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NEWS LETTER

OIL TECHNOLOGISTS' ASSOCIATION OF INDIA
WESTERN ZONE

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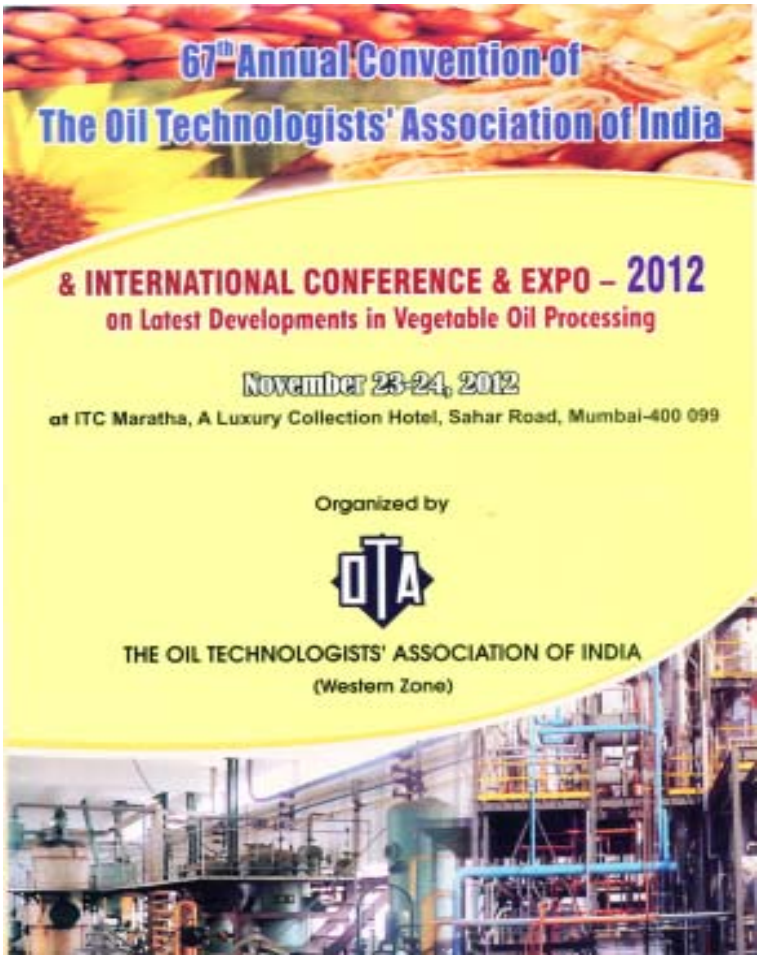

This news letter is for free circulation only to the members of OTAI-WZ

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OIL TECHNOLOGISTS' ASSOCIATION OF INDIA WESTERN ZONE

From the Editor's Desk

IN MEMORIUM

It was with great sorrow and shock we lost our eminent Professor and well known Oil Technologist, ***Prof. V V R Subrahmanyam****. He was the doyen of OTAI - Western Zone, but not limited to it. The whole lot of Indian Oil Technologists and many Scholars overseas revered him. And yet, he was a humorous person and audience split into laughter at his scholastic witticism. When he visited me at home he would warn my wife that whatever eats she kept in front of him, he would polish them off without any idea of his doing so. And all of us burst into laughter. Such was his simplicity and sense of humour. Alas ! can we find another equal to him. All of us pray for his peace and convey our sorrow to his family.*

May he continue to inspire us all.

Peace unto him.

Trade & Commerce

"SAD INFO"

Farmers Population Falls by 9million in 10 years

THERE are now nearly 10 million fewer farmers than there were in 2001, the first time in four decades that the absolute number of cultivators has fallen.

Census data released on Tuesday shows that while the proportion of cultivators to the total workforce has been falling steadily with each census, this is the first time that the number of cultivators has fallen in absolute terms. The office of the Registrar General of India on Tuesday released the primary abstract of census data. Cultivators remain the second-largest group at 119 million after 'others' but are now less than a quarter of the total workforce, a decline of over 7 percentage points over 2001. As in previous decades, the proportion of agricultural labour has increased; there are now 144 million agricultural labourers, 30% of the total worker population against 26.5% in 2001.

(Courtesy : SEA News Circular, Vol. XVI, Issue No.2, May 2013).

"HAS TO BE"

Global oilseed output seen higher

GLOBAL production of oilseeds this season may be larger than forecast a month ago because of bigger than expected supplies of soybeans and rapeseed, Oil World has said. Output of seven major oilseeds in the 2012-13 season may be 456.1 million tonnes (mt), 1.3 mt more than forecast a month ago and 5.8 per cent larger than last season, the Hamburg based researcher said today.

Global production of soyabeans in the 2012-13, may be 266 mt, while world rapeseed output will climb to 62.5 mt. Soyabean production in five major South American countries may be 143.6 mt, unchanged from Brazil and 48.5 mt from Argentina, Oil World said. Soyabean exports from South America in April were the highest ever for the month at 9.3 mt -Bloomberg. (Source: The Hindu Business Lines, dated. 3rd May 2013).

(Courtesy : SEA News Circular, Vol. XVI, Issue No.2, May 2013).

"GOOD LEAP"

Castor Crop Survey 2012-13 - 5th Round Estimate

M/s. Nielsen has conducted 5th round Castor Crop Survey 2012-13 during 1st and 2nd week of May 2013 for Gujarat and Rajasthan and submitted the report indicating marginal upward revision in Gujarat and Rajasthan Castorseed production from the previous estimates of 4th round conducted during 4th week of March 2013. All India Castorseed production estimate revised upward to 1,161,000 tonnes from 1,132,000 tonnes estimated earlier in March 2013 as under.

Castorseed Production 2012-13 (Fig. in Tonnes)

State	Global Castor Conference 23rd Feb.'13	4th round (4th week of March)	5th round (1st -2nd week of May)	Difference in 4th & 5th round
Gujarat	806,000	794,000	818,000	+ 24,000
Rajasthan	165,000	165,000	170,000	+ 5,000
A. P.	150,000	151,000	151,000	No change
Other States	22,000	22,000	22,000	No change
All India	1,143,000	1,132,000	1,161,000	+ 29,000

"SMALL SLIP"

Revision of Castor Crop Estmate for 2012-13

SEA at the Global Castor Conference 2013 (GCC'13) held on 23rd February 2013 had presented the Castor Crop production estimate as per the survey done by Nielsen (India) Pvt. Ltd., during December 2012 -February 2013. The total crop estimated was 11.43 lakh tones. In the 4th round (4thRd) of survey conducted during March end/April 2013, Nielsen (India) Pvt. Ltd. has marginally revised downward Castor Crop production to 11.31 lakh tones from earlier estimate of 11.43 lakh tones as under:

(Qty in 'OOOTonnes)

States	*Est. at GCC'13*	*Rev. 4thRd*	*Chng*
Gujarat	806	794	(-) 12
Rajasthan	165	164	(-) 1
A. P.	150	151	(+) 1
Othr States	22	22	--
Total	1143	1131	(-) 12

Final round for estimate will be done in May 2013.

(Courtesy : SEA News Circular, Vol. XVI, Issue No.1, April 2013).

"INCISIVE"

Understanding consumer behaviour: Science or art?

PERSONAL care products are getting personalised. In urban, middle-class India it is not uncommon to find as many varieties of soaps, shampoos and conditioners as people in a household. While this provides opportunities for offering tailored & customised products/services to satisfy individual tastes, an ability to catch these trends early is vital. And this does not come easy.

FMCG companies - especially larger ones - are justifiably proud of their deep understanding of the mind of the consumer. This comes from their global expertise, which allows learning in one part of the world to be translated to another, and at the other end of the spectrum, their local expertise that stems from deep penetration into the nook and comers of even a diverse and difficult market as India.

Understanding consumers does not come cheap and large companies spend considerable

Gap Between Demand and Supply of Edible Oils

Shri Palvai Govardhan Reddy :

Will the Minister of Consumer Affairs, Food and Public Distribution be pleased to state :

(a) whether it is a fact that there is more than 50 per cent gap between demand and supply of edible oils in the country.
(b) whether it is also fact that this gap has been going up since 1990, in spite of various measures being taken by Government;
(c) if so, the reasons behind (a) and (b) above; and
(d) how the Ministry is planning to bridge the gap?

Answer

Minister of State (Independent Charge) for Consumer Affairs, Food & Public Distribution (Prof. K. V. Thomas)

(a) Yes, Sir, There is gap of about 50% between demand and supply of edible oils in the country
(b) The gap between demand and supply in 1990-91 was 8.88%, in 2000-01 it was 43.17% and in 2011-12 it further increased to 48.36%.
(c) & (d) : The consumption of edible oils in the country has been increasing steadily due to increasing population and increase in purchasing power whereas the production of oilseeds is not increasing as compared to demand. At present to bridge this gap, import of edible oils has been kept under Open General Licence (OGL) and import duty on crude and refind edible oils is maintained at 2.5% and 7.5% respectively. In order to enhance the production and productivity of oilseeds, Government is implementing a Centrally Sponsored Integrated Scheme on Oilseeds, Pulses, Oil Palm and Maize (ISOPOM) through Department of Agriculture in major oil seeds and oil palm growing States. In order to augment domestic availability and to keep the prices under control, Central Public Sector Undertakings (CPSUs) are importing edible oils under the Scheme for distribution of subsidised imported edible oils limited to 10 lakh tons per annum for distribution through PDS. States bear the cost of oil, transportation and packaging, over which subsidy of Rs.15/-Kg is given by the Central Government.

money and resources - especially in terms of manpower - to translate learnings from the marketplace for innovating novel products or improve existing ones in their innovation & development centres.

Take, for instance, the long-held notion that personal grooming was a feminine trait - an assumption that precluded half the population out of the market. Insights into the actual use of personal care products in the household revealed a surprising fact: many were being used by men! It was not long before products dedicated to males - and marketed directly to them - hit the markets, and the rest is history. Male grooming is amongst the fastest growing sectors in the personal care space - not just internationally, but even here in India.

Modern consumers - especially the young - are fickle and prone to switch products & brands with scant regard for historical baggage. Winning their wallets starts with understanding where they shop, when, with whom etc. The entry of modem retail has brought a revolution in the way Indians shop, not just for personal care products, but even essentials such as food grains. And by every measure, the revolution has only just begun. While this is welcome news for the personal & home care industries, it poses immense challenges to ensure products stand out amongst a crowd, begging to be bought.

A considerable body of knowledge is now available that addresses the impact of product & packaging design; positioning on product shelves and relative to layout of the store; and even the kind of products located around. Design, in particular, is seen as a vital discriminator and leading companies are spending considerable resources in getting it right. Proctor & Gamble, to cite one extreme example, is using imaging technologies designed primarily for medical applications to develop suitable packaging for diapers! Shape, size, colour and packaging material are variables that are artfully and thoughtfully crafted and a growing band of specialists have made careers on advising on such matters.

Large companies are also actively patrolling and participating in social media - informal networks that persuade and influence at astounding speeds. These are still early days in these experiments and there are doubts on the role they play.

Clearly, understanding consumers is as much an art as a science. Thank you for reading!

(Courtesy : Home, Personal & Institutional Care India, March 2013, Vol. No.1, No.9).

"SC's LARGESSE"

No need for non-veg, veg labels on drugs and cosmetics: Supreme Court

THE Supreme Court has set aside a Delhi High Court order asking the government to amend the rules to classify all non life-saving drugs and cosmetics as vegetarian and non-vegetarian with 'V and 'NV' labels, respectively. The High Court had in November 2012 directed the central government to amend its rules to mark drugs and cosmetics with 'V and 'NV' labels in spite of the Centre's contention that it was not desirable to do so in public interest. The court had asked the Centre to exempt lifesaving drugs from carrying these labels. It was acting on a PIL that sought to press upon the right of a citizen to know the ingredients of all drugs and cosmetics.

The Supreme Court set aside the High Court order, saying the rules do not envisage this. It also noted that an expert body had advised against it. Justices G.S. Singhvi and S.J. Mukhopadhyaya, in their order, said it was not an area that was left uncovered by the law and hence the High Court could not have directed the executive to exercise its power to change a law.

Govt.'s viewpoint

Opposing the labels, the Centre had said that if you accept that a citizen has the right to know the origins of a drug or cosmetic, a vegetarian could also claim information about the origin of a veg-

etarian ingredient, depending upon his food habit.

"Food habit in India varies from person to person and place to place. Religion also plays a vital role.... Those who follow 'Jainism' are vegetarian, but many of them don't eat some vegetarian food such as potato, carrot, onion, garlic, etc. grown below the earth.

Majority treat 'honey' and 'lactose' as vegetarian, but scientists treat them as 'non-vegetarian products'," it said.

Also, there are 'eggetarian' who eat egg, but no meat or fish. "Even amongst non-vegetarians, a large number of persons do not take beef or ham/ pork because of religious belief... many non-vegetarians do not eat snakes, insects, frog or bird," the Centre said. It will be difficult to specify the origin of a 'vegetarian' or 'non-vegetarian' ingredient, if a person wants to know its definite origii to suit his food habit.

(Courtesy : Home, Personal & Institutional Care India, March 2013, Vol. No.1, No.9).

"RATIONALE"

'Laser eye surgery not cosmetic'

THE Maharashtra State Consumer Disputes Redressal Commission has rejected an insurance company's contention that a laser surgery to correct one's vision is a cosmetic surgery. Upholding a district forum order that held The United India Insurance Company Ltd. guilty for repudiating a claim on this ground, the commission directed it to pay a Mumbai-based senior citizen the insured amount of Rs. 50,000 with a compensation of Rs. 1,000.

"There is no documentary evidence led by the appellant (insurance company) to demonstrate that lasik surgery (a form of laser surgery) is not a corrective therapy, especially when the complainant was experiencing serious problem in the eye," the commission said.

(Courtesy : Home, Personal & Institutional Care India, March 2013, Vol. No.1, No.9

"SAVE THE ANIMAL"

EU bans sale of all cosmetics products tested on animals

A complete ban on the sale of cosmetics developed through animal testing has taken effect in the Europe Union (EU). The ban applies to all new cosmetics and their ingredients sold in the EU, regardless of where in the world testing on animals was carried out. The 27 EU countries have had a ban on such tests in place since 2009. But the EU Commission is now asking the EU's trading partners to do the same.

The ban applies to tests conducted from March 11 onwards and so does not affect products currently on the market, according to Ms. Sabine Lecrenier, head of the cosmetics unit at the European Commission's health and consumers directorate general. Even if the ban will not have an immediate impact, it will pose challenges for developing new ingredients to be used in cosmetics in the years to come. Cosmetics producers can also still use data from animal tests conducted before the ban.

Anti-vivisection groups say many countries in the world still test on animals for cosmetics and they are now pressing for a global ban. Mice and rats are used for more than half of all lab animal tests carried out in the EU. Despite the EU's 2009 ban, cosmetics firms were allowed to continue testing on animals for the most complex human health effects, such as toxicity that might lead to cancer. However, those tests now come under the ban too.

The EU Commission said it is working with industry to develop more alternatives to animal testing, and that it allocated €238-mn Euros during 2007-2011 period for such research. Cosmetics firms are concerned the ban could put Europe at a competitive disadvantage in a global market.

(Courtesy : Home, Personal & Institutional Care India, March 2013, Vol. No.1, No.9).

"SURE FIRE"

PHD's Multi-stakeholder Round table workshop

A multi-stakeholder round table conference was held on the topic "Global knowledge platform for Sustainable Solutions for jatropha based bio-fuels in India" at PHD Chamber on 21st June 2013. The objective of this Workshop was to discuss the barriers, challenges & possible solutions for Jatropha based bio-fuels. This was a very successful workshop organized by EBTC, BIAS and the PHD Chamber with the support of the Europe Union from 9:30 am to 6pm. The partaker's long term strategy was to create platform starting with Europe & India to bring necessary expertise & assets together to address the issues in an integrated manner. The whole workshop was apprehended with the lightning of lamp & welcome address by Mr. Alok B Shriram, Vice President, PHD Chamber and also addressed by Mr. Philippede Taxis du Poet, S&T Counselor and Delegation of the European Union to India.

The discussion was carried out on the identification of Plus trees and Genetic Improvement of Jatropha for Sustainable Development. The need in India to cover the fast growing energy demand has led to no. of organizations to invest in plantations & oil extractions from Jatropha Curca because of its unique characteristics. The workshop also included the social Economic impact of Jatropha & the discussion Session was taken further to Question & Answer Round. The feedback session was also held for the partakers.

The workshop incorporated the current Jatropha Species including oil yields, lack of advanced Knowledge of cultivation methods & recent discussion on IPR & propagation with seeds. The closing session was moderated by Mr. Alok Bhardwaj, Senior Associate European institute for Asian Studies while vote of thanks was given by Mr. Axel Goethals, CEO, EIAS and Mr. Yogesh Srivastav, Sr. Secretary, PHD Chamber.

(Courtesy : Business Star, July 2013, Vol. No.24, No.7).

"TEE TOTAL"

Indian Tea production improves with Assam & Kerala Taking lead

INDIA has seen an improvement in the production of tea. This as a condition is different from what it was in 2012. Two states which have helped the country witness the positivity are Assam besides Kerala. Other than West Bengal and Tamil Nadu (TN) where tea output for the year has not been that great. However, with good amount of tea available with India, its exports to other countries have improved. Tea production in the country is estimated to have risen by about six percent to 75.13 million kg in April this year on higher output in Assam and Kerala, according to the Tea Board. The production of tea in Assam rose by 16 percent to 41.87 million kg in June as compared to 36.05 million kg in 2012. Kerala saw a 40 percent jump in output to 5.15 million kg, from 3.67 million kg in 2012, the Board data showed. While, the production fell by 4.58 per cent to 11.67 million kg in West Bengal and by 18.35 per cent to 14.55 million kg in TN. It is in the northern parts of India where more than 80 per cent of the tea is produced. In 2012, the country had harvested 1,135.07 million kg of tea, higher by 3.6 per cent from the 2011-12 fiscal. Of this 220.46 million kg was exported in the same period.

(Courtesy : Business Star, July 2013, Vol. No.24, No.7).

"REALLY"

US declares India's wheat production to be low

UNITED STATES Department of Agriculture (USDA) has estimated India's wheat production to be low in the present financial year of 2012-13. Contrary to this a research body of India looking after the wheat crop has declared it to be better than what was in the last fiscal year of 2011-12. The wheat research wing came to this decision after it went through the crops in Punjab and Haryana where according to report which came, amounts of wheat were destroyed because of unseasonal rains. The condition is not as bad as

it was made out to be, said an official of the research body. However, whatever is scarce would be compensated by the good production of wheat in states like Madhya Pradesh (MP), Uttar Pradesh(UP)etc.

Ruling out any production fall in wheat as estimated by the USDA for 2012-13, a government research outfit Directorate of Wheat Research (DWR) said that the country's overall output is otherwise expected to be a record of 96 million tonnes as yield losses in Punjab and Haryana would be compensated by other states. In its third advance estimate for 2012-13 crop year of July to June, the government pegged the wheat output at 93.62 million tonnes where the crop harvest started from April onwards. However, according to what the USDA said India's wheat output was projected to decline to 87 million tonnes in 2012-13 due to yield losses in Punjab and Haryana due to untimely rains. India's wheat production stood at 94.88 million tonnes in 2011-12 crop year. Also, the yield losses in these two states would be compensated by Rajasthan, Himachal Pradesh besides MP and UP.

(Courtesy : Business Star, July 2013, Vol. No.24, No.7).

"GOOD SHOW"

Andhra increases Groundnut sowing following ample rainfall

ANDHRA Pradesh which experienced good rainfall in the month of June, with that the state increased its sowing of peanut for the Kharif season 2013. According to the Metro logical Department, Andhra which receives a particularfixed amount of rain in the month of June on the whole, saw a percentage near to the target in the first week itself. With a spurt in sowing of peanuts on the part of farmers and good crop as well as return prospects in the market, state authority decided to provide loans for further encouraging the positivity from its side. However, a good crop yield depends on good quality seeds, which the state's authority decided to fulfill by ensuring them to the cultivators. Farmers were busy with groundnut cultivation following the showers which happened in the first week of June and were sowing groundnut seed in the district, said report. As good rains are predicted in the present year, officials said that groundnut sowing would be high during the kharif season in the district. Official sources hence, assessed that extent of groundnut crop could reach nearly 18.75 lakh acres.

Bankers were sanctioning Rs 11,000 per acre as crop loan for the current season. It was expected that nearly Rs 2,800 crore would be disbursed as crop loans for the present year. Apart from this, government thought about distributing more than 2.71 lakh quintals of seed groundnut at a subsidized rate to all mandal headquarters.

(Courtesy : Business Star, July 2013, Vol. No.24, No.7).

"POOR COUSIN" ?

India No.1 Exporter of Guar Gum to oil producing countries

INDIA's export of guar gum to importing countries has gone up in the financial year 2012-13. This is similar to what was witnessed during the last fiscal year of 2011-12. Production condition of guar gum in the country improved its export prospects, said experts. Western countries which produce oil are the importers of guar gum from India as it helps in the process of extraction. During 2011-12, guar gum price went up as production was less and countries producing oil decided to stock it. However, among other commodities which are exported from India, guar gum stood at the first position in 2012-13 and helped it get the reputation of the largest exporter. For a second year in a row, guar gum emerged as India's largest item of agricultural export, said report. And, responsible for pushing the country's overall farm exports to Rs 1, 20,000 crore in 2012-13, showed data from the Director General of Commercial Intelligence and Statistics (DGCIS).

Guar gum, saw rising demand from big western oil companies on its use as a controlling agent in oil wells for facilitating easy drilling and preventing fluid loss. Between 2010-11 and 2012-13, guar gum registered 624 per cent rise in exports in value terms. However, India is the world's largest producer of the gum. On an average, the country

produces 1 to 1.5 million tonnes of guar annually. Almost 40 percent of guar gum produced in the country is used for industrial purposes. In 2012, guar prices in the world markets rose a massive 800 to 1,000 per cent, chiefly due to large-scale stocking by multinational oil companies over fears of short supplies, following drought in India. Of India's total agricultural exports of Rs 1, 20, 000 crore in 2012-13, guar gum accounted for 18 percent, DGCIS figures showed. In 2010-11, guar gums total share in India's overall export of agricultural items however, was just seven per cent. Basmati and non-basmati rice, traditionally the flag bearers of Indian agricultural exports, rose in export value, but didn't manage to upstage guar gum as the primary item.

(Courtesy : Business Star, July 2013, Vol. No.24, No.7).

"A SAD COMMENT"

Food Inflation India's Achilles heel

INDIA's food inflation which is now at close to 11 percent is not only making hole in the pocket of general public (so called aam aadmi) but also affecting the economic growth. The current pace of food inflation in India ismuchfasterthanthe global average and is putting extra burden on government's coffers. Moreover, the food prices have continued to rise as income level of consumers increase. This is primarily because agricultural prices respond much more to an increase in money supply vis-a-vis manufactured goods where prices tend to be stickier due to some prevalence of long-term contracts. Higher inflation also affects export competitiveness and limits the extent to which the central bank can cut interest rates to help stimulate the economy.

Another prominent reason for higher food prices is the increase in the farm wages. Further, some of the policy decisions not only resulted in a higher government deficit but also distorted the productivity dynamic. For instance, the national rural employment scheme has been one of the key factors pushing rural wages without matching gains in productivity is pushing inflation further. Rising rural wages is also a contributing factor in the food inflation along with the fiscal deficit which hovering around 5% of the GDP.

To curb this stubbornly high food inflation, fiscal deficit has to be controlled. The government can also hope to control the price of cereals like rice and wheat which have been going up at a very fast rate by increasing their supply in the open market. Traditional interventionist steps include release of buffer stocks, more imports, banning or restricting exports, subsidizing domestic and imported products. Last but not the least is, by increasing the production of food products as this will reduce^ the supply-demand gap.

(Courtesy : Business Star, April 2013, Vol. No.24, No.4).

"REALLY"

FAO chief emphasizes on FOOD security systems

NATIONAL leadership and action are crucial and governments have the primary responsibility for assuring the food security of their citizens, FAO director-general Jose Graziano da Silva told a high-level meeting on the UN's vision for a post-2015 strategy against world hunger. The UN's Millennium Development Goals (MDGs) deadline will pass in 2015.

"The only effective answer to food insecurity is political commitment at the national level, and reinforced at the regional and global levels by the international community of donors and international organisations," he said, adding that the world's attitude towards

hunger has changed profoundly. "The right to food in the context of national food security is now the agreed foundation for policy discussion worldwide," he added. He said that such progress would require significant public and private investment in rural areas where over 70 percent of the hungry live and where millions of people depend on agriculture for food and employment including 500 million smallholder farm families. However, he warned that despite the primary responsibility of national governments to ensure their citizens are fed, today's globalised economy means that no country acts alone.

(Courtesy : Business Star, April 2013, Vol. No.24, No.4).

"SECURITY OR SMASH"

Adverse ipact of Palm Oil on farmers

PALM oil comes from the fruit of the oil palm tree and it can be separated into a wide range of distinct oils with different properties. World Growth, a pro-development NGO, recently released a report titled Costs and Challenges of Small Farmer Certification, which shows how a campaign to dictate how palm oil should be produced will harm both small farmers in Southeast Asia who produce 40 percent of the world's palm oil and low-income consumers in India who constitute one of the world's biggest markets for palm oil.

The campaign, called Transforming Markets, is being run by the Western-based environmental NGO - the Worldwide Fund for Nature (WWF) and is a part of a bigger strategy to capture global supply chains in critical food products whereby multinational processors and retailers in major western markets will dictate production standards and farming methods to producers in southern economies. The World Growth report shows the Worldwide Fund for Nature campaign will reduce the competitiveness of small producers and increase the cost of palm oil to low-income consumers. According to the World Bank, one out of three people in India still live below the poverty line, while World Food Programme (WFP) statistics show that India is home to about a quarter of the world's hungry.

(Courtesy : Business Star, April 2013, Vol. No.24, No.4).

"THE FALL GUY"

Will the food security bill succeed?

THIS is the state of India's food economy- on the one hand, 42 percent of our little children are malnourished. On the other, our godowns are bursting with foodgrain. Amid this scenario, the UFA government has proposed to introduce the National Food security Bill. No one knows what impact it will have — economic, political, social — but it appears set to become law nonetheless.

Policymakers clearly have little idea how much implementing the Right to Food will cost. In the current year, Finance minister P Chidambaram has allocated only Rs 90,000 crore towards the food subsidy, of which Rs. 10,000 crore is the additional amount for implementing the Food security Bill. The food ministry estimates that the subsidy bill in the current year is likely to cross Rs 1.3 lakh crore.

And even this is inadequate, according to a paper by the Commission on Agricultural Costs and Prices, which puts the cost at Rs 2.41 lakh crore in the first year of implementation. Over three years, it says, the outlay will be Rs 6.82 lakh crore, including the Rs 1.1 lakh crore required for upscaling food production.

Whatever the figure, the fact is that every year, the minimum support price (MSP) will go up that will impact the food subsidy bill. Currently, production and availability of foodgrain for implementing the Food security Bill does not appear to be an issue. We have had bumper crops every year and have enormous buffer stocks. The Food Corporation of India (FCI) expects to procure some 44 million tonnes of wheat this rabi season, so its stocks may well touch 100 million tonnes.

On the one hand, there appears to be a glut but on the other, per capita availability of foodgrain stands at 462.9 gm in 2011 — less than 170 kg per person per year. This makes our food security situation look quite precarious, especially given the fact that the average food availability for 2006-10 was 404.62 gm per capita.

Compounding these problems is the leakage from the PDS, variously estimated by researchers at 40 to 55 percent. Although the situation appears to be improving, the leakage is still unacceptably high. To plug the leaks, the Centre must take strong steps before enacting any kind of law. Tackling hunger^ well be about the governance gap.

(Courtesy : Business Empire, July 2013, Vol. No.7, No.11).

"USEFUL"

A nutritionist's tips for healthy living

WATER - Adequate water can actually reverse athrosclerosis (hardening of the arteries due to plaque build-up). It seems that water can actually flush the arteries of plaque.

It also expands blood vessels and makes arteries more elastic, which is essential for healthy hearts.

Most importantly, I believe, is that adequate hydration raises the metabolism and allows for stored fat to be burned more efficiently as well as slowing heart rate, reducing blood pressures and reducing fluid retention. Drink enough water to make your urine clear and colourless all day. Limit coffee, tea and pop to three cups a day.

BREAKFAST - Breakfast should include at least four grams of fibre, which in turn reduces cholesterol and fat in the blood. Every 10 gr. of cereal fibre reduces the risk of heart disease and diabetes by 30 per cent!

It also reduces cancer and diabetes risk. Good sources of fibre are cereals, dried beans and lentiles.

He also suggests adding nuts and seeds to breakfast cereal and to have a whole piece of fruit as well. Whole wheat toast, a bagel or a bran muff is NOT a good source of fibre. It's important that one eats breakfast within 30 minutes of waking.

It also reduces the risk of cancers by preventing absorption of carcinogens and reduces cholesterol by preventing its absorption.

He suggests that breakfast should be the heaviest, while lunch should be a little less, and supper even less than that.He told me that the body adjusts and hunger won't be an issue at the end of the day.

So, in other words, our bodies become more efficient and burn, burn, burn those calories when we eat a good breakfast.

VEGETABLES: Choose at least two different vegetables at lunch AND at supper.

Eat a minimum of one cup of vegetables at each meal then eat the rest of your meal. Rice, potato and corn are starches and are NOT counted as vegetables.

MEAT - Eat a maximum of four ounces of meat, pork, chicken or fish a day.

WALKING - Walk for 25 minutes every night after supper. The benefits of walking after supper compared to walking before supper are many. It can lower your blood sugar by 50 per cent, but best of all when one exercises as described above, your body is burning calories the whole time you sleep.

Most North American (95 per cent) eat little through the day relative to their large meals and evening snacks. This raises the blood sugar really high before sleeping. Higher bedtime sugars directly create extra weight and extra cholesterol and lower anti-oxidants which help prevent cancer.

Walking for 25 minutes after supper raises your metabolism, releases growth hormones which suppress appetite for late night snacks and act as a natural fat burner overnight.

He says one can change diet overnight, but allow an average of 3-5 weeks for these changes, as listed above, to impact your metabolism. REGULAR WEIGH INS - He suggests that if one follows the above, they don't need to weigh in weekly. It has been found, that the stress of weigh-ins create a chemical in our brains which actually retains the fat and thus we reach those dreaded plateaus. He asked me how many stories I had heard about people who only had five or 10 lbs. to

lose, but just couldn't do it. According to him, weigh-ins become so stressful that they create these fat-holding chemicals. Now THAT was an interesting thing for me to hear!

He suggests instead, that we take monthly body measurements as a true picture of how we are doing.

These suggestions are based on certain statistics - People with cancer, diabetes, high cholesterol/heart disease, bowel problems, and those who are overweight, generally have five things in common! They are:

* Small or no breakfast with adequate fiber.
* Inadequate water consumption.
* Inadequate activity after supper.
* Inadequate daily fiber intake.
* Inadequate daily vegetable intake.

(Courtesy : Business Empire, July 2013, Vol. No.7, No.11).

"NOTE PLEASE"

Recent Codex meetings have implications for oils and fats

TWO Codex Alimentarius Commission (CAC) committees met recently: the Codex Committee on Fats and Oils and the Codex Committee on Methods of Analysis and Sampling. Several actions taken by the committees have ramifications for the global fats and oils industries. (See http://tinyurl.com/ Codex-2013 to access both reports.)

CAC was formed in 1962 by two agencies of the United Nations — the Food and Agriculture Organization (FAO) and World Health Organization (WHO). Work has continued since then to develop internationally recognized standards, codes of practice, guidelines, and other recommendations relating to trade in foods, food production, and food safety.

CCFO MEETING

The Codex Committee on Fats and Oils (CCFO) met in Langkawai, Malaysia, from February 25-March 1, 2013. The committee forwarded three items to CAC for action: (i) a proposed draft amendment to parameters for rice bran oil in the Standard for Named Vegetable Oils, (ii) amendments to the standards for fats and oils not covered by individual standards, for named animal fats, and for olive and olive pomace oils; and (iii) amendments to the lists of acceptable previous cargoes.

The US proposal for including high-oleic soybean oil in the Standard for Named Vegetable Oils was put on hold in lieu of more detailed production and export forecasts. A proposal by Australia, the United States, and Argentina to raise the limit for campesterol in extra virgin olive oil from 4.0 to 4.8% was shelved by CCFO. The official CAC report on the meeting noted that some delegations advocated waiting for the results of a three-year survey of campesterol levels by the International Olive Council (IOC; Madrid, Spain). The IOC did not attend the Codex meeting, citing budget problems.

In other work, the proposed standard on fish oils was sent back for redrafting, comments, and further discussion at the next meeting of CCFO in 2015. CCFO also requested CCMAS to look into a method of analysis for relative density and requested the Codex Committee on Contaminants in Foods to reevaluate the level of lead and arsenic in fish oils.

Additionally, CCFO agreed to a proposal by Canada that the working group should review the category of white mineral oils in the Codex List of Acceptable Previous Cargoes. The goal is to check which accepted daily intake levels of white mineral oils are acceptable and which could be of a food safety concern.

CCMAS MEETING

The Codex Alimentarius Committee on Methods of Analysis and Sampling (CCMAS) met from March 4-8, 2013, in Budapest, Hungary. Among other items, CCMAS worked on methods of analysis for trans fatty acids (TFA) and for relative density.

Several entities are working on TFA, including the WHO Nutrition Guidance Expert Advisory Group, which is reviewing the definition of TFA. The observer from the International Dairy Federation (IDF) informed CCMAS that IDF is working with the Institute of Food Technologists to develop a method for fatty acids, including TFA, for milk products, infant formulae, and adult nutritionals. The method is expected to be published in 2014 and will also be published by AOAC. Richard Cantrill, AOCS chief science officer and director of Technical Services, noted that AOCS has developed a method (AOCS Ce 1 j-07) for fatty acid analysis including TFA, with full collaborative study data for complex food and feed matrices.

Further, AOCS will reinstate a previously archived method for relative density and then submit it for endorsement by CCMAS, per a request by CCFO.

In other work, CCMAS decided to replace the current IUPAC (International Union of Pure and Applied Chemistry) method for erythrodiol + uvaol content with COI/T.20/doc. No 30-2011, as proposed by the CCFO. With regard to the use of this method for the determination of sterol composition and total sterols, CCMAS questioned whether the IOC method was equivalent to ISO 12228:1999 (current method) and agreed to ask CCFO for clarification.

CCMAS agreed with the conclusion of the Inter-Agency Meeting (IAM) that analytical ranges in commodity tables should only be changed in response to the availability of the uncorrected results of analysis. (IAM organizes regular summits of international organizations working in the field of methods of analysis and sampling of food products and associated quality assurance measures prior to CCMAS meetings.).

On another topic, IAM presented a discussion paper to CCMAS concerning the evolution of sampling in the framework of Codex that detailed earlier discussions on measurement and sampling uncertainty. At issue: In some cases, Codex committees simply refer to the Codex General Guidelines on Sampling instead of selecting specific sampling plans.

The IAM report considered four possibilities: (i) acceptance sampling, (ii) the estimation of the total uncertainty from both analysis and sampling, (iii) representative/pragmatic uncertainty, and (iv) auto-control. After discussion, participants agreed that IAM will develop a new discussion paper for consideration at the next session of CCMAS. This report will review existing and possible new approaches to the establishment of sampling plans within Codex. Interested parties wishing to participate in this work may do so by providing their contribution directly to IAM through AOCS, which serves as the IAM secretariat, or through a web-based platform that will be provided by the New Zealand delegation. The next CCMAS meeting will be in 2014.

(Courtesy : Inform, June 2013, Vol. 24 (6)).

BRIEFS

Biofuel developer Piedmont Biofuels (Pittsboro, North Carolina, US) earned certification from the Roundtable on Sustainable Biofuels (RSB) program for excellence in biodiesel production in February 2013. The RSB is an international initiative coordinated by the Energy Center at the Swiss Federal Institute of Technology in Lausanne, Switzerland, concerned with ensuring the sustainability of biofuels production and processing.

SCS Global Services, an independent testing company, performed the certification by examining Piedmont's facilities. Piedmont qualified by producing biodiesel that reduces greenhouse gas emissions by 70% compared to conventional diesel fuel and deploying both active and passive solar equipment and strategies.

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On March 8, 2013, KLM Royal Dutch Airlines and Boeing made the first of 26 weekly flights testing the efficiency and sustainability of several advanced technologies. A KLM Boeing 777-200 flew from Amsterdam to New York City, partially powered by second-generation biofuel made from processed frying fat. The biofuel is being supplied by Sky NRG, which KLM founded in 2009 with the North Sea Group and Spring Associates.

The flights are also testing new software designed to optimize the aircraft's speed and reduce noise and emissions. Based on the results of these flights, KLM and Boeing will establish new operational procedures and recommend further technological developments.

"HOPEFULLY"

Crop output in Kharif may break all records this season: Tariq Anwar

WHILE asking the seed companies to price judiciously, Mr. Tariq Anwar, Minister of State, Agriculture & Food Processing Industries said India is likely to achieve 'bumper production' of Kharif crops including rice this season due to good monsoon at an ASSOCHAM event held in New Delhi today.

"The figures are indicating that sowing operations are in full swing. By and large, rains seem to be good in most parts of the country. If this continues, India will be a major producers in most crops", said Mr. Anwar while inaugurating a conference on 'Bio-Agri 2013 Summit,' organized by The Associated Chambers of Commerce and Industry of India (ASSOCHAM).

"I would request the companies to be judicious in pricing of their product. They should always keep in mind that long term interest of the consumer is in their interest too. The matter related to pricing ot seeds as it played out in the state of Andhra Pradesh recently is a case in point", said Mr. Anwar at ASSOCHAM conference.

While addressing Mr. Anwar said, regulations governing GM crops can potentially act at a number of key stages. Regulation related to research and development stage would typically involve conditions under which laboratory experiments take place, testing of the characteristic which the transgene is expected to introduce. Also issue related to ensuring research and development stage, there is no scope for the GM crops affecting Non-GM crops in India, added Minister of state.

"We need to have clearly established protocols and systems through which we can come to definite conclusions about long term safety of GM crops. The scientific community needs to come together to develop systems of procedures through which risk assessment can be done objectively", mentioned Mr. Anwar.

He further said that the development of GM crops is a time taking exercise which requires tremendous investment and research. It cannot be denied that strong patent regime is important for sustaining required incentive for investment in Biotech Research.

He also said that the biggest challenge which the country would be facing in the coming years shall be how to ensure food security in the face of constantly growing population. It is estimated that Indian population shall be 1.53 billion, thus exceeding China's population, by 2030 as against 1.2 billion presently. The country would need much higher food production not only to cater to higher population but also to meet much higher per capita demand due to higher expected levels of income in years to come.

The total foodgrain production in China touched 570 MT in 2012 as compared to 250 MT in India in 2011 -12, while the arable land in both the countries is almost the same at around 140 Million Hectares each, So, we need to improve our productivity levels quite significantly in years to come to achieve food security, said Mr. Anwar.

Others who spoke during the ASSOCHAM conference were Dr S Ayyappan, Secretary, DARE & Director General (ICAR), Prof. Deepak Pental, Director, Centre for Genetic Manipulation of Crop Plants, University of Delhi, Mr Gyanendra Shukla, CEO India Region, Monsanto India, Mr Babu Lal Jain, Chairman, World BPO Forum, India, USA Business Promotion Council and Mr D.S. Rawat, ASSOCHAM.

(Courtesy : Business Empire, August 2013, Vol. 7 (Issue 11).

Why we care about scientific misconduct: A view from an editor-in-chief

Eric J. Murphy

Many may not fully appreciate why the scientific community cares so much about protecting the integrity of the scientific record and what the career-altering implications are for those who commit it. The first is a relatively simple concept: that what we do as scientists is uniquely pure amongst professions. As scientists, we make measurements of one sort or another, interpret the results based on the current state of knowledge, and report these results in the scientific literature to our colleagues. We do not make up data to fit our grand hypothesis, we don't misuse statistics to make the data work, we don't alter data to help our cause, and we certainly do not use others' work without attribution.

COMMON PUNISHMENTS FOR SCIENTIFIC MISCONDUCT

If a scientist is caught committing an act of misconduct, the ramifications for that individual's career and, in fact, his or her life are indeed great. The Office of Research Integrity (ORI), part of the US Department of Health and Human Services (HHS), is responsible for investigating acts of misconduct by investigators with Public Health Service (PHS) funding. A confirmed finding of the commission of scientific misconduct can be career ending or at the least have a dramatic impact on career progression. A common punishment is a three-five year debarment from any federal funding and participation on grant review panels. Lesser punishment, often used for postdoctoral fellows, is conducting research under the supervision of an individual's institutional compliance office to ensure the integrity of the research process. In severe cases, permanent debarment from federal funding can occur, the equivalent of a death sentence for one's career in the United States and in countries with similar penalties.

- **Scientific misconduct is defined as acts that involve plagiarism, fabrication of, and falsification of data.**
- **Because scientific misconduct is often found in peer-reviewed journals, editors-in-chief can play an important role in detecting, preventing, and mitigating it.**
- **There is a slippery slope of inappropriate behaviors practiced by authors that can potentially escalate into more serious offenses.**

FABRICATION, FALSIFICATION, AND PLAGIARISM (FFP): JUDGMENT AND FORENSICS SOFTWARE

Defining fabrication, falsification, and plagiarism (FFP) is simple, but detecting these acts is much more difficult. Foren-sics software can now compare homology between a submitted manuscript and the published literature. However, how good are the results? I have found that internet sites such as Deja vu, while perhaps well intentioned by the creators, can easily be misused by possibly equally well-intentioned but ill-informed individuals. For instance, some abstracts from papers published in Lipids had >85% homology, yet upon closer examination, the abstracts are very similar in the use of words but are reporting different results from two vastly different organisms! So a rash, uneducated decision would have resulted in an inappropriate accusation of misconduct, when in reality there was

no misconduct at all. At the end of the day, it is difficult to write a manuscript regarding analytical analysis of two different organisms without using a tremendous number of the same words.

Hence, the results from forensics software or from databases such as Deja vu are not the end of an investigation, but the beginning. Commonly, the same words are used in technical writing, so the ability to write succinctly and to be vastly different from other papers from one's lab can be difficult. This is an important lesson: Highly significant homology identified using forensics software or on sites such as Deja vu needs to be closely examined and read by individuals who will work diligently to determine the extent of redundancy, not in words but in meaning.

Recently an individual using a pseudonym of "Clare Francis" recently accused an author of a review paper in Lipids of having published a similar paper in another journal. (Clare Francis is an unidentified whistleblower who uses software to detect plagiarism and sends the findings to journal editors.) After careful examination, it quickly became apparent that there were similarities but also dramatic and glaring differences between the papers. However, I did not proceed to issue a retraction nor did the other editor-in-chief involved. Why? Because both of us used good judgment based on our experience and careful examination of the involved literature. These papers were an overview of a laboratory's work and included little new data, so undoubtedly there will be some degree of overlap, including some sentences that are very similar. Do these limited similarities really indicate an intentionally duplicate publication?

No, it does not, and this is truly where judgment comes into play. As an editor-in-chief, determining plagiarism that is white and black is easy. There is no judgment required when an author liberally borrows two or three paragraphs verbatim from another author. However, when looking at situations such as a two review papers from different symposia, editors-in-chief must exercise restraint from rushing to make a rash decision and must use good judgment when making their decision.

EDITOR-IN-CHIEF: ENFORCER OR REFEREE?

Is an editor-in-chief more like a police officer enforcing the law in a rigid manner? Or are we more like a sports official whose judgment is constantly used to enforce the rules? Unlike a police officer that has a judge and jury to sort everything out, an editor-in-chief doesn't have that option. Our position is one in which we have to make a decision based on our own judgment. This authority comes with a great responsibility to act appropriately and without malice. However, it also means we have the responsibility to examine each potential case of misconduct and to provide the institutional compliance officers with the evidence as needed.

While plagiarism is a bit easier at times to detect, fabrication and falsification of data may go undetected, despite our efforts during peer review to detect such misconduct. However, with the increasing publication of results from Western blot analysis and photographs containing immunohistochemistry in Lipids, requires a diligent effort to examine manuscripts for potential fabrication and falsification of data. All in all, these acts are neither simple nor easy to detect.

HANDLING CASES OF SCIENTIFIC MISCONDUCT

It is absolutely critical during the examination process of putative scientific misconduct to protect all parties. Individuals' reputations and careers are at stake. I contact the corresponding author via telephone and avoid email while the case is under examination. Why? Because it is too easy for someone to overhear a message left on a phone and misinterpret what may have been said and emails can be intentionally or unintentionally read by others. Either situation puts a potentially innocent person's reputation in jeopardy for no reason other than that of convenience. In short, it is my responsibility to protect all involved parties until a decision is made regarding the potential outcome of the misconduct case. Having dealt with about five to seven cases per year, I approach each case as being unique. For traditional FFP, my approach includes a careful examination of all involved materials, notification and discussion of the core issues by phone with the involved parties, and, fol-

lowing careful consideration of all the evidence, rendering of a decision and notification of the decision to the senior author. Where appropriate, the evidence is presented to institutional compliance officials. After presentation of evidence to the appropriate parties, my role in the process is done until additional requests from institutional compliance officials occur.

BEYOND FFP: INAPPROPRIATE BEHAVIORS IN PUBLISHING

But while FFP is the misconduct of interest to the ORI and other federal compliance offices, many other forms of misconduct exist that do not meet the definition of FFP. Are these acts of misconduct an entry act to FFP? Several years ago, a commentary published in Nature detailed the frequency of what I refer to as entry acts of misconduct (Martinson et al., 2005). The authors of this commentary conclude that "our findings suggest that US scientists engage in a wide range of behaviors extending far beyond falsification, fabrication, and plagiarism." These acts include, but are not limited to, those involving authorship, incorrect use of statistical analysis, improper elimination of "errant" results, improper use of animals or humans in research, failure to cite the literature properly, misleading titles that do not convey the major thrust of the results, and inappropriate or limited interpretation of results.

While these acts are indeed a bit more of a gray area, detecting and dealing with these acts is of equal importance. Why? Because ignoring these acts does not form an effective deterrent to commission of similar acts in the future. In addition, lack of author education with regard to these more minor offenses and acceptance of these issues as permissible may lead to an ever-escalating level of offenses in the future by the authors. In the end, an editor-in-chief has a crucial role in detecting and dealing with all levels of scientific misconduct and must be prepared to do so with a high level of rigor and integrity. We serve a role in which author education regarding these "entry acts" of misconduct is a critical and important responsibility. As such, I spend a lot of time educating authors on these issues and forcing them to take corrective actions. From trimming the list of authors on a manuscript to only those individuals who made a true intellectual contribution or using proper statistical analysis or having authors cite the relevant literature or aiding authors in writing a proper title, these are all essential processes in educating authors about responsible publishing.

IF ONCE IS GOOD, TWICE IS BETTER: DUPLICATE PUBLICATIONS

We have increasingly faced the dreaded problem of duplicate publication. Interestingly, roughly 4-6% of authors admit to committing this behavior, one in which mid-career scientists participate at a significantly higher rate than early-career scientists (Martin- \/ son et al, 2005). Duplicate publication was the subject of another commentary in Nature in which the authors suggest a rise in the occurrence of duplicate publications (Errami and Glover, 2008). These authors conclude that the single most important driving factor for individuals to author duplicate publications is the ease of committing these acts.

SUMMARY

As the editor-in-chief of Lipids, I take each and every act of misconduct seriously. Whether it is something as simple as a misleading title to as complex as fabrication of data, appropriate steps are taken to ensure the highest integrity of the journal. Author education is an absolutely critical approach taken to curb the incidence of bad behaviors or entry acts of misconduct. While it takes time to educate authors on what may be gray areas, in the end this produces a better, higher-quality paper for publication in Lipids. It is my responsibility to educate authors about misconduct and to detect misconduct, both FFP and entry acts of misconduct, and deal with these acts using good judgment. This is important as we serve as the last bastion between what is often an easily correctable situation and one that requires significant effort to correct, results in damage to someone's career, and tarnishes the community of science in the eyes of the public who funds our work.

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(Courtesy : Inform, June 2013, Vol. 24 (6)).

"TIMELY"

Vegetable Oil Refining Industry is in Deep Crisis

EDIBLE oil refining industry is in deep crisis for the last two years due to Indonesia and later Malaysia introducing inverted export duty structure on their Crude Palm Oil & Refined Palm Oil / Palmolein, whereby the export tax on Refined Palm Oil/Palmolein is much lower than export tax on Crude Palm Oil and more particularly, since end January 2013 after the Indian Government levied an import duty of 2.5% on CPO keeping refined oil duty unchanged at 7.5%, thereby reducing the duty gap between CPO and Refined Palm Oil / Palmolein to 5% from 7.5%. Today, the landed cost of imported RBD Palmolein (finished product) is cheaper by US$15 compared to CPO (raw material). It may seem unbelievable but it is a fact, compelling the Indian refiners to shut down their refineries to cut down their huge losses and compelled them to become packers from refiners. The Association has once again brought to the notice of Central Government the plight of the industry and requested it to raise the duty difference between CPO and Refined Palm Oil / Palmolein by 7.5% + 6.5% current duty difference in Indonesia to save the refining industry getting ruined. Unfortunately, for one or other reasons, the matter is dragged to a breaking point.

(Courtesy : Sea News Circular, Vol. XVI, Issue:5, Aug., 2013).

"MORE OR LESS"

Excess Rains Take A Toll on Soybean Crop

HEAVY rains have taken a toll on kharif soybean production in the country. Although the final estimate on the extent of damage is yet to emerge, initial reports say there has been at least an overall 7% crop loss till date. In some places like Hosangabad district in Madhya Pradesh, loss is around 50%.

The regions affected the worst are Hosangabad, Betul and Sagar districts of Madhya Pradesh and Vidarbha, Amravati and Akola regions of Maharashtra. As news spread that there might be a crop loss this year, soybean prices appreciated to 3,400 per quintal from 3,200 per quintal within a week.

Farmers in Madhya Pradesh, who have planted a record area with soybean, are awaiting sunny days for a good harvest. Leeladhar Singh Rajput, president of Hosangabad-based Krantikari Kisan Parishad, said, "It has been raining continuously and there has been no sunshine. Nearly 50% of the crop in Hosangabad has already been damaged. We are extremely worried over the situation. To save the rest of the crop, we need good sunshine." Soybean plants require sunshine to develop and flower.

Acreage has increased this year to 117.5 lakh hectare from 106.5 lakh hectare in kharif 2012. Last year, the country produced 126 lakh tonne of soybean crop, according Soyabean Processors Association. Rajesh Agarwal, spokesperson of SOPA, said: "There is nothing to panic right now. The situation is under control. We do not think there will be a major loss in soybean crop. Acreage has increased this year and even if there is some loss due to heavy rains, it will not be a problem as sowing area has increased. Initial reports emerging from Maharashtra and MP show sufficient sunshine in the next few days, the that there is a loss of around 7%. If there is loss will be arrested. (Source : Economic Times dated 5th August 2013).

(Courtesy : Sea News Circular, Vol. XVI, Issue:5, Aug., 2013).

"NEEDED"

VISION 2025 Document

SEA plans to release a vision document covering past, present and future outlook of entire oilseeds and vegetable oil sector. I am happy to mention that very valuable and informative articles on the future outlook of Indian Vegetable Oil & Trade have been received for publication in the VISION 2025 Document which we will be releasing at the Golden Jubilee Celebration Function.

(Courtesy : Sea News Circular, Vol. XVI, Issue:5, Aug., 2013).

"EXCITING"

Groundnut Returns To Gujarat With A Bang

WITH 6-8 weeks for the monsoon to end, sowing almost 90 per cent of the kharif crops has been completed in Gujarat.Thanks to the early onset of the monsoon, a record kharif production is likely in the State.

Most areas in Gujarat have received almost 25 per cent excess rainfall so far. Against the average sowing area of 86.72 lakh hectares (lh) in the kharif season, Gujarat has already covered 78.13 lh till August 5, according to an official report. Last year, sowing was completed only on 57.22 lhat the same time.If rains and sunshine continue alternately, as now, Gujarat is expected to top the normal sowing area above 90 lh, which could really mean a bumper kharif crop, a senior official told Business Line here.

Cash Crops : The cash crop of cotton constitutes almost one-third of the sowing area so far. It has already been sown on 26.49 lh, compared with the 2012 season's total of 22.20 lh. The normal area under cotton in Gujarat is 26.97 lh. Thus 98 per cent of cotton has already been sown. Groundnut has returned with a bang. Against the season's average of 14.43 lh, groundnut has already been sown on 16.37 lh area, an increase of 113 per cent, while it was only 11.33 lh last year until August 5.

Guar: Even more important than cotton and groundnut is the growth of guarseed. It has registered a phenomenal growth of 230 per cent this season. Against the average 1.75 lh sowing area, farmers have already cultivated this cash crop in 4.01 lh.

Soyabean : The sowing of soyabean, too, has crossed the previous records with 108 per cent extra area being brought under it. As against an average of 86,167 hectares, it has already been sown on 92,700 hectares while only 79,600 hectares had been sown last year until first week of August. (Source : The Hindu Business Line dated 10th Aug. €13).

(Courtesy : Sea News Circular, Vol. XVI, Issue:5, Aug., 2013).

"USEFUL TO US TOO"
Either Export or Perish

THE Indian Economy is facing a slow down. It is feared that this slow down is here to stay on account of waning demand, stalling growth from services and the country's unimpressive showing in the global context. These factors may make the slow down last longer than the one in 2009. Extricating the economy from it is also likely to prove much more difficult than it did in 2008-09. The situation is alarming and presents a worrying picture. Sales in the top 500 companies have steadily lost momentum going down from 20 per cent growth in the fourth quarter to 7 per cent in the last quarter (Jan-March) this year. Profits haven't shown much traction for two consecutive years now. This alarming picture has raised serious doubts about Indian markets seeing any improvement in the short run.

Hindustan Times has suggested that the only solution to this problem is "we should export or perish." It says that today there is no sector more deserving of priority status for bank loans than exports. At a time when the rupee is under pressure from widening current account deficit and drying up of foreign capital inflows, promoting exports should be the top priority for the country's policy makers. The old slogan "export or perish" cannot be more relevant for the Indian economy than in today's troubled times.

In this context the recent report of the technical committee of Reserve Bank of India (RBI) headed by its Executive Director, G. Padmanabhan, deserves consideration. From a banker's perspective, it contains several realistic and workable recommendations having the potential to substantially improve the flow of credit and reviews transaction cost for the export sector.

There are three key recommendations of RBI's Technical committee which ought to be implemented immediately. The first suggestion is to improve export credit under the priority sector lending targets set for Indian banks. All commercial banks in India are mandated by RBI to direct 40 per cent of their net bank credit to the priority sector. This broadly covers agriculture, micro and small enterprises, loans to weaker sections and educational/housing loans. The credit in the priority sector is monitored by RBI and stiff penalties are stipulated for non achievement of priority sector targets.

In these stressful times, exports need a push and it is my belief that the livestock sector can play a crucial role in pushing exports. The fact needs to be examined on a priority basis and is the theme of this article.

Way back in 1980, India was confronted with a similar situation. At that time I was working in the Ministry of Commerce and our group was headed by Shri V.C. Pande. A dynamic person, he later went on to become the Cabinet Secretary and then the Governor of Bihar. My other colleague in the group was Shri Vinod Rai, who later became Comptroller and Auditor General of India (CAG) and has recently retired. Shri Pande decided that the best instrument for propagating export would be creation of an institutional structure such as a commodity board. It was agreed that commodity boards should be set up for export of fruits and vegetables, meat and meat products and spices, for which India had a huge potential. Shri Vinod Rai elected to prepare a proposal for developing export of spices by setting up a Spice Board. The responsibility of formulating proposals for the meat board and fruits and vegetable board fell on me. Accordingly proposals for the same were prepared and sent up for approval. Unfortunately, before a decision could be taken, the leader of opposition, Shri Atal Bihari Vajpayee, displayed a can marked as Beef in the Lok Sabha alleging that we were exporting the meat of cows. This upset Mrs. Gandhi greatly. What made matters worse was that when she came to her office she found proposals for setting up a Meat Board. Mr. Pande was summoned to the PM Office and I had to accompany him. Mrs. Gandhi remarked, "This is the problem with bureaucrats, they do something that must not be done. Is this the time to set up a Meat Board?"

At a time when the rupee is under pressure from widening current account deficit and drying up of foreign capital inflows, promoting exports should be the top priority for the country's policy makers. The old slogan "export or perish" cannot be more relevant for the Indian economy than in today's troubled times.

Mr. Pande apologized, picked up the concerned file and returned to his office.

He enquired as to what I proposed to do now, and I replied I would merge the proposed fruits, vegetables and meat Boards in a single entity. Thus was born APEDA (Agricultural and Processed Food Export Development Authority). The responsibility of developing export of meat fell upon APEDA; unfortunately before Prime Minister Mrs. Gandhi could give her approval for setting up APEDA, she was assassinated. A dynamic leader, her greatest contribution to the Indian economy was the Green Revolution. I am sure that had it not been for her, the Green Revolution would not have seen the light of the day.

The structure of production of fruits and vegetables in India and their export is complex. It calls for fundamental changes in production, processing and marketing of these commodities. The export of fresh fruits and vegetables has increased from Rs.3944.45 crores during 2010-11 to Rs.4801.50 crores during 2011 -12 and of processed fruits and vegetables from Rs. 3563.53 crores in 2010-11 to Rs. 4506.80 crores in 2011-12.

Although there has been development, it is not substantial enough to make a significant impact.

In fact, it is buffalo meat which has done wonders and which would help India remain a top beef exporter. The country will continue to be the leading beef exporter this year as well despite slower growth in production and higher domestic consumption of this commodity.

One of the highlights of last year has been the rapid growth in agricultural exports which stood at an impressive rate of 68 per cent during 2011-12. India's export of agriculture and allied sector touched ? 1, 32,447 crores in 2011-12. As the 10Ih largest exporter last year, India emerged as the world's largest exporter of buffalo meat, rice, groundnut and gowar-gum export. APEDA has been entrusted with the responsibility of export promotion and development of agricultural and processed food production. The Board has been serving the agri-export community for 26 years by reaching out to exporters in different parts of the country and has set up 13 offices.

As per DGFT notification dated 31st October 2011, exports of meat from India can be made only on the condition that the goods have been sourced from APEDA Registered Integrated Abattoirs or APEDA Registered Meat Processing Plants which source raw material exclusively from APEDA Registered Integrated Abattoirs. This notification has been issued to clarify that even abattoirs from which meat is obtained/sourced for export should be APEDA registered. APEDA will ensure that the said abattoirs maintain desired standards of quality, hygiene and safety so that the meat exported from India conforms to international standards.

The demand for Indian buffalo meat in the international market has sparked a sudden increase in meat export. Buffalo meat dominated the export with a contribution of over 86 per cent. The product registered 27 per cent growth in export during the financial year 2012-13 as compared to the same period last year. The main markets for Indian buffalo meat and other animal products are Vietnam Social Republic, Malaysia, Thailand, Saudi Arabia, Egypt, Arab Republic and UAE. In the Indian context what is meant by beef export is shipment of buffalo meat, also known as Carabeef in the global market. Shipment of cow beef from the country is banned.

India has the potential to emerge as a major dairy exporter in the near future. With high export potential for buffalo meat and Indian milk and milk products, the livestock sector can play an important role in the agricultural economy of the nation. India can emerge as the major exporter of meat, milk and other livestock products and the livestock industry can provide employment opportunities to millions of rural people

Last year, India overtook Brazil as the top exporter of beef, mainly due to the growing acceptance of its buffalo meat by South East Asia, West Asia and African countries. Buffalo meat exports this car from the country could rise to 1.7 million tonnes against 1.41 million tons last year. Initially the USDA had estimated that beef exports could exceed 2.1 million tons this year.

Indian buffalo meat export provides tough competition to other exporters due to its competitive pricing and quality. According to APEDA, export of meat and its products increased to $ 3.29 billion in 2012-13 against $2.91 billion the previous year. The shipment of buffalo meat has almost tripled, since 2008 when India had exported 6.72 million tonnes.

Indian exports have made inroads into West Asia, North Africa and South East Asia. A key exporter happens to be Brazil as buffalo meat is cheaper in this price sensitive market. Apart from the quality of Indian buffalo meat another factor which has contributed to rising exports happens

to be the excellent processing units which quite a few of the Indian exporters have. This has greatly enhanced the reputation of the country. On the other hand, domestic consumption is also likely to increase from 2.04 mt last year to 2.1 mt this year. According to USDA cattle heads could increase to 4 mt from 3.27 mt, while nearly 64.3 mt calves could be produced this year as against 63.4 mt last year.

India has achieved the distinction of being the highest milk producing country in the world. It has enough potential and all the requisites for capturing the world market for export namely low cost of production, high quality and organised marketing. The last few decades have ushered in these changes primarily due to the implementation of various dairy programmes initiated under Operation Flood. We can easily become a major exporter of dairy products and capture the world market. It would enhance the opportunities of our farmers who are well-versed in dairy farming and would enable them to make dairying a way of life in rural areas. We should try to achieve excellence in dairy farming and export of milk and milk products and successfully capture the world market.

The dairy products sector registered a growth of 388 per cent — skimmed milk powder became the largest item of export from India accounting for nearly 77 per cent of net milk and milk products exports during the year 2012-13. The major importing countries of dairy products from the country during the last few years have been Bangladesh, Egypt, UAE, Saudi Arabia and Nigeria.

India has the potential to emerge as a major dairy exporter in the near future. With high export potential for buffalo meat and Indian milk and milk products, the livestock sector can play an important role in the agricultural economy of the nation. India can emerge as the major exporter of meat, milk and other livestock products and the livestock industry can provide employment opportunities to millions of rural people.

(Courtesy : Indian Dairyman, July, 2013).

"GOOD FOR OIL BUSINESS"

What's New in the Chinese Bazaar - Low Cholesterol cheese for hypertension patients

A LOW CHOLESTEROL, reduced salt, fatty acid-enriched cheese has been developed by Spanish researchers at AZTI-Tecnalia which is highly suited to the elderly and those suffering from hypertension. This cheese has been created by substituting the animal fats found in milk with cholesterol-free vegetable fats with omega-3 and omega-6 fatty acids

The new functional dairy product is low in cholesterol, and rich in omega-3 and omega-6 fatty acids. Therefore, the total amount of fat is similar to normal cheese, but the difference lies in the quality of fat - being vegetable fat it is healthier for consumers.

Furthermore, this prototype can be used as a carrier for incorporating other bioactive compounds such as fatty acids or peptides that would allow product diversification under the category of healthy dairy products.

(Courtesy : Indian Dairyman, July, 2013).

"BOWLED"

A check on cheques

Soon, the cheque as a payment instrument could find a place in a museum!

EXPERTEYE - T R SHASTRI

Prof. Shastri is Dean, ICICI Manipal Academy, Bangalore

THE value of currency notes in circulation in our country is showing an annual growth rate of 19 percent for the last three years, which is much higher than the GDP growth rate or population growth rate. The initial challenge to the government and the Reserve Bank was, therefore, to discourage the use of cash in the society, i.e. to make ours a less-cash society if not cashless society. This was needed to track the movement of funds and also to enlarge the tax base and compliance. Though usage of cash is still high, cheques and electronic payments are increasing and hence giving hope that alternatives to cash are becoming popular. Having achieved that, the regulator's am-

bition now is to 'carefully manage' the habits of the public to move from cheques to electronic payments. This is considered necessary because cheques have a social cost. It includes financial costs such as printing, security, postage, clearing and handling costs and non-financial costs such as environmental damage and security risks. This managing is to be done carefully because any overemphasis could push the habit back to cash payments.

RBI recently published a discussion paper on 'Disincentivising Issuance and Usage of Cheques' in the country, inviting comments from members of the public. This exercise itself is considered as part of the vision for payment and settlements systems in the country. Some of the ideas mooted here are likely to be implemented, thereby affecting cheque-issuing activities of everyone. It will, therefore, be interesting to know all about cheques such as the history of usage of cheques, the extent of usage in different countries, the likely changes and the impact of disincentivising issuance and usage of cheques, the alternatives to cheques and the relative pros and cons.

Cheques have a long history. The earliest known cheque is reported to have been issued on 16 February 1659 in London for a value of 400 sterling, though it does not look like a modern cheque either in the contents or in the format. It looks more like a bill of exchange which was anyway the predecessor to the cheque. Commercial instruments resembling the present-day cheques were being used much earlier to this, e.g. during the Mauryan period, in the Roman Empire and by early Muslim traders of the 9th century. The formatted cheques and a mechanism for its clearance (i.e. settlement between two banks holding each other's cheques) are in existence for just over two centuries.

The cheque is a costly instrument. It is printed on security paper. It needs to be stamped in some countries. As a proof of authorisation to debit, a bank is required to preserve these cheques in orderly fashion for several years as per the legal requirement, resulting in cost of storage. Physical handling and processing at the banks' level need skilled manpower and often could lead to occasional disputes where there is expert alteration of the details. A study from the European Central Bank estimates that a cheque costs around 3.55 (Rs250) including cost of stamp affixed. In India the immediate cheque-related cost of a bank transaction on manual mode is estimated to be around Rs50 while it is around Rsl5 on ATM and Rs4 on e-banking. This is excluding the cost of risk arising out of cheque transactions or the environmental cost.

The first step in reducing cheque usage was the introduction of ATM debit cards. What the bank officials do after a cheque is presented is done by the account holder in an ATM transaction. It is almost like a self-service restaurant, where the servicing cost is less. Naturally, the more the customer services himself or herself through ATM (for drawing cash or making transfer or paying any utility bill), the more the bank saves. However, this also increased other costs, e.g. there will always be large amounts of idle cash in different ATM machines; the notes which can be routed through the ATM machines ('ATM fit') are to be of better quality and hence the reusability lifespan of notes through ATM is less than that can be paid to customers at the counters. The ATM never became a 'hole-in-the-wall' in our society and needed separate housing with infra-structural costs. ATMs brought down the usage of cheques but did not bring down cash usage and, in fact, encouraged it. ATM-led complaints and frauds increased. Thus the ATM helped in financial inclusion but not in reducing usage of cash. There are clearing centres all over the country where there are a good number of bank branches. The physical movement of cheques for exchanging among themselves with honouring or otherwise in limited time at these centres was a great challenge with increased usage of cheques. The cheque truncation system (CTS) was initially introduced in NCR Delhi and now also covers most of southern India through the hub at Chennai.

In this process, the image moves across the network rather than the physical cheques. When the CTS system is extended to the whole of our country, one limitation of the current payment system would have been overcome. The distinction between cheque payments and electronic payments will have come down marginally!

Regulators all over the world have been discouraging the usage of cheque and cash for financial settlements. Transactions through internet and mobiles are the encouraged modes. It is interest-

Which is safe - to tell the account details or know the account details?

IMAGINE a payment situation, i.e. where a person wants to pay to another person through the banking system. Presume that both the payer and the beneficiary do not know each other well but both are the cleverest criminals and are waiting for an opportunity to outsmart each other. In that situation, which is more risky?

- to issue a cheque where the payer will unwittingly disclose his name, account number, name of the bank and branch and also the signature or

- making an electronic payment where the beneficiary has to necessarily disclose his name, account number and bank and branch name. In the first case, the payment instrument will move through human beings but not in the second situation.

It can be logically deduced that after all, disclosing account details is less risky than the physical instrument moving through human hands with the signature visible to one and all. In most import invoices, we see the full bank account details of the supplier, thus confirming that beneficiary disclosing his account details has stood the test of time.

ing to observe that the social acceptance of cheques differs significantly across countries. For example, the US is considered as a great cheque-using country. The phenomenon of IRS cheque refunds lying below the foot mat in the US boosting the economy is legendary. Many in India receive cheques from relatives in the US for as small an amount as $10. But for the 'cash letter service' offered by correspondent banks to clear such cheques freely, the beneficiary of such cheques would have ended up paying the banker for collecting the cheque!

On the other hand, in many countries in Europe such as Germany, the Netherlands, Sweden and Switzerland, cheques have almost vanished. It is commonplace in Germany for a new resident to link his bank account for automatic debit towards monthly utilities including newspapers as a first settling down activity. Surprisingly, in neighbouring France, the cheque is still a popular method of settlements. In 20 out of 27 of the European Union countries, the average number of cheques issued per person per year is less than two. The remaining high-cheque usage countries include the UK, France, Ireland and Italy. An attempt was made by the UK Payment Council to discontinue usage of cheques by 2018. However, the subsequent enquiry led by the Treasury Select Committee has effectively put a stop to this decision, thereby washing out the two years of studies and efforts. Cheque usage is relatively high in countries like Singapore and China. In Australia, cheque usage has declined by 20 percent in the last three years. Canada continues to be a high cheque usage country with over 75 percent of all commercial payments routed through cheques. The Canadian Payments Association has brought out its Payments Strategy Vision 2020 paper to encourage electronic payment instruments, something similar to our own central bank's efforts. The volume of transactions settled through the issue of cheques has been around 64 percent of the total volume of payments in all countries which report to the Bank of International Settlements (BIS). However, this is steadily declining in all countries including in the US. Chart 1 shows the number of cheques used by other than banks in select countries. Before taking any steps to discourage the usage of cheques, the regulator has to be cautious not to inadvertently encourage usage of cash by the public. Over a period of time, RBI has taken a number of steps to carefully place alternative methods of payments. There are many alternative electronic payments that have been developed both for individuals and institutions such as:

- All interbank payments are necessarily i routed through electronic mode. This substantially reduced the volume of payments through cheques.
- ECS at local levels, REGS covering CBS i bank

Use of cheques by non-banks
(total number of transactions in millions)

	Country	2006	2007	2008	2009	2010
1	Australia	450	418	371	333	291
2	Belgium	13	11	9	8	7
3	Brazil	2210	1999	1963	1803	1675
4	China	1189	978	882	876	897
5	France	3827	3650	3487	3303	3123
6	Germany	109	76	65	57	48
7	India	1367	1461	1397	1379	1387
8	Mexico	552	537	501	461	428
9	Singapore	84	86	84	79	78
10	Sweden	1	1	1	1	0
11	Switzerland	2	1	1	1	0
12	UK	1778	1600	1403	1282	1113
13	USA	30521	27955	26639	24465	22839

branches within a state or group of i states (i.e. regional) and NECS on a pan-India system (i.e. national) across all bank branches. ECS (credit) for bulk repetitive payment requirements such as dividend, salary, etc and ECS (debit) for repetitive collections such as payment of utilities covering electricity and water or collection of EMIs towards loans in lieu of post-dated cheques. 1 NACH by NPCI also supplements these types of bulk receipts and payments.

- NEFT and RTGS systems for domestic customers for lesser value (Rs2 lakh and below) | and all other transactions including interbank payments respectively.
- IMPS operated by NPCI facilitates interbank transfer of funds through mobiles and is another electronic method of payment.
- Payment and settlement through credit cards is a non-cheque method of payment, which has become secure through the second factor authentication (authentication at the bank's server).
- Direct credit of government benefit payments is being facilitated by the Aadhaar Bridge Payment Systems (ABPS) put in place by NPCI.

With these robust alternatives in place, bold steps are being planned to discourage usage of cheques by the public. The discussion paper brought out by RBI to disincen-tivise usage of cheques proposes, inter-alia, the following:

- Prescribing ceiling on the value of an individual cheque as prevailing in other countries (e.g. Canada $25 million; South Africa Rand 5 million; even Nigeria N 10 million and so on) consistent with the cheque usage pattern among the three groups of users - individuals, corporates and government.
- Prescribing ceiling on the number of cheques a customer can use, with steep charges for exceeding this.
- Charging both the payer and payee for every transaction on ad valorem basis, i.e. levying disproportionately higher charges based on the amount of cheque both to the issuer and the beneficiary.

Of course, these are at the recommendatory stage. Like in the UK, there could be resistance and diluted implementation of the suggestions.

We should understand what these proposed steps for reducing usage of cheques means to individuals and corporates. An individual has recurring payments to be made towards monthly utility bills, credit card, rent and EMI dues and fre-

quent education-related fees payments. Non-recurring usage of cheques includes investment-related payments, variety of tax payments, travel and entertainment-related expenses and, of course, expenses relating to purchases, either recurring petty expenses or large volume purchases. Most have started using ECS services for the recurring monthly payments. Credit cards are used for most of the relatively higher value payments. Payment at a neighbouring grocery shop is still through cash. Payment of most taxes is still through cheques. When mobile banking becomes popular enough, the vegetable vendor can be paid through IMPS - a mobile payment method. Tax payment can be made through RTGS/NEFT, as and when remitter becomes confident enough of its usage. Thus we could also have a situation where the number of cheques issued by an individual could be less than two per year like in EU countries.

Routine recurring payments like utility bills are paid by corporates through debit mandates like individuals. Corporates like insurance companies, MFs receive regular payments from their subscribers. Corporates also make regular payments in large number such as dividend, interest and salary. Most have already switched over to ECS debit and ECS credit services for these. However, the commercial payments towards purchases are still largely paid through cheques. A great incentive for this is the small unofficial credit period available from the date of issue to date of debit to the account. Many banks oblige by asking the corporates to fund the account to honour the cheque. Banks also debit other loan accounts like PC or TL on just-in-time basis to honour such cheques. Apart from the liquidity issue, such accommodation reduces interest cost marginally. Beneficiaries are still under the impression that the benefit of recovery like that under Section 138 of the Negotiable Instruments Act is available only if there is a paper-based cheque on hand, which is dishonoured. However, it is likely that some managing of such behaviour may take place through the proposed steps, e.g. charges for using cheques for such transactions, differential tax treatment between payments done through cheque or electronic media etc.

Nearly a decade ago, there was a service offered by banks called MTs or Mail Transfers. It was a facility to remit money to any other account in another branch anywhere in India of the same bank. With the advent of Core Banking Solution, all branches were networked and this product had a natural death. CBS also saw the decline in cheque collection service offered by banks because most cheques are payable locally. In the near future, we will see other paper-basedbanking products like demand draft, pay order (local DD) and cheque going out of fashion.

(Courtesy : Indian Engineering Exports, May, 2013).

"GREAT LESSONS"

Sales and marketing lessons fromstreet urchins

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WHAT is a leaf flying in the breeze, drying out at the edges, likely to teach anything to anyone? The answer is many things to even an MBA graduate. Traffic signals and the urchins that populate them have always been the subject of erudite discussions and works of art - a majority of them treated with a patina of woefulness and pity. But the truth is, it is an industrious world out there, working on their own crude marketing principles, drawing lessons from each customer interaction leading up to more revenue generation and diversification that is capable of putting the biggest corporate think tanks to shame. It is fascinating just to see these intuitive marketers put their skills to test A red light that may be irritating to you, is a source of livelihood for them. Do not underestimate them. They have more to teach than one can ever imagine.
Fourteen-year-old Mahesh, dressed in a smart tee and three-fourths, recalls that day when he managed to sell all the 22 magazines to a single customer. That was when he realised that timing in sales is more important than the ISOseconds he was taught to optimise on, before the signal turns green. He advises sagely, "Ek to badi gaadi wala ho toh achcha hai. Madam ho toh aur bhi achcha - phir mera selection ussey pasand aaya - us din

subah mainey fashion wali, ghar sajane wali or shaadi ki sari wohi magazines ki khareedi ki - business wali nahin lee...Sunday ka din tha... us din mereko Rs 3,500 ek jhatke mein mil gaye. Madam ke kuch tourist log aa rahe the - unke liye usne saari magazine le liye." Mahesh now sells more light reads like fashion, home interiors, colouring books, optical illusion books etc. He guns after tourist cars coming out of the airport and focuses on those who have foreigners in them - especially women and kids. He earns far more than what he used to when he was selling umbrellas and tissue boxes. In effect what Mahesh taught me was a very basic marketing lesson - learn to recognise who your real customer is, what she really wants and what problem of hers are you addressing effectively. A lesson which most start-ups these days are happy not to acknowledge. These suits-turned-entre-preneurs begin with an idea they are in love with without adequate understanding of what the real problem is that they are addressing and for which aggrieved customer.

Or look at how the unassuming 11 -year-old Deepa thinks - she revels in wearing shorts, especially in summers, and knows that a few years later she may have to dress up in salwaar kurta. Right now she is happy pairing it with a 3 Idiots tee and adorning it with a beaded necklace. She enjoys her job and is best at it from amongst the gang of four. She too believes in making a beeline for the bigger cars - but for her big cars mean SUVs. She believes SUV owners are mostly celebrities and mo're large hearted than the sedan owners. She remembers how Arjun Kapoor gave her a thousand rupee note without buying anything and how Kajol and Ajay Devgn did not Even Parineeti Chopra gave everyone a hundred rupee note. She showed her loyalty to Arjun by watching Aurangzeb although she did not understand much of the film. She calls her signal the 'lucky signal' and goes to Gaiety/ Galaxy theatres in Bandra when such a windfall happens. The entire gang then takes a three-days break. They usually eat at the 'ghetti' where dal chawal is available only for Rsl5. According to Deepa, the business requires an understanding of what sells the most at what time - summer time sees most families with kids as the schools are closed, hence lots of colouring books, toys and optical illusion books sell well. The colouring books have characters like Superman, Noddy, Tom and Jerry - characters which all of them are not just aware of but are fans of. During the monsoon, obviously it is the umbrellas - sold not to the big car owners but those in autorickshaws. Winter is more for roses and she looks forward to the winter season as she has a passion for roses.

Loving what you do and knowing your product inside out is another basic marketing principle which has made them stick to their jobs. And yes, the way they display their loyalty to their customers gives us a lot to chew on. They spend half their earnings on those customers whom they value the most Is that not going way beyond what current marketers do for their valuable customers? The flexibility to adapt to changing contexts and the ability to walk away from a bad customer - the two most crucial sales and marketing dimensions that most experts have not been able to assimilate well - are handled with a smooth panache by these kids as they have leamt to understand customer behaviour and read their body language well.

And true to any salesman's closing spiel, they almost make you believe that their job is a lot better and lots more fun than yours could ever be! "Hum school, nahin jaatey, bahut boring hai. Teacher bhi pitay-ee kartey hain. Ap apne office mein baith ke kahan kissi actor ko dekh paoge...humne toh bahut saarey dekhein hain."

Is it not fascinating that Kotler's principles are being practised so well by these intuitive 'illiterates'? shaUni.rawta@gmaiLcom. (The writer is a managing consultant at The Key Consumer Diagnostics Pvt Ltd, a Mumbai-based qualitative research company).

(Courtesy : DNA - 27 -05-2013).

"NOT YET"

Are adequate steps being taken to become self-sufficient in edible oils?

K Ravichandran

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The dependence on imported edible oil is rising day by day, thereby putting the domestic edible oil manufacturers in jeopardy. ***Prasenjit Chakraborty*** *speaks to industry experts on government measures required to address the issues of these manufacturers.*

THE dependence on imported edible oil is expected to increase in the future due to anticipated domestic supply constraints, increasing urbanisation, moderate growth in population as well as disposable incomes and the high cost-competitiveness of imported oils. Further, initiatives undertaken by the government - one of them being supply of palm oil at subsidised rates under Public Distribution System (PDS) - have facilitated lower oil price to consumers, which in turn has pushed demand leading to higher oil imports. Even while the imports of refined edible oils are on the rise, the Indian government has recently imposed 2.5 per cent customs duty on crude edible oil (0 per cent earlier) while maintaining the status quo on refined edible oil (no change at 7.5 per cent), which has negatively impacted the already under-utilised installed domestic edible oil capacity.

The edible oil industry demanded the government to take measures to help the domestic farmers and refiners to withstand competition in the market from foreign players. The Finance Minister in the 2013-14 Budget speech said that the food inflation is worrying and that oilseed, pulses supply-demand mismatch can further fuel the inflation. Therefore, there was no increase in import duty on edible oil. This enables the farmers to switch to other crops, which can further make India more dependent on imports. However, the Wholesale Price Index (WPI) of edible oil was 150.5 in 2012 as compared to all other essential commodities. This suggests that there is room for the government to intervene. Industry body Solvent Extractors Association of India has demanded a hike in import duty of refined oils to curb imports and protect domestic refineries.

The anomaly in the government policy has hit us hard in the past six months. Import of refined palm oil - RED - is reported to be 3,73,837 tonne in May 2013, highest in any single month since edible oil allowed under Open General Licence (OGL) in 1994, compared to 2,53,489 tonne in March 2013, thanks to reduction in duty difference between crude and refined palmolein and inverted duty structure by palm oil exporting countries. Current fluctuations in the Rupee-Dollar exchange rates have added to the problems faced by the Indian refiners. This is affecting their ability to make further investments. The government should impose an import duty of 10 per cent on Crude Palm Oil (CPO) and 20 per cent on RED, which will give sufficient protection to the Indian farmers and vegetable oil refining industry.

(Courtesy : Modern Food Processing, July, 2013)

"QUAINT PROBLEM"

Food grain stock at record level, storage management still a big concern

INDIA'S monsoon is coming in record time, boosting planting for rice and other crops. Since the beginning of June rains have been above the 50-year average in nearly all areas of the country. In the 4 months of the monsoon from June to September, rainfall is estimated to be 98% of the 50-year average, there by pushing the food-grain production at record high.

As per the estimate, , India rice farmers had so far planted about 794,000hectares of rice for the main (kharif) crop and overall production is set to increase by 3-5 per cent. But the poor storage management is India is again set to spoil the party. Recently the Economic Survey 2012-13 has come down heavily on government for not finding permanent solution for tones of food-grains rotting in open in Punjab, Haryana and other states.

The survey came down heavily on the lack of infrastructure that has been in place for many decades. And it also raised concerned against government's ambitious National Food Security Bill without proper storage management. To begin with, although the budgetary allocation is noteworthy, a proper infrastructure-oriented approach will be necessary to ensure that the food grain is stocked properly and the PDS system, meant for millions of poor people, be reached without any delays.

The central government itself acknowledged that the country wastes Rs.58,000 crore worth of food items every year due to lack of or poor storage facilities. The condition of the godowns in the country is not good and that is resulting in the rotting of foodgrains.

The problem is that godowns are packed to capacity with the recent bumper winter crops and the big question is how to accommodate the promised bumper kharif harvest, expecting in two-three months.

While the FCI is planning to hire godowns besides promoting public-private partnership for modern stockhouses but how will it address the immidiate problem of stocking coming Kharif crop is million dollar question.

(Courtesy : Business Empire, June, 2013).

"SHOCKING"

40 to 50 per cent of the produce going waste in India

SURPLUS of agri-produce, especially, perishables has been a long-standing problem that the Indian food & agriculture industry has been facing.

The same has been underlined in the Vision 2015 document prepared by the ministry of food processing industries (MoFPI) few years ago, as also in the earlier Eleventh Five Year Plan and the current Twelfth Five Year Plan. Hence, observations made in the recent FAIDA (Food and Agriculture Integrated Development Action) report by the Confederation of Indian Industry (CII) and McKinsey & Company come as no surprise.

As per the report, in 2010, India was the world's biggest producer of mango, banana, papaya, milk, spices, sesame, and castor oil-seed. Further, agricultural GDP (Gross Domestic Product) increased at an annual rate of 3% between 1980 and 2012, making India the third-largest agricultural producer by value (closely behind China and the United States).

The problem of surplus is further aggravated by issues such as lack of cold storage facilities, insufficient last-mile connectivity and inadequate food processing infrastructure at appropriate locations resulting in about 40 to 50 per cent of the produce going waste.

A perplexing paradox for a country whose 37 per cent population is below the poverty line (BPL) going by the Tendulkar Committee report. Another intriguing aspect is agriculture and food processing minister Tariq Anwar's recent statement that out of the Rs 4,031 crore earmarked for ensuring infrastructure development and enabling growth of the sector under the Eleventh Five Year Plan, only Rs 1,600 crore were utilised.

While MoFPI and its ministers are blaming the private sector for this huge gap between the initiative taken by the government and actual implementation, the latter is pointing fingers at red-tapism, corruption and unfriendly policies.

Even as the blame game continues, the FAIDA report pinpoints that the industry presently achieves only 50 to 60% of the potential yield for most crops due to poor technology adoption; weak links between farmers and industry; unexplored opportunities in branding, marketing and exports; lack of end-to-end infrastructure from farm to table; and a dearth of extension support, research and innovation, and entrepreneurship.

Interestingly, according to the same report, Indians are now spending much more on high value foods, and consumption is shifting from plant-based to animal-based protein, thanks to increasing disposable incomes and rapidly evolving consumer needs.

Clearly, it shows that the earlier programmes-and-schemes approach has not worked and a much more stronger model such as the National Mission on Food Processing (NMFP) under the Twelfth Five Year Plan, which is all about an integrated approach - front-end to back-end with focus on every mile - is the need of the hour.

Definitely, the planners and thinkers have got it right, now it is time for the implementers to get their act together by the time another FAIDA report is out highlighting the trends in the sector.

(Courtesy : Business Empire, June, 2013).

"THE KILLER"

Tobacco Menace: Over six million people die every year across the world

BY 2020, tobacco mil be responsible for 13% of all deaths in India, Health Ministry

Nearly six million people across the world die because of direct or indirect use of tobacco every year and the figure could go up to eight million by 2030 unless urgent action is taken says WHO. In India one out of 10 Indian adults dies of tobacco related diseases and Tobacco is cause for 1.51akh cancers, 4.2 million heart diseases, and 3.7 million lung diseases every year. Our country has one of the highest rates of oral cancer.

According to Tobacco Intervention Initiative statistics, 4300 lakh tobacco is consumed in the form bidis, chewing tobacco, gutka and snuff and smoking cigarettes. Fourteen crore men and 4 crore women are addicted to tobacco in India according to official figures. Over half of the male population around 57 per cent in the age group 15-49 years uses tobacco in some form and over one tenth of women in this age group also use tobacco. More than 5,000 youth in our country take to tobacco use every day.

The health ministry estimates that by 2020, tobacco will be responsible for 13% of all deaths in India and says that without any intervention, more than 38.4 million bidi smokers and 13.2 million cigarette smokers are likely to die prematurely. Second-hand smoke also remains a big problem. The misconception about certain tobacco products being safe also encourages many to consume tobacco in one or another form.

India launched the National Tobacco Control Programme in the 11 th five year plan. It has ratified the WHO convention on tobacco control which recommends several strategies to reduce the demand and supply of tobacco. India was among the first few counties to set up a chain of tobacco cessation clinics at the district level. Several legislations are also in place for reducing tobacco usage and manufacture. These include Regulations of the Food Safety and Standards (Prohibition and Restrictions on Sales) Regulations of 2011, made under the Food Safety and Standards Act and Cigarette and other Tobacco Products (Packaging and Labelling) Amendment Rules, 2012.

As per the Regulations of the Food Safety and Standards (Prohibition and Restrictions on Sales) Regulations of 2011, made under the Food Safety and Standards Act, gutka, zarda, pan masala, gul, bajjar and such other toxic and addictive forms of chewing tobacco are mandated to be banned by various states.

Although 24 states and five union territories have so far banned gutka and paan masala containing

tobacco, there is a question mark over the implementation of the ban. Whether it is the capital Delhi or other town where the ban is in place, gutka is being either sold openly or clandestinely in different names and pouches which is the people addicted to are even willing to pay a higher price.

The Supreme Court had last month sought compliance reports from all state governments that have banned the sale and manufacture of gutka and paan masala containing tobacco.

According to the new Cigarette and other Tobacco Products (Packaging and Labelling) Amendment Rules, 2012, notified on September 27, 2012, all tobacco product packs in the country are to carry new pictorial warnings which focussed in detail the portion of the human body affected by tobacco use. The health ministry had also for the first time inserted the word 'Warning1 in the new pictorial warnings and mandated that this word be printed in 'red1 colour along with the messages -'Smoking kills' and Tobacco kills'.

The new notification makes it mandatory for all tobacco makers both smoking forms and smokeless to maintain pictorial warnings in the states format and also to place the health warning in at least 40 per cent of the principal display area of the tobacco package.

At recent consultations several government and non-governmental organisations called for a complete ban on advertising, promotion and sponsorship of tobacco products in the country. The consultation was by HRIDAY (Health Related Information Dissemination Amongst Youth) and Voluntary Health Association of India (VHAI) in collaboration with the Health and Family Welfare ministry and the WHO Country Office for India. It was felt that despite the regulations, tobacco advertising, promotion and sponsorship is very rampant and youth-centric. The urgent need to strengthen the existing provisions of COTPAand a multi-sect oral and inter-governmental synergy was stressed to effectively implement a complete ban.

Advertising of tobacco products is restricted under the Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003, (COTPA).

It is also established that a majority of smokers as many as 70 per cent desire to quit, but only 30 per cent of them actually try each year, and only 3 to 5 percent actually succeed in quitting, states WHO. The theme of this year World No Tobacco Day is: Ban tobacco advertising, promotion and sponsorship.

A comprehensive ban of all tobacco advertising, promotion and sponsorship is required under the WHO Framework Convention for Tobacco Control (WHO FCTC) for all Parties to this treaty within five years of the entry into force of the Convention. Evidence shows that comprehensive advertising bans lead to reductions in the numbers of people starting and continuing smoking. Statistics show that banning tobacco advertising and sponsorship is one of the most cost-effective ways to reduce tobacco demand and thus control its usage.

The objective of 2013 campaign is also drive local, national and international efforts to counteract tobacco industry efforts to undermine tobacco control, specifically industry efforts to stall or stop comprehensive bans on tobacco advertising, promotion and sponsorship.

Of the six million people who die of tobacco related diseases every year globally more than 600 000 are non-smokers dying from breathing secondhand smoke.

The ultimate goal is to contribute to protect present and future generations not only from these devastating health consequences, but also against the social, environmental and economic consequences of tobacco use and exposure to tobacco smoke.

So until all forms of consumption of tobacco cease through regulations and laws the goal of tobacco free India cannot be fulfilled. There is therefore a need for all stake holders in public health to coordinate their effort for everyone to emphatically say No To Tobacco.

(Courtesy : Business Empire, June, 2013).

Rice procurement during the last three and current Year

Production ('000 Tonnes)

State/UT	2009-10	2010-11	2011-12	2012-13
Andhra Pradesh	75.55	96.09	75.42	36.41
Assam	0.08	0.16	0.23	0.06
Bihar	8.9	8.83	15.34	8.08
Chandigarh	0.14	0.1	0.13	0.12
Chhattisgarh	33.57	37.46	41.15	47.97
Delhi	-	0	0	0
Gujrat	-	0	0.04	0
Haryana	18.19	16.87	20.07	25.98
Himachal Pradesh	-	0.01	0.01	0.01
Jharkhand	0.23	0	2.75	1.07
J & K	-	0.11	0.09	0.02
Karnatka	0.86	1.8	3.56	0.45
Kerala	2.61	2.63	3.72	0.92
Madhya Pradesh	2.55	5.16	6.35	9.01
Maharashtra	2.29	3.08	1.78	1.7
Nagalend	-	0	0	0
Odisha	24.96	24.65	28.66	25.21
Pondicherry	0.08	0.4	0.05	0
Punjab	92.75	86.35	77.31	85.97
Rajasthan	-	0	0	0
Tamilnadu	12.41	15.43	15.96	3.2
Uttar Pradesh	29.01	25.54	33.57	19.11
Uttarakhand	3.75	4.22	3.78	3.52
West Bengal	12.4	13.1	20.41	9.36
TOTAL	320.34	341.98	350.36	277.77

Source: Lok Sabha qusetions, - Less than 500 tones,
* As on 06.03.2013 (NNS)

The ministry of food processing industries (MoFPI) has constituted the Food Processing Education Council (FPEC). The FPEC is aimed at providing the government inputs on the working of the two premier institutions running under the ministry - Indian Institute of Crop Processing Technology (IICPT) and National Institute of Food Technology Entrepreneurship and Management (NIFTEM).

Russia Government had decided to hold commodity interventions, with special attention paid to winter crops and the current sowing campaign.

Sanctioned Coconut processing Units during 2012-13 under TMOC Scheme

State	No. of Projects	Product (no. of units)	Project cost Rs. in lakhs
Karnatka	4	Activated Carbon (1) Pet Tender Coconut Water (1) Desiccated Coconut (2)	610 81 145
Kerla	7	Fractionated Coconutoil(1) Ball copra(4) Copra (1) Desiccated Coconut (1)	104 38.5 12.6 228.89
Andhra pr.	1	Ball copra (1)	25
Tamil Nadu	1	Activated carbon (1)	120.46
Total	13		1363.45

Source: Lok Sabha questions. (NNS)

State-Wise production of Jute in the Country during last three years

Production (in thousand bales of 180 kg per bale)	2009-10	2010-11	2011-12*
Assam	715.3	625.4	607.9
Bihar	1118.4	11643.6	1409.7
Orissa	30.4	36.3	32.1
West Bengal	9325	8137.5	8558.6
Others	41.3	45.6	46.3
All India	11250.4	10009.4	10735.6

Source: Lok Sabha question,Department of Agriculture & Cooperation Directorate of Economics & Statistics,*Final jute production for 2011-12 (NNS)

Top Five Destinations for India's Export of Processed Agri Products*

(Qty in MT, Value in US$ Mill)

	2009-2010		2010-2011		2011-2012		2012-2013*	
Country	Qty	Value	Qty	Value	Qty	Value	Qty	Value
USA	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Indonesia	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Vietnam	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
UAE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
China	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

* [illegible]

Source : [illegible]

Cotton Production in the Country including Gujrat

States (Lakh Bales)	2009-10	2010-11	2011-12	2012-13*
Andhra Pradesh	32.27	53.00	49.00	68.00
Gujarat	*79.86*	*104*	*12.00*	*87.00*
Harayana	19.26	17.5	26.5	25.28
Karnataka	8.68	12.00	12.00	11.50
Madhya Pradesh	8.55	20.00	20.00	24.00
Maharashtra	58.59	85.00	72.00	78.5
Orissa	1.47	2.5	3.25	4.00
Punjab	20.06	21.00	23.00	22.00
Rajasthan	9.03	9.00	13.35	11.00
Tamil Nadu	2.25	4.5	4.5	5.00
Others	0.05	2.00	8.4	1.72
All India	240.22	330	352	338*

Source: Lok Sabha qusetions* 2nd Advance Estimates (NNS)

Wheat import of Egypt is expected to fall from around 10 mt a year to around 4 to 5 mt this year. This is due to hopes of high production.

Wheat procurement during the last three and current Year

Production (In Lakh tons)

State/UT	2009-10	2010-11	2011-12	2012-13
Punjab	107.25	102.05	109.58	128.34
Haryana	64.24	63.25	69.28	86.65
Uttar Pradesh	38.82	16.73	34.61	50.63
Madhya Pradesh	19.68	35.38	49.65	84.93
Bihar	4.97	1.83	5.56	7.72
Rajasthan	11.52	4.76	13.03	19.64
Uttarakhand	1.45	0.86	0.42	1.39
Chandigarh	0.12	0.09	0.07	0.17
Delhi	-	0.1	0.08	0.31
Gujrat	0.75	0.01	1.05	1.56
Jharkhand	-	0	-	-
Maharashtra	-	-	-	0.02
Himchal Pradesh	0.01	0	0	0.01
J & K	0.01	0	0	0.01
West Bengal	-	0.09	-	0.01
TOTAL	253.42	225.25	283.35	381.48

Source:Lok Sabha qusetions,- Less than 500 tones, (NNS)

India's trade with SAARC Nations

(Value in US $ Millions)

	2009-2010		2010-2011		2011-2012		2012-2013	
SAARC Count.	Export	Import	Export	Import	Export	Import	Export	Import
Afghanistan	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bangladesh	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bhutan	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Maldives	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nepal	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Pakistan	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sri-Lanka	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Source : DoC-NIC (NNS)

Allocation&Offtake of RICE and WHEAT during 2009-10 To 2012-13 Under TPDS

Year	Rice		Wheat	
	Allocation	Offtake	Allocation	Offtake
2009-10	227.84	189.91	248.19	234.12
2010-11	214.49	188.79	260.98	248.41
2011-12	227.49	127.86	261.27	243.25
2012-13*	195.98	166.09	225.25	212.18

Source: Lok Sabha qusetions.* up to Jan.'13 (NNS)

Chicken and egg prices rose by up to 95 per cent in different areas on higher feed cost in 2012-13 fiscal in India. One of the major reasons for increase in prices of poultry products is rise in the price of poultry feed and feed ingredients like soyameal and maize.

Annual growth rate of production of major pulses & oilseeds during 2007-08 to 2013*

Crops %	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13*
Tur	32.9	-26.4	8.8	16.1	-7.2	3.4
Gram	-9.2	22.8	5.9	18.0	-4.3	11.2
Total Pulses	4.2	-1.3	0.7	24.4	-4.3	11.2
Groundnut	88.8	-21.9	-24.3	52.3	-15.7	-17.0
Rapeseed	-21.6	23.4	-8.2	23.8	-19.33	11.5
Soybean	23.9	-9.7	0.6	27.8	-4.3	6.1
Total Oilseeds	22.5	-6.8	-58.2	38.5	-8.3	-1.1

Source: Lok Sabha questions. *Second Advance Estimates released on 08.02.2013

(Courtesy : Business Star, Vol.24, No.5,May, 2013).

Malaysia increases use of palm oil for biodiesel

TWO large oil palm plantation companies in Malaysia—Felda Global Ventures (FGV) Holdings Bhd. and Sime Darby Bhd.—announced at the end of March 2013 their formation of a consortium that they are calling Biodiesel Malaysia Sdn. Bhd. The consortium expected to be operational by the end of May.

Its purpose is to reduce the nations stockpile of palm oil and support crude palm oil prices. At the end of March, Malaysia had a stock of 2.4 million metric tons (MMT) of crude palm oil. The consortium expects to use 1 MMT of that surplus for biodiesel production.

According to the Business Times (http://tinyurl.com/Malay-sia-Biodiesel), Malaysian Plantation Industries and Commodities Minister Bernard Dompok said, "Biodiesel Malaysia is also part of the government s plan to implement the use of BIO biodiesel (90% diesel and 10% palm oil) nationwide by the middle of next year."

Dompok indicated that the Malaysian government will subsidize Biodiesel Malaysia from as little as RM80 million ($26 million) to as high as RM1.1 billion ($362 million) annually, depending on prevailing prices of crude palm oil.

The use of palm oil in Malaysia for biodiesel was introduced in 2008, according to the Business Times, but implementation has lagged until now.

Insights into jatropha

INOCAS and The Platform for Sustainable Aviation Fuels at Leuphana University, Liineburg, Germany, recently released a 72-page report entitled "Insights intojatropha Projects Worldwide: Key Facts & Figures from a Global Survey." The document is available for download at http://tinyurl.com/INOCAS-jatropha.

Data presented in the document were collected in a global survey conducted May-September 2011 of 154 producers of jat-ropha, castor, neem tree, moringa, pongamia, and croton. Of the 260 projects identified, there were 154 preliminary responses, and 139 were dedicated to jatropha oil. One hundred eleven of this 139 provided further information by both telephone interview and computer-assisted self-interviewing. Of these, 42 projects were in Africa, 35 in Asia, and 34 in Latin America and the Caribbean. Looking at individual countries, the project collected data on nine projects in India, seven in China, and six in Brazil.

According to results developed from the 111 projects surveyed, a total of 1,191,625 hectares had been planted with jatropha trees as of 2011. More than 860,000 hectares of that total were in India. More than 70% of the operational projects surveyed in the study started planting jatropha between 2007 and 2009. Establishment of cultivation sites peaked in 2008.

The researchers indicate that yield levels among the 111 projects, taken together, are not yet sufficient to ensure the necessary cash flows and financial profitability for jatropha. Average yield as of 2011 was 2.1 metric tons of dry seeds per hectare per year. Most of the projects (84%) send their oilseeds into biofuel production. Seventy-one percent use jatropha press cake as fertilizer. Sixteen percent mention aviation fuels as a current or future market.

As part of its summary, the report indicates, "According to experts and project representatives, finding lucrative markets for by-products will be decisive for making a successful business case for jatropha (p. 58).

News of castor oil

Polyamides. France-based specialty chemical firm Arkema and castor oil and derivatives producer Jayant Agro Organics Ltd. of Mumbai, In-

dia, signed a joint venture (JV) agreement in April 2013. As part of the terms, Arkema will acquire a 25% stake in Ihsedu Agrochem, a subsidiary ot Jayant Agro, which specializes in the production of castor oil. Arkema entered the agreement to gain long-term secure access to castor oil, which it uses in making biosourced polyamides. The latter are used as innovative materials for lighter vehicles and for oil and gas extraction (http://www.arkema.com/en/media/news/news-details/Arkema-partners-with-Jayant-Agro-in-India/back=true).

According to the Indian publication MoneyControl.com, in thisJV, Ihsedu will focus on manufacturing and sales of all grades of castor oil. For its part Jayant Agro will concentrate on manufacturing and sales of value-added castor oil products. (http://tinyurl. com/Arkema-castor).

Solar panels. BioSolar Inc. announced its first commercial sale of bio-based backsheets, or covers, for specialty photovoltaic (PV) solar modules in March 2013. However, the company, based in Santa Clarita, California, USA, did not name the purchaser (http://tinyurl.com/BioSolar-sales).

A special feature of the BioSolar backsheets is that they are made with castor oil, which is an ingredient in forming a polyam-ide resin similar to nylon. In the manufacturing process, the resin is reinforced with cotton that has been recycled from rags to form a protective covering. The company indicates that the castor oil/ cotton sheet affords the durability and environmental characteristics of conventional petroleum-based plastics, such as electromagnetic properties, mechanical strength, dimensional stability, and weatherability required by PV solar applications.

The company also claims production costs for these Bio-Backsheets are less than for petroleum-based backsheets. That latter are typically made with polyester film, partly because the base materials are cheaper than petroleum and partly because they consists of a single composite layer rather than laminated layers (http://tinyurl.com/BioSolar-castor).

(Courtesy : Inform, June 2013, Vol. 24 (6)).

"EPITOME"

New product research in glandless cotton stands to benefit transgenic cotton

NEW crop market dynamics are a familiar story: Food companies will not develop a new product using an ingredient that does not have a stable supply and seed companies are loath to subsidize development without a ready market.

A multidisciplinary team of researchers at New Mexico State University (NMSU) in Las Cruces, USA, has been working for several years—funded by Cotton Incorporated—to develop a cycle of use for traditionally bred glandless cotton and to conduct field evaluations of insect susceptibility. Their product development work also stands to benefit the ultra-low-gossypol transgenic cotton developed at Texas A&M University (see main story).

NMSU scientists set up a pilot plant where, after harvesting, delinting, and dehulling, they press the oil and make different cottonseed meals and flours for testing new products. The campus foodservice company uses the oil for frying. It is then recycled into biodiesel, which runs a utility vehicle on the farm. Leftover glycerine goes into bar soap.

Of all the applications NMSU has tested, one of the most promising potential markets for glandless cottonseed meal (G-CSM) is in shrimp feed. "We reduced the cost of shrimp meal by almost half," says Tracey Carrillo, assistant director of Campus Farm Operations and superintendent of the Leyendecker Plant Science Research Center at NMSU.

"We could take it even further down by adding algae in place pf commercial fishmeal."

NMSU food technologists have developed snack foods using G-CSM, Carrillo notes, including an extruded product made of corn flour and G-CSM known as Chiletones. Cookies are next on the product development list, he said.

Research also continues at two US Department of Agriculture (USDA) Agriculture Research Service (ARS) centers to produce and characterize glandless cottonseed protein concentrates and isolates (70% and 90% protein, respectively).

"We are looking at the functional properties with the thought that the concentrates and isolates may have some unique applications," explains Michael Dowd, a chemical engineer at the USDA-ARS Southern Regional Research Center in New Orleans, Louisiana. Dowd is collaborating with Mila P. Hojilla-Evangelista, a research chemist with the Plant Polymer Research Unit of the USDA-ARS National Center for Agricultural Utilization Research in Peoria, Illinois. They are comparing some of the chemical and functional properties of the protein isolates Dowd has produced from both glanded and glandless cottonseed.

"In my laboratory, we determined the protein samples' solubility in aqueous media at various pH, foaming properties, emulsi-fication properties, water absorption, and sensitivity to heating," explains Hojilla-Evangelista. Both protein isolates (glanded and glandless) have similar solubility profiles (the graph of percent soluble protein vs. pH) and are "strikingly most soluble at very acidic pH," she notes. "When we analyzed the other properties, we did so at this acidic condition (pH 2) because this is where we detected the greatest amounts of soluble cottonseed protein. The emulsification properties and water absorption were again similar; both protein isolates were excellent emulsifiers and formed moderately stable emulsions. The foaming properties are where we observed notable differences: Glandless cottonseed protein isolate (CPI) had higher foaming capacity and far more stable foams than the protein from ded cottonseed."

The campus dining hall at New Mexico State University (NMSU) supplies used cottonseed cooking oil for conversion into biodiesel that is then used to run the catering vehicle on campus and a new utility at the farm. the biodiesel processor and both vehicles were donated to NMSU by Cotton Incorporated, which also helps fund cotton research projects at the University. (NMSU photo by Jay A. Rodman)

When Hojilla-Evangelista compared CPI to soybean protein isolates (SPI)—based on work published in JAOCS (51:1153-1157, 2004)—she found that the CPI are markedly more soluble than SPI at pH 2, so the CPI have a potential market in applications with acidic pH. "CPI also appear to be better emulsifiers than SPI, and foaming capacity and stability of the dless CPI are comparable to those of SPI," said. "The CPI then could be viable alterna-to SPI for foaming and emulsifying uses." Given these characteristics, Hojilla-igelista suggested a broad range of product lopment possibilities for CPI. The need for high solubility in very low pH applications would include high-protein fruit juices, sports drinks, possibly carbonated drinks, or tomato-based pasta sauces. CPI's foaming properties could lead to its use in whipped toppings, desserts, or baked products. Its emulsifying ability would be useful for sausages and similar comminuted meat products, confectionery products, some dairy products (ice cream, desserts, processed cheese), and some sauces or soups.

(Courtesy : Inform, June 2013, Vol. 24 (6)).

"GLAMOROUS"

Eating Cotton the saga of ultra-low-gossip cottonseed

Catherine Watkins

TWENTY million farmers in 80 countries grow cotton each year for its fiber. They produce enough cottonseed—a good source of plant protein at about 22.5% by weight—to meet the daily protein requirements of half a billion people per year.

THERE's just one catch: Only ruminant animals can tolerate cottonseed meal made from most commercial varieties because it contains gossypol, a phenolic toxin found scattered throughout the seed, leaves, stems, and roots of the cotton plant in structures known as pigment glands. Gossypol glands serve a purpose, because the toxin protects the plant from insects and microbes. The challenge that has stumped researchers for decades is how to remove the gossypol—either through processing, traditional plant breeding, or bioengineering—without compromising the vigor of the plant or the quality and quantity of the fiber and by-products such as meal.

"We've been chasing this rabbit for 50 to 60 years," says Tom Wedegaertner of Cotton Incorporated (Gary, North Carolina, USA). Cotton Incorporated is the entity created in 1970 as a result of the Cotton Research and Promotion Act of 1966. The Act established a funding mechanism, based on producer assessments, with the aim of recapturing cotton's market share after synthetic fibers became popular. As Cotton Incorporated's director of cottonseed research and marketing since 1993, Wedegaertner has had a front row seat from which to observe the many and varied attempts to commercialize traditionally bred glandless (gossypol-free) cotton and to create a bioengineered plant with seeds that are free of gossypol.

Could the rabbit finally be in sight? Wedegaertner thinks so, suggesting that the US industry is 6-10 years away from planting a million acres (more than 400,000 hectares) of ultra-low-gossypol biotech cotton. The road from initial characterization of mutant gossypol-free cotton to a new bioengineered variety is a fascinating story of persistence, with an end yet to be written. But if Wedegaertner is right—and if a commercial partner takes up the cause—the developing world will gain another protein source even as growers and processors gain added value.

A BRIEF HISTORY

Researchers identified a gossypol-free mutant cotton strain (Hopi Moencopi, named after a Native American village) in the 1950s. The trait was transferred into commercial varieties through traditional breeding, as the scientific and agricultural community excitedly imagined the many benefits of toxin-free seed, oil, and meal.

Nutritional studies done during the 1960s through 1980s confirmed that glandless cottonseed meal was suitable for mono-gastric animals and human beings. Scientists at Texas A&M University (TAMU; College Station, USA) and elsewhere showed that roasted, salted glandless cottonseed kernels made an appetizing snack. In 1974, the US Food and Drug Administration set the maximum allowable level of free gossypol in edible food products at 450 parts per million (ppm).

In the midst of the excitement, one major problem remained: Glandless cotton varieties—minus the protective polyphenols of glanded cotton—provided a feast for insects and were, as a result, a commercial failure. (Even rats, which typically do not dine on cottonseed, found the glandless cottonseeds to be particularly tasty.) Processing, quality control, and a lack of viable markets for the oil and protein also worked against successful commercialization.

BIOTECHNOLOGY TO THE RESCUE

And so began the second phase of work: Researchers at various institutions in several coun-

tries (most notably the United States, Australia, and China) looked to the new tools of bioengineering to transform the cotton plant. The first studies on bioengineered low-gossypol cotton appeared in the mid-1990s; the research that is currently being funded by Cotton Incorporated—and has Wedegaertner thinking the elusive rabbit may be in sight—has been conducted by Keerti S. Rathore and his team at TAMU.

Rathore, a professor in the department of soil and crop sciences, came to TAMU in 1995 from Purdue University and had never seen a cotton plant growing in the field before taking up residence in Texas. Senior-level researchers at TAMU presented to him the elimination of gossypol as a problem that would be worth solving. One immediate challenge for Rathore, however, was that cotton is a difficult plant to transform, requires a high degree of tissue culture skills, and involves "two distinct and equally important steps," in his words.

€ Cottonseed could be a good source of vegetable protein for developing countries, but only ruminant animals can tolerate gossypol, the phenolic toxin found in pigment glands located in the seeds, leaves, branches, and roots.

€Traditionally bred glandless cotton failed in the marketplace several decades ago because without the protection of gossypol, insects devoured the plants. Processing, quality control, and marketing issues also worked against successful commercialization.

€ Now, researchers at Texas A&M University have used RNAi technology to bioengineer cotton lines that exhibit ultra-low gossypol content in the seeds and normal levels elsewhere. Has the gossypol problem in cottonseed fin been solved?

TABLE 1. Oil content of cotton seed[0]

Year	Nontransgenic Coker312	Transgenic
2009	25.9%	27.3%
2010	24.9%	26.9%
2011	26.9%	29.2%

[0] Source: Keerti S. Rathore

"The first step entails transfer and stable integration of the transgene into the plant genome," he writes. "The second step involves the recovery of a transgenic plant from the stably transformed cell." In light of the difficulties involved in transforming cotton, Rathore and his team focused on Agrobacterium-medi-ated transformation of cotton because it does not require specialized equipment, is relatively inexpensive, and is more likely to result in single-copy transgenic events.

Rathore reports that the team thought at first that antisense technology would work. "The idea was to silence the gene that codes for the enzyme involved in the biosynthesis of gossypol— S-cadinene synthase—in a seed-specific manner. We didn't want to mess with gossypol and related terpenoids in other parts of the plant in order to keep their protective qualities."

He and his team did manage to generate a number of transgenic cotton plants with the correct silencing construct that exhibited low gossypol content in the seeds and normal levels elsewhere.

"Things looked promising in the first generation," he says. "However, most of the low-gossypol lines lost the trait in the next generation." And so the TAMU researchers set the project aside in 2001-2002 because of lack of funding, even though they wanted to see if the new technique of RNA interference (RNAi) could solve the problem of heritability.

Work began again around 2003 using RNAi technology, and toward the end of 2005, the group had their first glimpse of a positive result. They saw some lines with ultra-low gossypol levels in the seed and confirmed the trait through to the second and third generations.

"The important thing was that the aerial parts and roots had the same levels of protective gossypol and related terpenoids as the parent plant," notes Rathore.

Andrew Fire and Craig C. Mello shared the 2006 Nobel Prize in Physiology or Medicine for their work on RNAi in the worm Caenorhabditis elegans, which they had published in 1998. The technique introduces small strands of synthetic ribonucleic acid (RNA) into cells to induce suppression of specific genes.

The TAMU team's RNAi work in cotton appeared in 2006 in the Proceedings of the National Academies of Science (103:18054-18059), detailing the results from three lines of transgenic plants grown in the greenhouse that showed seed specificity for the gene silencing.

"Since then," Rathore says, "we have done quite a bit more work on a couple of these lines. We wanted to address stability, so we took nine different lines through five generations in the greenhouse and found that the trait was stable."

Rathore notes that the seed-specific silencing occurs because of the DNA sequence of the promoter used, which his team isolated from cotton itself. Loosely, a promoter is localized before the coding DNA sequence for the actual protein that, when transcribed, produces an enzyme or other protein.

"The promoter determines whether the gene is expressed in the seed, root, or elsewhere," he says. "If we didn't have this promoter, which normally controls the gene for the seed protein a-globulin in cotton, we probably would not have had this success. The seed promoter and RNAi got the result."

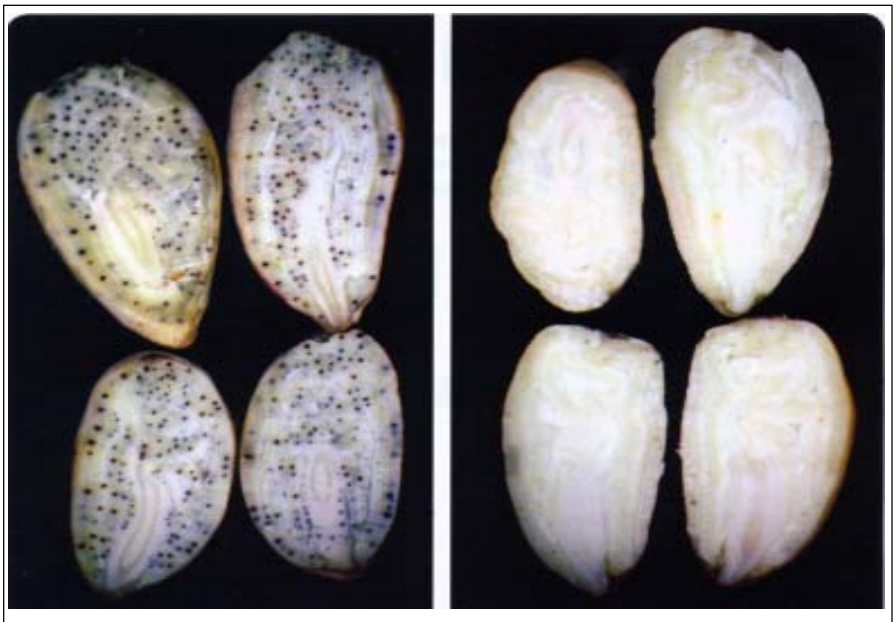
Along with the stability testing, the group also tested young seedlings to see if they were capable of launching a gos-sypol-mediated defense response when challenged with a mold pathogen (Rhi-zoctonia solani}. The seedlings were able to do so, and that work was published in 2012 in Plant Biotechnology Journal (J0:174-183).

Two RNAi lines were tested for three years (2009-2011) in the field and were stable under field conditions, without any loss of fiber or seed quantity and quality (Plant Biotechnology Journal 10:1111/pbi.12013, 2013). Analysis of the seeds by a private lab found them to be largely similar to nontransgenic seeds.

"With the exception of the ultra-low level of gossypol—at 200-250 parts per million (ppm)—the other constituents are similar, with one significant difference," says Rathore.

That difference bodes well for eventual commercialization: The team has seen consistently higher levels of oil in the transgenic seeds, and statistical analysis (not included in Table 1) shows the differences are significant.

"This makes sense," he says, "Gossypol constitutes almost 1% of the seed by weight. By knocking that back by 98-99%, resources apparently are diverted back into making oil."



Cottonseed kernels from Keerti S. Rathore's laboratory have been sliced through the middle to expose the gossypol containing glans. On the left are nontransgenic Coker 312 parental seed kernel, showing multiple goosypol glands. On the right are seed kernels from Rathore's ultra-low-gossypol cottonseed (ULGCS) line 66-303, in which the gossypol level has been substantially reduced (>98%). Note that the faintly colored glands are still present in the ULGCS seeds.

NEXT STEPS

Rathore and Cotton Incorporated are committed to pushing the project forward. Toward that end, Rathore hopes to conduct multi-location field trials and, eventually, feeding studies. Another question that needs work is whether the gene construct can be moved into a commercial variety (most transformation work in cotton is done in a very old, noncommercial variety known as Coker 312). Further, researchers at TAMU in Corpus Christi are investigating using meal from the transgenic lines for aquaculture, particularly in shrimp.

Which raises an interesting point about protein from cottonseed meal. As it stands, the only mammals benefitting from cottonseed protein—either as whole seed or as meal after oil extraction—are cows, since only ruminants can tolerate gossypol.

"Cows are not the most efficient animals at converting feed to animal protein," notes Rathore. "It takes 5.8 pounds of feed to produce a pound of beef. Pigs are more efficient, with a feed-conversion ratio of 3.3 and chickens even more so at 2.1; some fish have a conversion factor that is close to 1. If you have a limited supply of feed, it makes more sense to feed it to chickens or fish than to cows."

What is needed now is a commercial partner that will move the trait into an established variety or varieties. "The big three seed companies have all indicated that they agree this technology will provide added value for growers and ginners, but they haven't figured out how they can capture enough value to make it worth their while," explains Wedegaertner.

The big three seed companies in cotton are Bayer CropScience, Dow AgroSciences, and Monsanto. Bayer is working with researchers in New Mexico (see sidebar), where insect pressure on cotton is less than elsewhere, on traditionally bred glandless cotton. Spokespersons for both Monsanto and Dow confirmed that glandless or low-gossypol cotton varieties are not in their product pipelines at this time. Based on recent publications, work continues in Australia and China—the world s No. 1 cotton producer—on transgenic low-gossypol cotton.

"Key to all of this," says Wedegaertner, "is the regulatory registration process for the TAMU transgenic cotton. It is clear from laboratory tests that what the TAMU team is doing with RNAi technology is simply mimicking what naturally occurs in mutant varieties. That is the reason we think regulatory approval will not be as time-consuming or expensive as with some other transgenic crops. And once it is registered, the seed companies may show more interest."

Wedegaertner is nothing if not optimistic about bioengineered ultra-low-gossypol cottonseed: "I expect it to be commercialized during my lifetime," he says, firmly. Just don't ask him, as jokesters sometimes do, how long he plans to live.

Catherine Watkins is associate editor of Inform and can be reached at cwatkins@aocs.org.

(Courtesy : Inform, May 2013, Vol. 24 (5)).

"UPDATE"

Omega-3 fatty acids and breast cancer

A lifetime of exposure to long-chain omega-3 fatty acids may inhibit the growth of breast cancer tumors—if results in mice generalize to humans—according to research from Canada's University of Guelph (UG; Ontario).

The researchers, led by Mira MacLennan, a former UG graduate student, believe they are the first to provide unequivocal evidence that omega-3s reduce cancer risk.

"It's a significant finding," said David Ma, a professor in UG's Department of Human Health and Nutritional Sciences, and one of the study's authors.

"We show that lifelong exposure to omega-3s has a beneficial role in disease prevention—in this case, breast cancer prevention. What's important is that we have proven that omega-3s are the driving force and not something else."

Advocates have long believed diet may significantly help in preventing cancer, but epidemiological and experimental studies to back up such claims have been lacking, and human studies have been inconsistent, Ma said.

"There are inherent challenges in conducting and measuring diet in such studies, and it has hindered our ability to firmly establish linkages between dietary nutrients and cancer risk," he said. "So we've used modern genetic tools to address a classic nutritional question."

For their study, the researchers created a novel transgenic mouse that both produces omega-3 fatty acids (in the form of docosahexaenoic and

eicosapentaenoic acids; DHA+EPA) and develops aggressive mammary tumors. The team compared those animals to mice genetically engineered only to develop the same aggressive mammary tumors.

"This model provides a purely genetic approach to investigate the effects of lifelong omega-3 exposure on breast cancer development," Ma said. "To our knowledge, no such approach has been used previously to investigate the role of omega-3s and breast cancer."

Mice producing DHA-i-EPA developed only two-thirds as many tumors—and tumors were also 30% smaller—as the control mice did.

"The difference can be solely attributed to the presence of omega-3s in the transgenic mice—that's significant," Ma said. "The fact that a food nutrient can have a significant effect on tumor development and growth is remarkable and has considerable implications in breast cancer prevention."

Funding for the study, which appeared in the Journal of Nutritional Biochemistry (24:388-395, 2013), came from the Canadian Breast Cancer Research Alliance/Canadian Institutes of Health Research, the Canada Foundation for Innovation, and the Ontario Research Fund.

(Courtesy : Inform, May 2013, Vol. 24 (5)).

"FABULOUS"

Genetic diversity of jatropha

SGB Biofuels has confirmed to its satisfaction that Jatropha curcas has a genetic diversity comparable to corn and other domesticated crops. This indicates there is plenty of room to achieve significant yield and performance gains through molecular breeding for this oil-producing plant.

Eric Mathur, chief technologist at SGB (San Diego, California, USA), said in a company statement, "Based on these results, the performance of our first-generation hybrids merely scratches the surface of the underlying genetic potential of jatropha, not only in terms of continued yield improvements but also through reduction of input costs and improvement of the harvest index."

SGB's molecular and genetic technologies have advanced to the point where millions of genetic markers can be analyzed from a large number of plants within a short period of time. The company is now starting a large-scale jatropha re-sequencing program designed to associate agronomic traits and plant attributes with genome-wide markers. The resulting dense genetic maps will accelerate the rate of improvement of SGB's hybrid cultivars.

(Courtesy : Inform, May 2013, Vol. 24 (5)).

"CHINA LEAPS"

Rice Bran Derivatives in China

RICEBRAN Technologies, a global leader in the production and marketing of value added products derived from rice bran, today announced that it has entered into a series of agreements to develop rice bran and its derivatives in China for human food ingredient and animal nutrition applications with various affiliates of Wilmar International Limited ("Wilmar"), Asia's leading agribusiness group.

RiceBran Technologies has licensed to Wilmar its patented and proprietary intellectual property and know-how for stabilizing and further processing rice bran, including technologies resulting from recent research and development efforts regarding extraction and concentration of protein from rice bran. Under the terms of the agreements, Wilmar has acquired certain rights and interests to use and develop such licensed intellectual property and know-how for production and commercialization of rice bran ingredients and derivatives in the People's Republic of China.

As part of the agreements, Wilmar will purchase two proprietary rice bran stabilization extruders designed and manufactured by RiceBran Technologies for use in the People's Republic of China.

China's annual rice output is about 185 million tons, or approximately one third of global rice production, with about 15 million tons of raw rice bran produced annually as a byproduct of rice milling. At present, about 10% of raw rice bran production goes to production of rice bran oil for human food applications. The remaining rice bran is used as animal feed. RiceBran Technologies' stabilization

and protein extraction IP will support greater conversion of rice bran into high quality animal nutrition, human food, functional foods and nutraceutical applications. (Source: Rice Bran Technologies News dated 3rd April 2013).

Courtesy : SEA News Circular, Vol. XVI, Issue No.1, April 2013).

"BE SALT OF EARTH"

SALT is healthy for the body

HIGH consumption of salt is bad for health but its low consumption is not good either. This is what a health body of United States (US) said. According to what it founded, people in US suffering from diabetes and heart problems were asked to lessen their intake of salt; But rather than helping in the latter case, less intake of sodium in their food nothing but aggravated their medical complications. Not only this, but the health body challenged for what was suggested to people i.e. decrease the content of salt in their daily foods saying that this was done keeping in mind not healthy ones in the country and not the majority of them, who comprise healthy population living in it. For the former ones it still prescribed a particular amount of salt which as a must should be consumed in their day to day food. The US health body for who worry about their intake of salt in food, said to order stuffs like fruits and vegetables when they go to a restaurant and for others the option was left open, the quantity they prefer in their individual meals in a day.

However, intake of salt is necessary, said the US health body and is supposed to look at the matter and monitor use of it by the people living in the country again in 2015, said report. While blacks, diabetics and others more likely to have heart problems were urged to slash their salt intake, the IOM (Institute of Medicine) review however, showed there was limited evidence that such a diet helped and that too little salt nothing else but increased the risk of heart trouble. The evidence on both the benefit and harm was not strong enough to indicate that these subgroups should be treated differently from the general U.S. population, the panel wrote. That suggested higher-risk populations might not need such a drastic reduction of salt in their diets and that other steps to curb heart disease risk were needed.

Federal guidelines recommended that healthy people consumed no more than 2,300 milligrams daily.

But the data called into question whether individuals with higher risk factors for heart disease or stroke should limit their daily intake to 1,500 milligrams, as the government recommended. Still, the studies were limited and in some cases flawed, so more research was needed, the IOM panel told the Centers for Disease Control and Prevention, which requested the report.

Health advocates including the American Heart Association were quick to dismiss the findings, said the studies reviewed by IOM focused on sick patients and not the majority of Americans, most of whom ate too much salt. A trio of studies published found that smaller restaurants still loaded their food with salt even as national chains and food manufacturers had cut back. The Food and Drug Administration (FDA), in a statement, said that it reviewed the IOM's report, called it consistent with its efforts to work towards achievable and reasonable voluntary reductions in the sodium content of the U.S. food supply.

(Courtesy : Business Star, July 2013, Vol. No.24, No.7).

"AMAZING"

Rice Cultivation Which Conserves Water

DON'T GO in for a surprise in future if you hear rice cultivated without the field water logged completely on which it is grown. But if a report is to be believed it is very much possible. This new method of growing rice without the consumption of much

water is called System of Rice Intensification (SRI). The most significant aspect of SRI is that the fields are not kept submerged under water all the time, as is usual in rice farming, but are allowed to remain just wet without flooding. The saving on water, which is rapidly turning scarce in most paddy-growing tracts, can be 30 to 40 percent or more in SRI and that of costly seeds over 50 percent. Also, the reduction in the requirement of other inputs varies according to field conditions.

Meanwhile in Kerala, where paddy cultivation is going out of favour because of labour problems and high costs, the novel SRI has shown the potential to rehabilitate this crop. This innovative technique ensures substantially higher productivity and lower input use. The environment-friendly SRI method of growing rice involves transplanting relatively young paddy seedlings eight to 10 days old instead of usual 20 days or more, along with the soil that contains their roots. The spacing between plants and rows is kept relatively wide at around 25 cms to provide room for the robust growth of both root and plant. Plant nutrients are supplied largely through farm-yard manure, supplemented with need-based fertiliser applications. The success of SRI technology in most places where it has been tried in the past few years has led to its promotion in a big way by Krishi Vigyan Kendras (KVKs or agricultural science centres) and other farm research bodies under the Indian Council of Agricultural Research (ICAR).

(Courtesy : Business Star, July 2013, Vol. No.24, No.7).

"GOOD IDEA"

Blending of Multiple Vegetable Oil

AS per The Food Safety and Standards Regulation 2011, currently, blending of only two oils is permitted. It is scientifically proved that none of the single cooking oil available in the market is close to ideal ratio of MUFA,PUFA&SFA and Omega3/ Omega6, from the health point of view. In view of this, most of advanced countries encourage and recommend the blended vegetable oil for cooking medium which is close to recommended ratio. It is desirable thatthe blending of multiple vegetable oils be permitted prescribing to meet the specifications like colour, Iodine value, moisture and volatile matter, acid value, unsap matter cloud point and flash point for meeting the health regulations. This will help the producers of vegetable oil to produce a balanced nutritional oil keeping in mind the ideal ratio of MUFA/PUFA/SFAand Omega3/Omega6.

SEA-FSSAI Regulatory Committee has studied this issue in depth and submitted a Scientific Note to FSSAI justifying the need to promote blending of multiple vegetable oils fortheir consideration.

(Courtesy : SEA News Circular, Vol. XVI, Issue No.1, April 2013).

"RELISH IT"

Like a jelly doughnut in the sky

Hubble Space Telescope reveals the Ring Nebula's true shape, and it isn't a bagel

NEW observations by NASA's Hubble Space Telescope have revealed the real shape of the Ring Nebula.

The glowing gas shroud around an old, dying. Sun-like star is like a doughnut, scientists suggested.

"The nebula is not like a bagel, but rather, ifs like a jelly doughnut, because ifs filled with material in the middle," said C Robert O'Dell of Vanderbilt University in Nashville, Tennessee. O'Dell leads a research team that used Hubble and several ground-based telescopes to obtain the best.view yet of the iconic nebula. The images show a more complex structure than astronomers once thought and have allowed them to construct the most precise 3-D model of the nebula. "With Hubble's detail, we see a completely different shape than what1 s been thought about historically for this classic nebula. The new Hubble observations show the nebula in much clearer detail, and we see things are not as simple as we previously thought," O'Dell said.

The Ring Nebula is about 2,000 light-years from Earth and measures roughly 1 light-year across. Located in the constellation Lyra, the nebula is a popular target for amateur astronomers. Previous observations by several telescopes had detected the gaseous material in the ring's centra! region. But the new view by Hubble's sharp-eyed Wide Field Camera 3 shows the nebula's structure in more detail. O'Dell's team suggests the ring wraps around a blue, football-shaped structure. Each end of the structure protrudes out of opposite sides of the ring.

The nebula is tilted toward Earth so that astronomers see the ring face-on. In the Hubble image, the blue structure is the glow of helium. Radiation from the white dwarf star, the white dot in the centre of the ring, is exciting the helium to glow. The white dwarf is the stellar remnant of a Sun-like star that has exhausted its hydrogen fuel and has shed its outer layers of gas to gravitationally collapse to a compact object O'Dell's team was surprised at the detailed Bubble views of the dark, irregular knots of dense gas embedded along the inner rim of the ring, which look like spokes in a bicycle wheel. These gaseous tentacles formed when expanding hot gas pushed into cool gas ejected previously by the doomed star. The knots are more resistant to erosion by the wave of ultraviolet light unleashed by the star. The Hubble images have allowed the team to match up the knots with the spikes of light around the bright, main ring, which are a shadow effect Astronomers have found similar knots in other planetary nebulae. All of this gas was expelled by the central star about 4,000 years ago. The original star was several times more massive than our Sun. After billions of years converting hydrogen to helium in its core, the star began to run out of fuel. It then ballooned in size, becoming a red giant During this phase, the star shed its outer gaseous layers into space and began to collapse as fusion reactions began to die out Agusher of ultraviolet light from the dying star energised the gas, making it glow. The outer rings were formed when faster-moving gas slammed into slower-moving material.

(Courtesy : DNA 25.05.13 - DNA of Ideas)

"DO IT NOW"

Reducing power consumption for a bright future

INDIA is the largest producer of milk and the second-largest producer of fruits and vegetables in the world

AND owing to the fast-paced growth of the food industry, India's logistics infrastructure, particularly cold chain network, has come into the limelight. However, the cold chain sector needs to adhere to energy-efficient practices for donning a responsible image.

With increasing purchasing power among the growing middle class in India, individuals with higher socio-economic status and more economic means are likely to consume fresh vegetables and fruits, not only in higher quantities but also in greater variety. Further, fresh and read-to-eat convenience food products are gaining traction in urban India. However, products such as pre-cut fruits &. vegetables and ready-to-cook meals require an effective cold chain network that enables to keep food fresh for extended periods and eliminate doubts over the quality of the food products.

The cold chain market is estimated at ? 800 crore, and growing at a rate of 20-22 per cent. However, this industry is plagued with the challenge of rising energy costs. In spite of this, the cold chain sector is looking at ways to ensure energy-efficient practices to cope with global warming and imminent fossil fuel shortages.

Understanding the cold chain

Cold chain logistics systems may be defined as a series of inter-related facilities for maintaining ideal storage conditions for perishables from the point of origin to the point of consumption in the food supply chain. The first stage of a cold chain is the receiving cold room. This is inclusive of a pre-cooling facility, subsequent compartmented short-term storages and ancillary equipment. Cooling fresh fruits and vegetables before processing removes the field heat from the freshly harvested products to inhibit decay and helps in maintaining moisture content, sugars, vitamins, and starches.

The quick freezing of processed fresh fruits and vegetables helps retain the quality, nutritional value and physical properties for extended periods. The final stage is the consumer, and they are linked to the farmer through cold chain links, which are essentially thermally-controlled transport units, warehouse cold storages, direct access cold storages or a pull-based direct supply system, minimising effects of last supply chain, for just-in-time consumption.

A core component of the success of an ideal cold chain is the type of container used and the refrigeration method. Reefers, a generic name for a temperature-controlled container, can be a van, small truck, a semi or a standard ISO container. These containers, which are insulated, are specially designed to allow temperature-controlled air circulation maintained by an attached and independent refrigeration plant. However, the way these reefers operate in the country is often debated. Vikas Mittal, Managing Director, McCain Foods India Pvt Ltd, says, "Food products, especially frozen, in any country are fully dependent on the support from cold supply chain facilities. It is an efficient cold chain that transports frozen products in stipulated timeframe while maintaining the required temperature. In India, the cold chain segment is largely dominated by fly-by-night suppliers and small businesses with poor networks. As the services are not integrated, it leads to high energy consumption, wastage and damage to food due to frequent handling and transfer."

Energy consumption pattern

The energy consumption patterns in India differ significantly as the cargo is typically not pre-cooled before being put into the cold chain. There are several areas where power supply is intermittent or not available, so diesel generators are used, which increases operating costs. Transport systems are designed for maintaining precise temperature control of the cargo; however since most produce is loaded at higher temperatures, the refrigeration units have to operate longer, and beyond rated consumption, to reach the desired set point.

The refrigeration systems, especially in case of fruit processors, usually operate at their heaviest load during the summer daytime hours when electrical costs and outdoor temperatures are the highest. Also, the initial processes of cooling, processing and cold storage of fresh, perishable produce - fruits and vegetables - are among the most energy-intensive segments of the food industry. Significant level of refrigeration is needed to slowdown imminent spoilage. Also, care has to be taken to maintain the pre-harvest freshness and flavour of ripe fruits Sc vegetables.

Cost-saving measures

Keeping the above scenario in mind, opportunities to cut energy costs in the cold chain lie in developing and using correct systems for various types of cargo. While some cargo typically requires tighter temperature compliance, and therefore, systems are designed with complex controls, other cargo such as fruits and vegetables require low-cost, simpler systems.

Studies have shown that for small processing industries, there is significant potential for energy cost savings in both the installation of high-efficiency refrigeration equipment and in the optimisation and control of the existing refrigeration systems. The older compressors and controls in the ammonia refrigeration systems at such plants make them ideal for energy savings in these two areas. Substantial cost savings can also be achieved by focussing on the proper installation of motor drives and controls as well as time-of-use shifting strategies for the cold storage refrigeration systems. Time-of-use shifts promote a conscientious attitude as steps are taken to shift some of the energy use to mid-peak or off-peak times in order to reduce the electricity costs while helping to improve the environment.

Alternative sources of energy

The Indian F&B industry is evolving and acceptance of the cold chain has increased manifold in the last few years. Use of alternative/renewable energy in the cold chain logistics becomes viable for larger capacity systems, such as trailers. New solutions like multi-temp container, which is a system that maintains different temperatures in the same container, are being developed. These units ensure low energy consumption, enhanced environmental performance and maximum cold chain protection along with reduced downtime and maintenance needs. This is just one example out of the

many for reducing energy consumption in a cold chain network.

The cold chain industry is expected to grow at double-digits owing to organised retail and growth in processed food sector. Thus, if appropriate steps are taken to reduce energy consumption in a cold chain network, the food processing industry can reach new heights in the times to come.

(Courtesy : Modern Food Processing, July 2013,).

"BE SURE"

TO P TI PS
to extend equipment life

MAINTENANCE is no longer a cost centre but an inevitable action point to be considered. It can be converted into a profit centre as enhancement of equipment life will eventually lead to higher productivity and increased bottom lines. Hence, every company is required to adopt new technologies and effective maintenance techniques.

Identify the requirements

The first step towards extending equipment life is primarily assessing the preventive maintenance plan, critical process points and specific machinery that need to be identified and covered under more frequent maintenance programmes.

Criticality factor

Determine the 'criticality' level (low, medium, high) of each piece of equipment on the food processing shop floor. Base the criticality assessment upon a combination of the following points: ease of availability of alternative equipment; availability of alternative technique to derive the same or similar processing standards; and the impact of the unavailability of the item to one's processes and productivity.

Risk of failure

Also, determine the risk of failure (low, medium, high) of equipment. Risk, in this context, is primarily about the age of item, the maintenance history of the item, and the presence of components that would be expensive to replace if a failure occurred.

Concentrate on small parts

Pay most attention towards smaller parts, such as gaskets, valves, clamps or connections, etc as even they are most likely to lead to major problems and breakdowns.

Post-sales maintenance support

Zero in on a highly efficient after-sales support particularly when it comes to maintenance.

Skilled and trained manpower

Misuse and abuse are among the leading causes of equipment malfunction, and most warranties will not cover repairs resulting from such misuse. Educate your employees on how to properly use, clean and maintain the food processing equipment to keep everything up and running and eliminate the amount of money that may have to be spent on non-warranty issues. Alternatively, one can consider inducting all production and maintenance supervisors on a compulsory asset management course.

Record management

Keep records for each machine to make sure these maintenance procedures are being performed at the right time. These records will also help you predict parts inventory needs. If you keep a stock of required maintenance parts, such as filters, bed knives, belts and seals, you would not be caught in a situation where important maintenance activities were not performed on schedule because of lack of parts.

Computerised maintenance system

Utilise a Computerised Maintenance Management System (CMMS) to keep track of your assets, warranty periods, designated service provider, service level agreements, service history, preventive maintenance schedule, etc.

Basic condition - moniotoring regime

Regularly orient the service operators to give priority to vibration/oil analysis/ thermography/see-touch-hear inspections.

Align operations and maintenance

Using this strategy, if a thorough production plan and schedule covers both manufacturing of product and equipment maintenance, the bottom line can be enhanced to a large extent. This requires higher amount of co-ordination among various departments of the company.

(Courtesy : Modern Food Processing, July 2013,).

"WHO DUN IT"

Miniscan: Lab Performance in Hand

By Dr Tejas Borwankar, Recna Daga, Dr Virginia Gordon

Rapid Quality Control for Oils & Fats

Food quality and safety is a growing concern globally. As a global player in food export, India is also facing challenges in terms of food and oil testing. In order to safeguard the food export business and public interests in terms of food quality, globally as well as domestically, it is essential to test raw materials and finished foods.

Key ingredients are the fats and oils from plant sources (rice bran, corn, rapeseed, olives and many others), and from animal fats (example lard and butter) as well as marine, including algal, oils. The oil refining companies refine seeds through crushing and refining into a range of fats and oils. These companies need to test the oils throughout the refining process and then sell and distribute fats and oils to intermediate users that mass produce foods (example, Frito-Lay, Parle, and many other regional snack foods and bakeries) and to end users that purchase fats and oils to produce foods for direct sales (example, consumers, restaurants, fast food outlets).

Reuse of oils and fats for frying food brings about changes in their physical and chemical properties, which in turn affects the quality of food fried. During repeated frying, the oil is continuously and repeatedly used at elevated temperatures (160 - 180° C) in the presence of air, metal container, and moisture, which bring about undesirable changes in the oil. These changes are associated with serious food safety hazards including fried foods being not properly cooked,increase in the level of fats in fried food and increased levels of oxidised lipids, which can result in severe health damage.

Due to increasing health concerns, the assessment of the quality of reused oils has received much attention. Since the food absorbs the oil in which it has been fried, it is very important to test the oil quality by determining the various chemical and physical indices. As the industry decreases its use of hydrogenated and trans fats, to fats and oils which are much less stable, testing becomes even more important to avoid spoilage and rancidity.

Current Limitations in Testing: Food testing is however a major challenge since there is no easy and satisfactory method available as yet in India.

All food processors, the intermediate users, and the larger end users must determine if their oils and fats are of good quality and if degradation has occurred during manufacturing, processing and storage. While monitoring and quality control are routinely practiced, current methods are cumbersome, inefficient, wasteful, slow and costly.

In current industry practice, test samples are removed from the factory floor where the fats are rendered, oils are pressed and refined, and prepackaged foods products are fried or baked. These samples are then sent to a central lab for laboratory tests using titrations, Gas chromatography (GO, Fourier Transform Infrared Spectroscopy (FTIR) and/or High Performance Liquid Chromatography (HPLC). Setting up and using in-house/ contract labs requires very expensive instruments and skilled operators, and since the lab is remote from the factory floor, it generates delays in providing results.

In addition, the official analytical methods used in laboratories for this purpose need skill, time and large consumption of solvents. These procedures are also destructive to the sample, costly, and require the use of potentially hazardous reagents. These inefficiencies regularly result in significant volumes of product being rejected, reprocessed or being used out-of-spec. Loss of product, loss of consumer acceptance, and loss of shelf life all impact greatly the profit of these companies. A long shelf life can be achieved by testing often during frying, and thus the profit can be dramatically increased compared to the other snack producers.

Bonanza Labs Provides the Solution:

Bonanza Labs has developed an easy to use and extremely portable handheld analyser (Mini-Scan) that provides economical, immediate analysis of the fat content and rapid identification of the quality of oils and fats in the finished product. This allows critical property determinations to be made in the field without the need for laboratory analysis. The handheld analyser enables testing of several critical indicators of oxidation and hydrolytic degradation like free fatty acids and peroxides as the oil is crushed and processed or during frying as the oil degrades. The platform uses membrane separation technology for preparing and separating complex food matrices very rapidly for total fat content measurement. It is useful for testing of raw materials, in process materials and finished food products for the following parameters:

- Free fatty acids (FFA) are produced from triacylglycerides (TAG) through chemical or enzymatic hydrolysis. They are usually associated with undesirable flavour and textural changes when they are present in fats and oils. FFA test kit is a rapid colorimetric method requiring less than 1 g of oil. There are several advantages in using the FFA method over the AOCS titration method: including small sample size requirement, no necessity for a fume-hood, is fast and easy to use, making routine analyses easy to perform.

- Peroxide Value (PV) test kit provides very reliable, rapid analysis of lipid peroxides in oils/fats and in foods using micro-analytical and membrane separation principles. Peroxide Test Kit is suitable for PV levels ranging from 0.02 to 5.0 meq/kg, with higher PV levels above 5.0 meq/kg requiring additional dilutions.

- Fat Content test kit is designed specifically to provide rapid analysis of fat content in snack products, dairy products, meat and fish, nuts and groundnuts and flours as well as meals. Results are obtained in around 40 minutes as against 6-8 hours required for the traditional methods currently being employed. The proprietary Fat Content test kit extracts lipid fat from the food matrix using a stabilised reagent and employing mechanical mixing and warming techniques. The solubilised food matrix is then filtered through a membrane and the filtrate is analysed for total triglycerides.

Using small samples and reagent volumes, in-

Bonanza Labs Mini-Scan system includes a handheld analyser and disposable kits. Standardised, well documented, and user-friendly procedures improve productivity, performance, and quality control. Food samples are solubilised in the preparation reagent, separated through the membrane separation pack, and then analysed by an optical reader for various parameters like FFA, PV and Fat Content.

strumental analysis and rapid detection times, this technology provides a strong correlation to standard traditional methods.

The test platform is user-friendly and permits multiple samples to be tested simultaneously within minutes as against hours required for current methods. The results are displayed on a touch screen interface and are also recorded on a USB key. The equipment itself requires little bench space in the laboratory.

Advantages of Mini-Scan for Oil and Food Industry: The Mini-Scanfat and oil quality tester replaces testing by both the wet chemistry and sensory methods and is closely aligned with changing requirements in current markets.

In response to the growing food safety concerns due to globalisation of supply lines, Bonanza Labs has developed the Mini-Scan System, a suite of novel and patented test kits used in determining lipid quality and food freshness. The Mini-Scan System measures the chemical and biochemical constituents, as well as contaminants and degradation products in food matrices.

Results are standardised, objective, and rapid, with strong correlations to published, official test methods. The system is designed for production sites as well as fixed food-testing laboratories; applications include cost-effective screening of incoming materials and improved prediction of shelf life. Disposal costs are minimal due to the use of greatly reduced reagent volumes and low toxicity reagents. This approach also proves to be environmentally responsible.

In addition, assay times for product profiles are quite efficient. A single technician can run the complete set of standard assays (example measuring percent fat, peroxides and FFA) in less than an hour on eight samples. The Mini-Scan assays are clearly superior when compared to standard AOCS methods, which require high consumption of toxic organic solvents, produce highly variable results, and are extremely inefficient. They are far more accurate and easy to use than the traditional titration methods, yet are inexpensive enough for everyday use as compared to high-end laboratory instruments like HPLC and GC.

Methodology Certification Received:

The methods for measuring FFA, Peroxides and Fat Content have received Performance Tested Method (PTM) validation from the AOAC Research Institute:

- Peroxide Value: AOAC-RI Certification # 030501: Range 0.05 -25 Meq/Kg Primary Oxidation products of fat, to monitor quality, stability and shelf life

- Free Fatty Acids: AOAC-RI Certification #030405: Range 0.04 -20% Hydrolytic degradation products of fat

- Fat Content: AOAC-RI Certification #020501: Range 0.02 - 50% Nutritional analysis of Food Target Market Segments: Producers and users of fats and oils (frying oils from food processors, oils from crushers, oils from refiners, feedstock from Tenderers, pressed oils can benefit greatly from Mini-Scan.

Quality and consistency are of utmost importance in the food industry. High quality fats and oils yield food products of high quality and long shelf life. In a typical snack food company that manufactures potato chips, oil quality should be tested several times during frying for improved quality and longer shelf life. Changing raw material sources, due to growth or globalisation of supply lines necessitate testing at all stages of production. Finally, labelling and nutritional requirements are changing and necessitate changes in food products, which can be achieved only after rigorous quality testing.

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(Courtesy : Food Marketing & Processing, April 2013).

"WOW !"

"Taiwan develops colored rice

TAIWAN's Hualien District Agricultural Research and Extension Station has developed colored rice to help increase the popularity of rice among children and young people.

Rice occurs in different colors naturally, but the colored rice developed by Taiwan is of four different bright colors - red, yellow and green and purple. The developers hope the colored rice will be more attractive than white rice. The research station took seven years to develop colored rice and says the colored rice is both safe and tasty.

A representative of Hualien District Agricultural Research and Extension Station said that colored rice is developed during the processing phase in which natural colors are introduced to polished rice. "We have developed a commercialized process to dye rice with natural colors obtained from vegetables and foods," the representative said. The colors remain intact after cooking, according to local sources.

The research center also said that since both rice and colors are natural products the combination is not expected to have any adverse effect. Rice is a staple food in Taiwan and children like colored rice, say sources in Taiwan.

(Courtesy : Business Empire, Vol.7, Issue-9, June 2013).