot and green chillies. Cook for 5 minutes.
- 3. Add water. Once it starts to boil, strain and make a puree of it. Adjust the seasoning.
- 4. Strain the puree and adjust seasoning again. Garnish it with diced beetroot and carrots. Serve hot!

Recipe: Gosht Awadhi Biryani



Gosht Awadhi Biryani Ingredients:

Mutton 1 kg
Basmati rice 500 gms
Brown onions 50 gms
Desi ghee 200 gms
Cloves 10 gms
Cinnamon sticks 10 gms
Bayleaf 10 gms
Green cardamom 10 gms
Cream 100 ml
Beaten curd 250 gms

Salt to taste

Yellow chilli powder 10 gms

Mace cardamom powder 15 gms

Ginger garlic paste 50 gms

Rose water 5 ml

Kevda water (screwpine) 5 ml

Sweet ittar 2 drops

Slit green chillies 25 gms

Mint leaves 50 gms

Ginger julienne 50 gms

Royal cumin seeds 5 gms

Lemon juice 25 ml

Water 1/2 ltr

Whole wheat flour dough (for lining the lid) 100 gms

Method:

Step 1: Cooking of mutton · Heat ghee in a copper vessel (lagan) and add the whole spices. When they crackle add the mutton pieces and saute. Add salt to the mutton pieces. Add ginger garlic paste and brown onions and saute again for a while. Add beaten curd and bhunao (saute) till the oil separates. Now put yellow chilli powder and mace — cardamom powder. Add water and cook the biryani mutton.

Step 2: Boiling rice · Wash, soak rice for 10 minutes. Boil water in a pan and add the whole spices, salt and lemon juice. Add the rice and cook till 2/3rd done.

Step 3: Cooking on Dum · Layer the cooked mutton with the boiled rice. Add a mixture of ghee and cream. Garnish with mint leaves, ginger juliennes, brown onions and saffron dissolved in water. Line the lid with dough and seal the vessel. Put the vessel on an iron griddle and cook for 15 minutes.

Shahi Tukra

Ingredients:

Bread roundels 1 sliced bread

Sugar 1 kg

Milk 2 kg

Ghee 1 kg

Pistachio slivers 25 gms

Almond slivers 25 gms
Cloves 15 nos
Cardamom 15 nos
Green cardamom
powder 1tsp

Method:

- Cut the bread slices into round shape. Heat a pan, add ghee cloves & cardamom. Fry sliced bread. Prepare sugar syrup, add 200ml milk and dip the bread into syrup.
- Boil the milk till it reduces to ¼ quantity. Place the sliced bread on a plate and pour Rabri on top while serving. Garnish with Pista, almond, Silver warq & saffron

Easy tomato salsa dip recipe



Easy salsa sauce recipe

For all the students and young teenagers, who are not big cooks and can hardly register anything essential in the kitchen; here is a tomato salsa dip's recipe made easy for you.

If you are too lazy to walk to the nearest store and buy a bottle of salsa for yourself, whip out these easy ingredients and make one for you in no time.

Ingredients:

4 tomatoes, moderately ripe

½ an onion

2 green chillies

a few sprigs of coriander

Lemon, salt and black pepper for seasoning (Can also add a pinch of oregano to experiment)

Method:

- Firstly, char the onion on the gas flame. Turn them around on the flame till all of its skin is blistered and black (but not burnt). Remove it from the gas flame and let it cool for 10-15 minutes. Then peel it. This process gives a lovely smoky flavour to the onion juice.
- Finely chop the onion, tomatoes and coriander.
- Mix the onions, tomatoes, chillies and coriander together. Mash it slightly to make it a semi-paste.
- Add lemon, salt and black pepper to taste.
- Let the salsa rest for 10 minutes before serving.

So the next time you get hungry late in the night and cannot go out to buy salsa, try this and make one quickly. It is also a great idea for parties or a get together to watch a match or a movie. You can have salsa with the tried and tested tortilla chips, tacos or nachos. A thin-crust pizza, noodles or Mexican bean rice also taste good when mixed with salsa. But if you wish to try something new, fry some vegetables - broccoli, celery, cauliflower, lettuce, bell peppers, beans and cucumbers. Add lots of cheese to make it yummier. You can also serve it with baked potato to your friends and see the number of compliments you receive.

Chronicle

Obesity shrinks life span



According to recent data of Government of India, the incidence of obesity, hypertension, cardiovascular diseases, diabetes and rheumatic heart diseases ranges from 1.3 to 4.6 million.

Hyderabad: Obesity can reduce the life expectancy of an individual by eight years, states a study published in The Lancet Diabetes and Endocrinology Journal in December. It is also one of the causes for an individual living an unhealthy life for 15 to 19 years due to cardiovascular diseases and diabetes.

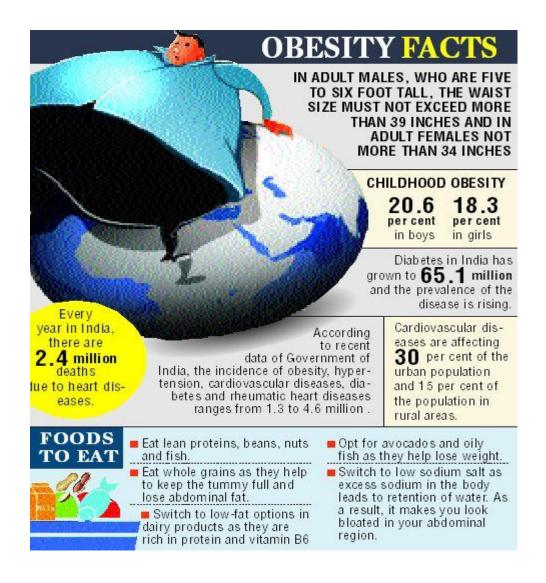
In adult males, who are five to six foot tall, the waist size must not exceed more than 39 inch -es and in adult females, it must not be more than 34 inches. A recent survey has found that 30 million people in India are obese. Obesity is calculated with Body Mass Index (BMI) and those whose BMI is above 30 are categorised as morbidly obese.

The prevalence of obesity varies from 10 to 30 per cent across all states in India. Cardiologist, Dr Sunil Kapoor said, "In India, the problem is abdominal obesity. Fats are distributed in the abdomen region. When this happens the internal organs have a lot of excess deposits of fats and these harm the functioning of other organs."

In the annual check-ups of employees by corporate companies, it has been found that fatty-liver is one of the most common problems. This was not the case earlier.

Gynaecologist Dr K. Bhargavi said, "The excess accumulation of fats in the abdomen region gets toxic and begins to harm the body. Excess weight leads to innumerable problems and controlling it is very important."

Dr K.S. Lakshmi said, "Earlier, insurance companies were not willing to treat obesity as a disease. It was classified as a cosmetic procedure. But recently, the Medical Council of India has agreed that obesity is a disease and must be given insurance coverage. With this, we hope that the government will work towards creating awareness about obesity and also its harmful effects." Walking, swimming, cycling, aerobics and other forms of exercise must be carried out every day for 45 minutes along with a healthy diet.



10 year old girl bullied for being obese

Ten-year-old Farhan Zaveri (name changed) weighed 45 kg. Her obesity was a result of reaction to medicines taken during a severe episode of malaria. The reaction had led to bloating and overeating. Classmates made fun of her and she would often shy away from friends. The bullying was too much to bear, but the school counsellor advised to put her in dance and swimming sessions to lose weight. These two activities helped tremendously and in six months she lost 10 kg. The encouraging results brought confidence and also friends.

Obese teen faces breathing issues

Sixteen-year-old Rehana Sultana (name changed) weighed 85 kg and had no control over the fast foods that she consumed. The teenager was always on the healthier side in childhood but from there the switch to being obese was too fast for her parents to realise. She developed severe breathing problems and also had trouble with her menstrual cycle because of the excess weight.

Her worried parents consulted their family doctor who advised her to reduce weight. The young girl had to be literally pushed to exercise as she was unwilling. Six sessions of therapy helped her to understand the need to reduce weight and why it was important for her to be active. Her weight would be a major issue at the time of marriage and later for childbearing.

She joined a gym for morning exercise and would swim in the evening.

Woman in therapy prefers mini meals

Praneet Kaur, 50, (name changed) weighed 150 kg and she was told that she had to reduce 60 kg and if it was not possible, she would have to undergo bariatric surgery. Upset and not willing to get a surgery, she decided to join a naturopathy club and a behaviour therapy regime to deal with her hunger pangs.

As she was not able to walk properly due to the excess weight, the family was worried. She could not do any housework and had problems giving up food. A nutritionist, behavioural therapy, massage and exercises were suggested to her.

What Ms Kaur was most happy about was that her meals, instead of three, had been divided into six small meals of fruits, vegetables and one non-vegetarian item in the afternoon. Her exercise regime was fixed for morning and evening and a massage once a week. After one-and-a-half years, she managed to shed 40

kg. The same regime has to be followed for the next one year religiously to reduce 20 more kilos.

BusinessLine

Indian wheat output could rise to record, says USDA

Ample supplies will put pressure on prices despite higher consumption: Rabobank



Chennai, December 11:

Wheat production this crop year to June in India could rise to a record, but corn and rice output is likely to be lower, according to the US Department of Agriculture.

However, prices of wheat and corn are likely to be under pressure as supply outstrips record demand for foodgrains, says Rabobank.

In its latest report on world markets and trade, the USDA has projected India's wheat production at a record 95.9 million tonnes (mt) against 93.5 mt last year. The cause for the US agency's optimism is unknown since sowing of wheat, a rabi or winter crop, is trailing this year.

Data from the Ministry of Agriculture show that until December 5, wheat was sown on 208.64 lakh hectares (lh) against 213.69 lh during the corresponding period a year ago. The area is down despite a Rs.50 hike in the minimum support price for wheat at Rs. 1,450 this year.

Wheat offtake

"Global production for 2014-15 is projected at a record with bigger crops in both Canada and Kazakhstan," the USDA said, pegging the output at 722 mt against about 720 mt last season. Rabobank has projected wheat output at 718 mt.

World wheat consumption is estimated at 712.58 mt against 704 mt.

Food use is expanding because of population growth, urbanisation and rising incomes. "Growth is particularly strong in Sub-Saharan Africa and South-East Asia. Feed use is up as well, mainly driven by a huge jump in European Union usage," the US agency said.

Price outlook

Rabobank, on the other hand, has projected a 21 million tonnes rise in wheat consumption, which would match supply. In its price outlook, Rabobank expects wheat prices to drop in the first quarter next year to 520 cents a bushel (Rs. 11,900/tonne) before rising to 530 cents (Rs. 11,950) in the second quarter and ending at 560 cents (Rs. 12,800) in the last quarter.

The price scenario will change only if there is any adverse weather or geopolitical tension leading to exports from the Black Sea region being affected. Though Indian crop will be lower at 102 mt against 106.54 mt a year ago, the world market will be well-supplied.

Rice & Corn

Global rice production will be a tad lower than last year's record at 475 million tonnes, the USDA said. China, Guyana, South Korea and Vietnam will offset reduction in Indonesian and Indian production, it said. Consumption of rice, however, is seen 2 mt higher at 482 mt.

Corn (maize) production and exports from India will be lower this year. The US farm agency has projected production at 37.3 mt against 42.7 mt a year ago. While kharif production has been projected at 16.03 mt (17.68 mt), sowing in rabi is down for coarse cereals at 43.12 lh (46.07 lh).

Global corn output has been estimated at 1.27 billion tonnes against 1.28 billion tonnes a year ago.

Higher output in China and the EU will compensate the lower output in India and other countries such as Argentina.

Corn price estimate

Corn exports from the country are seen dropping to 2.8 mt against 4.5 mt a year ago, in line with a drop in global trade. Global shipments of the coarse cereal will decline to 147 mt from 164 mt a year ago.

While the US sees drop in domestic consumption of corn in producing nations, Rabobank estimates a marginal rise of 2 mt. Both, however, have pegged the carryover stocks to next season at a record.

Rabobank said corn prices will bottom out in the first quarter next year at 360 cents a bushel (Rs.8,850/tonne) and rise to 380 cents in the third quarter (Rs. 9,350) before slipping to 360 cents. Lower crop in South America or drop in US plantings will be factors that could see corn prices rising, Rabobank said.

Cotton user industry has to do its bit to help growers

A record crop, abundant availability and modest export prospects in the face of a weak global market outlook have made Indian cotton growers vulnerable to a price fall.

With arrivals building up, prices are set to weaken from the current levels of around Rs. 33,000-34,000 a candy (356 kg). Arresting a precipitous price fall and protecting growers' interests is the primary objective of policymakers this season.

CCI procurement

According to the Government's directive, Cotton Corporation of India (CCI) has stepped in to procure cotton as part of market intervention operations.

But is supporting the market and protecting growers' interests the responsibility of CCI alone? What is the role of the user industry? Is it not the responsibility or duty of the user industry – the mills, in particular – to rise to the occasion and

prevent a price collapse? But experience suggests mills would rather wait for prices to fall as low as possible before starting their purchases.

If anything, it is the current season that is sure to provide a context for the true test of character of the user industry and, by implication, that of its leaders. In one of the conferences, the head of a regional textile association demanded that not only should CCI procure maximum quantity, but it must also immediately announce a policy for sale of cotton – obviously to benefit the mills. Simply put, some of the industry leaders seem to think, it is not their duty to support cotton growers – the very people who provide the industry raw material year after year. They seem to believe it is for the government to provide support to growers through procurement.

At the same time, the industry wants CCI to sell the procured stocks. In other words, CCI is being treated as a warehouse for holding stocks for some time and sell to the user mills as and when the latter wants it. This presumptuous attitude is the bane of the industry. While procurement may be part of the government's function, policymakers must make it clear to the industry that it is not the government's duty to provide raw material for the industry.

Also, CCI is not a transit warehouse for the industry; and CCI is not duty-bound to sell it domestically.

Backward linkages

Fortunately, the outlook for world cotton market in 2015-16 is constructive. There will most likely be a supply response to prices – that is a cutback in production in response to current low prices. In the event, the export market prospects can be expected to improve from the current weak levels. It is conceivable that CCI may carry the procured goods and start to export from the second quarter of 2015 when market conditions are widely expected to improve.

Prices

Most growers received fairly remunerative prices in recent years; and therefore may be in no hurry to rush all the produce to the market. "Prices will be supported at around Rs. 32,000 per candy," said an industry expert.

A 3-lens view of agri-business

Markets, data science set to drive sector



This was yet another interesting year in the world of agriculture. And, the three lenses I would like to use to zoom in on the subject are markets, agribusiness and data Science (MAD).

Each lens provides a meaningful insight into developments in the sector in 2014.

The markets started off bullishly at the beginning of the year and ended on a bearish note.

Agribusiness started with some lower margins due to higher energy and logistics costs combined with raw material prices, but ended with higher margins as energy prices dropped (as seen in the soyabean industry).

In terms of data science, the year began with some interest in the use of information and ended with a multitude of precision farming and big data firms focused on the agricultural markets and how data science could serve as an enabler for agribusinesses to grow efficiently.

Across the value chain, agri-businesses have always relied on the markets to transfer risk, create efficiency, improve margins and provide an indicator for where the next opportunity lies. This has been the case for the last hundreds of years, and this is unlikely to change with the advancement of technology.

That said, data science is an additional enabler that can provide insights into agribusinesses as never before.

These could be in precision agriculture, logistics optimisation, predictive risk management, sales portfolio selection, and so on.

The combined power of data science and markets as enablers will help agribusinesses innovate at the fastest rate we have seen in last several decades.

Greater alignment

In the coming years, we will see much greater focus and alignment across these three areas. For example, there has been a significant focus on precision farming and the development of related analytics products serving clients on a subscription basis.

As much as innovation in the farming sector is exciting, there is so much more of the fuller value chain that is yet to be explored in the agricultural industry.

The capital flows at this moment are extensively focused on one segment – farming. Let us reflect on how this focus could impact markets, agribusiness and data science.

The focus on precision farming, analytics and technology will improve yields, reduce farming inefficacies, and eventually cut the cost of production. This should mean lower volatility in markets, greater margins for consumption-side agribusinesses, and a direct impact of investment in data sciences.

That said, an under-investment in data sciences in other parts of the value chain will have consequences too.

First, this will arguably lead to a lesser ability to extract value out of the investments in precision agriculture analytics.

Second, over-production and a structurally lower price regime could drive margin revenues below marginal costs, creating a disincentive for crop production or in economic terms, a "consumer deficit."

Third, downstream parts of the value chain will be under capacitated to absorb this overwhelming output from upstream.

Fourth, agribusinesses that are production driven will likely be late adopters of technology and thus slower to react. In agribusiness, enablers such as data sciences and markets should strive to create consumer surplus.

This can be achieved best by a proper understanding of the agribusiness value chain and where the opportunities lie. 2015 should be an exciting year in all facets of MAD (markets, agribusiness, and data science).

The writer is Founder and MD of OpalCrest. Views are personal.

The good food guide

Consumers must educate themselves about what's good for them and not



India, one of the strongest emerging economies of the world, isn't far behind when it comes to disseminating information to its consumers regarding food quality and safety.

The Food Safety and Standards Authority of India promotes stringent regulations and standards for all the food products in the market. Hence, it becomes mandatory for food companies to display detailed nutritional labelling on the product. This information protects consumers from getting cheated and helps them make informed decisions. However, several questions arise. Are Indian consumers aware of the labels on food packages? If yes, are they able to understand the displayed information in a simple and effective manner?

A nutritional label is not an ancient manuscript that is difficult to decipher. Consumers just need to educate themselves about the requirement of their body and understanding labels becomes as easy as ABC. Take fruit beverages. Whether in bottles or cartons, they display a chart of ingredients and nutrients present.

Consumers must read these labels to make sure these beverages meet their daily dietary requirement and consumption criteria.

Serving size is a measurement of quantity, be it in litres or millilitres. It gives information about the calories and amount of nutrient in the beverage. For example, if one serving gives you 100 calories, then two servings obviously mean the double of what you get with one. Per serving of 1 cup (200 ml) means 100 calories, total fat-14 g and cholesterol-15 mg Double serving is two cups (400 ml), 200 calories, total fat-28 g and cholesterol-30 mg. Therefore read before you consume any fruit drink.

Counting calories

Calories depict the amount of energy we get from this serving. Sometimes, we consume more calories than nutrients in our recommended dietary allowances (RDA). The number of servings is directly proportional to the number of calories. A precise calculation on this can help you control your weight.

Watch out!

As per the National Diet and Nutrition Survey 2008/2009-2011/2012 the sugar intake of an average person in Britain is almost 700g a week, which amounts to 140 teaspoons. And 500 ml of cold drink has 17 cubes of sugar.

Fruit beverages are broadly classified into drinks, nectars and juices.

Fruit drinks: Fruit drink or ready-to-serve fruit beverages are calorically sweetened beverages with the least content of fruit juice. These are prepared from juice or pulp or puree or concentrated juice or pulp of sound mature fruit. The ingredients that may be added to fruit juice or pulp are water, peel oil, fruit essences and flavours, salt, sugar, invert sugar, liquid glucose, milk and other ingredients appropriate to the product and processed by heat. Sometimes, fortifiers like calcium or vitamin C are also added. Beverages under this category are inexpensive and sold the most.

Fruit nectars: These have an average 20-40 per cent of fruit content, added sugars/sweeteners and aromas. Most nectars, other than orange and pineapple (40 per cent of fruit juice) contain 20 per cent fruit juice.

Fruit juices: These have 100 per cent fruit content with no additives or preservatives and are an excellent addition to the health regime, providing vitamins and minerals. These contain natural ingredients present in fruits and vegetables, such as fruit pulp, natural flavours, juice concentrate and water.

These are the healthiest among the three categories owing to the 100 per cent fruit content. Always check the date of manufacture and expiry. The MFD written on the labels means manufacture date (that date when the fruit juice was produced and packaged). Expiry date mentioned on the label makes clear the date after which the fruit juice is not good for consumption and must be discarded.

Juice versus whole fruit: During the process of juice extraction, many water-soluble vitamins are lost. Moreover, the whole fruit is a source of dietary fibre, fruit juice actually contains little to no fibre; 100 per cent fruit juice can have fibres but in less quantity.

For instance, a cup of apple juice has 0.2 gm of fibre, while a whole apple contains 3.3 gm. One cup of orange juice has 0.5 gm of fibre while a cup of fresh raw orange has 4.3 gm. If you need to choose, whole fruit should be your choice.

Roadside versus packaged fruit juices: Packaged fruit juices undergo mild pasteurisation before packaging to prevent growth of micro-organisms. Fruit juices packaged in cartons do not even need refrigeration or preservatives for up to one year. Further, before filling the beverages, the outside package is sterilised using ultra-high temperature process, preventing any kind of contamination within. Thus, juices available in packages are healthier than the street variants.

Puffed packages: Swollen or puffed cartons are the result of microbial action that leads to fermentation and contamination of the fruit beverage. The puffiness is due to this chemical reaction inside that leads to production of gas, and thus the fruit beverage must not be consumed.

Often, the food consumer is guided more by brand and taste rather than the health criterion. But since food labelling policies and regulation ensure that we know what we are eating, it is in our hands to choose nutrition over other factors.

Vitamin C is a weekly dose of consumer empowerment

The writer is Senior Vice President, Consumer Product Services, TUV SUD South Asia