



# NEWS LETTER

OIL TECHNOLOGISTS' ASSOCIATION OF INDIA  
WESTERN ZONE

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- Food Inflation
- Effective Leaders
- Supply chain for biofuels
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**INTERNATIONAL CONFERENCE ON SOAPS, DETERGENTS & COSMETICS**  
December 11-13, 2011 at Nehru Centre, Mumbai, India

Organised by

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*From the Editors's Desk*

## **ZEROING IN**

*Join ISDC 2011. **When?** From 10th to 13th December 2011. **Where?** Nehru Centre, Mumbai. All about Soaps, Detergents and Cosmetics. **Who?** Indian Home and Personal Care Industry Association and Oil Technology Association India - Western Zone. A good lot of ground work has been done. And an Exhibition thrown in for good measure. Solid grip on financial controls expected. Organising committees tattooed Experts on subjects expected from all over the world. For the ambitious and adventurous, a bonanza, a veritable breakthrough. No don't chill. Get going. More info? Reach by telephone 91 22 2878 2866. Now !*



# Trade & Commerce

## BE A PATRIOT

### Return of the Desi Cotton

#### Cotton area in India since independence (in %)

	American	Egyptian	Desi
1947	3	0.1	97
1955	32	0.2	67.8
1965	35	4	61
1970	36	4	60
1980	36.96	7.7	55.34
1990	46.6	6.5	46.9
1995	59.34	2.58	38.08
2000	73.2	1.8	25
2005	83	1.2	15.8
2010	96	0.5	3.5

Indian cotton was once infamously plundered by the British to benefit their finished goods economy back home. The world-famous Dhaka muslin were woven with desi cotton. But while the foreign regime kept the Indian cotton alive, albeit for its own gains, independent India presided over its complete decimation.

However, after about 50 years of domination of American cotton that had edged out the desi varieties for long, the Indian Council of Agriculture Research (ICAR) has now embarked on a revival of India's own cotton varieties.

Reason: These varieties had come to stay in India after developing resistance to drought, pests and water-logging, and have been researched much over the last decade to be added with qualities to match American cotton.

A brainstorming session of top ICAR officials at the Central Institute for Cotton Research (CICR) said it was about time the desi varieties were brought back.

"We can reintroduce our own varieties with integration of Bt into it, after conducting field trials,"

said CICR director Keshav Kranthi.

ICAR Director General S Ayyappan, Deputy Director General (Crop Science) Swapan Kumar Dutta, National Bureau of Soil Survey and Land Use Planning (NBSS & LUP) D-G Dipak Sarkar, Chairman, Agricultural dentists Recruitment Board C D Mayee and Project Coordinator, All India Cotton Improvement Project N Gopalakrishnan participated in the special session on "Indian Cotton t— What Next" during the Standing Committee review meeting of Technology Mission on Cotton Mini Mission-1 (TMC-MM-1) here earlier this week.

Kranthi said: "Desi cotton (*gossypium arboreum*) varieties were grown on about 98 per cent area around 1947 and the American cotton (*gossypium hirsutum*) on just around two. The situation is now exactly the reverse.

"Till the advent of Bt cotton, the desi cotton was being grown on about 27 per cent area in various parts of the country, like Gujarat and north India. The American cotton grew mainly on account of its larger staple length, which was the demand of mechanised cloth making that requires stronger fabric. But nowadays even short-staple cotton is in great demand, particularly in fabrics like denim and upholstery. Also, it fetches price on par with the long-staple one. So, why not promote desi varieties, which had come to stay in India after developing resistance to indigenous conditions like drought, water-logging and local pests?"

Mayee, a former CICR director, says: "Desi cotton has improved significantly over the past decade in terms of fibre quality and productivity. It is able to withstand the rigours of nature like drought and pests and also has lesser cost of production. So, the idea is to increase the area under desi cotton, both varieties and hybrids, to up to 20 per cent during the next Five Year Plan."

ICAR is ready to reinvest its faiths in desi varieties like RG8, which gives a good crop in both irrigated (about 40-50 quintals per hectare) and rainfed conditions (20 q/ha).

"And it is not that the desi cotton doesn't give a good staple. Over the last few years, Indian scientists have developed desi varieties like Parbhani Turab to give a good staple length (26-27 mm) and strength (22 gm/tex), which is on par with the American variety," says Kranthi, "There are varieties that can be grown in high density sowing, thereby giving more production," he adds.

Mayee says: "One of the main problems with desi cotton has been picking since the boll hangs low. So, low-picking machines are under research."

"The idea is to reorient our breeders and scientists to take up the cause of Desi cotton," Kranthi says.

*(Courtesy : AICOSCA Newsletter, January 2011.)*

## **"ALL SLIPPERY"**

### **Nothing slick about oil palm for west Godavari farmers**

Oil palm, introduced in the coastal districts of Andhra Pradesh two decades ago under irrigated conditions, is leaving a bitter taste in the mouths of small farmers, especially in West Godavari district which leads in terms of acreage and production.

The crop was first introduced in the early nineties by the Department of Bio-technology on a pilot basis in some of the coastal districts, including West Godavari, and subsequently private companies such as Godrej, MAC and Palmtech were allotted zones to set up processing units and to buy back the produce from the farmers.

### **Enticed**

Many small farmers, especially in West Godavari, East Godavari, and Krishna took to oil palm cultivation enthusiastically in the late 1990s, enticed no doubt by the heavy subsidy component. The Union Government also sanctioned a National Research Centre for Oil Palm and it was set up at Pedavegi near Eluru in West Godavari district. However, the travails of the farmers began a few years afterwards as the plantations were growing older.

### **Acreage**

At present, it is roughly estimated that two lakh hectares of land is under oil palm cultivation in the coastal districts of Andhra Pradesh, with West Godavari accounting for 42,000 hectares, the lion's share. Andhra Pradesh leads in oil palm cultivation.

One of the main problems faced by farmers is the fluctuations in the prices of fresh fruit bunches (FFBs) of oil palm, fixed by the State Government on the basis of international crude palm oil prices. Till recently, the prices hovered in the range of Rs 3,000-Rs 4,000 a tonne of FFBs and unable to continue cultivation with such low prices, several farmers resorted to uprooting of palms. Of late, the price has risen to over Rs 6,000 a tonne of FFB. But not much enthusiasm is visible among farmers. They do not have the resilience to withstand price fluctuations based on international market conditions.

Mr Prasad, an engineer who quit his job and took up oil palm cultivation near Eluru, says that according to the calculations of the National Research Centre on Oil Palm at least Rs 8,000 a tonne of FFB should be paid, if cultivation were to be viable. "That is a far cry. We do not even know how long the present price of Rs 6,000 or more a tonne will last," he said.

He also complains that there is very little technical and research support and the small farmer is left in the lurch by all government agencies. "One of the major hassles is harvesting. The palms are growing very tall, especially in the irrigated conditions, and harvesting is becoming cumbersome and costly. There is an acute labour scarcity and farmers are at a loss," he explains. He also says there is no prescribed scientific regimen for water and fertiliser application.

Mr M. Venkateswara Rao, who recently uprooted oil palm crop in four acres at Sagipadu village in the district, says it is no longer economically viable to carry on oil palm cultivation. The plantation was 20-year-old. "It was painful and costly to uproot the palms but I had no choice. I am searching for an alternative," he said.

Mr M. Ramakrishna of the same village says

he is also getting ready to remove oil palm in four acres and cultivate other crops such as maize. He cites low prices, harvesting problems and the lack of support from the government agencies or the factories as the reasons for the extreme step. Farmers also complain that they are encountering problems in growing inter crops in oil palm to increase the returns and make the cultivation sustainable. There is no technical and research assistance from the State Agriculture Department or the National Research Centre.

There seems to be a growing realisation that the crop is perhaps not suitable for the small farmers.

*(Courtesy : AICOSCA Newsletter, January 2011.)*

## BRIGHT FUTURE

**Better days seen as area under wheat, pulses goes up**

### Losing Ground

NCDEX Jan mustard seed\*

Sept. 30	261.3
Oct. 30	573.15
Nov. 30	573.25
Dec. 27	578.3

NCDEX feb refined Soya oil\*

Sept. 30	595.75
Oct. 30	588.7
Nov. 3	613.35
Dec. 27	638.35

\* in rs per 20kg \*\* in Rs. per 10 kg

**Source: DCDEX**

The area under wheat, oil seeds and pulses increased substantially from a year ago, giving the

hope that these essential items of consumption will not add to inflation pressures. The government is battling a high food inflation, triggered largely by expensive fruits and vegetable prices.

The inflation in cereals and vegetables has been subdued even as overall food inflation is in excess of 15% .

However, the increase in the wheat acreage by almost 9 lakh hectares from a year ago has triggered apprehensions among analysts that a bumper crop is likely to create a huge storage problem for the government.

The wheat yield is also expected to be higher because of the good weather conditions.

"Storage is going to be a killer. Wheat production will be around 82 million tonnes or even higher this winter. Where will they store the new crop?" a sectoral monitor dealing with the food sector said.

The government has estimated a 82 million tonnes of wheat production this year. Last year, wheat production was at 80.17 million tonnes.

"Even pushing out existing crop at very cheap rates through the OMSS (open market sale scheme) is not working fast enough to help matters. There is urgent need for a long term grain storage policy which can be implemented at the earliest," he said. The Crop Weather Watch Group (CWWG)) data submitted to the government on Friday on the basis of inputs from states on acreage this winter also pointed to pulses acreage having gone up by 11.11 lakh hectare to 148 lakh hectare.

The acreage under oilseeds has risen 3.23 lakh hectares.

However, there was a corresponding decline in area under other marginal rabi crops rice, jowar and maize were lagging behind from the year-ago period.

*(Courtesy : AICOSCA Newsletter, January 2011.)*

# “HOLD THE HORSES”

## How to contain food inflation

G.Chandrashekhar,

The Centre has been battling food inflation, albeit with limited success. In the last two years, trade and tariff policies have been used to augment supplies and reduce prices. Export of a number of food products was banned, while imports were liberalised and, in many cases, allowed duty-free.

Administrative measures such as storage control were enforced to ensure that there was no speculative build-up of inventory. As a matter of abundant caution, futures trading in select commodities was banned. Monetary policy was tightened steadily. But all these have been of little avail and high food prices continue to burn a big hole in the common man's pocket.

High economic growth, rising purchasing power and population pressure have combined to demand more from the agricultural sector than ever before.

While the demand side shows robust growth (a cause for cheer), the supply side leaves much to be desired.

### OVERALL CONTEXT

Unsteady production, rising production costs, variable quality and yields combine to make overall farm growth sluggish. As supply growth trails demand growth, shortages accentuate. As has been recognised by experts, financialisation of agricultural markets impacts prices of essential food products.

It is well known that food constitutes nearly half of any average Indian family's monthly budget. For most Indians, high and rising food prices often result in a decline in food consumption, both quantitatively and qualitatively. This development has serious implications for the nutrition security of millions of people, especially those who are already undernourished or affected by malnutrition.

Unfortunately, global developments are unfavourable, too. Rising crude prices and adverse weather conditions of the last several months in many countries have impacted agricultural market prices. Integration of domestic market with global market means that our markets will have to contend with global influences.

Inflation control is an onerous, multi-dimensional task. The Government needs to exhibit sufficient political will to counter the problem. There is no simple one-step solution. A few short-term and medium-term measures may be considered by policymakers.

### SHORT-TERM MEASURES

Use trade and tariff policies to augment availability. In addition to steps already taken, there is scope for more. For instance, refined edible oils attract Customs duty of 7.5 per cent ad valorem, while crude oil is allowed duty-free. If import of refined oils is also allowed duty-free, more quantities of refined oils (that are readily marketable) will flow into the market quickly. Also, such a policy will force large importers holding speculative stocks to liquidate their huge inventories. Similarly, liberalise sorghum (jowar) import which is canalised through FCI and attracts a duty of 50 per cent. Sorghum import may be placed under OGL and duty-free. These are but two examples.

The Government may do a similar exercise to identify commodities in which trade and tariff policies can be effectively deployed to augment supplies in the short-run.

Direct FCI to gradually unload excessive inventory of rice and wheat in a manner such that the cereals are widely dispersed through open market sale. This will improve the supply situation and check price rise. If this involves an element of subsidy, so be it.

Strengthen PDS (Public Distribution System). In addition to rice, wheat and sugar supplied by the Centre, add edible oil and pulses. This will bring relief to the poor.

Abolish/suspend levy of multiple levels of duties, taxes and cess at the State and local levels. In particular, APMC cess on essential food prod-

ucts, levies at the mandi level (purchase tax, mandi tax, and so on) and octroi duty in cities should be abolished forthwith. The Centre must bring adequate pressure on State governments to act.

The Railways must give priority for movement of essential commodities of mass consumption.

Start a dialogue with trade and industry associations to ensure that they follow self-regulation or self-imposed discipline in terms of inventory, quality, marketing, price, and so on.

Use the services of PSUs (such as STC, MMTC, PEC) to import essential food items, but make sure imported goods are marketed without delay.

Instead of futures trading (which is nothing but paper trading) in essential food products, mandate delivery-based forward trading so that speculators with no genuine interest in commodity markets are not able to distort prices.

If need be, bring back selective credit control on essential food products.

## **MEDIUM TERM MEASURES**

Improve supply chain management by depoliticising the mandi system; make it more farmer and user friendly.

Review and redraw the FCI's role in foodgrains management. The exercise should include reduction of carrying costs, investment in modern warehouses facilities and use of ICT to make the agency's working more transparent.

Use smart cards for PDS and ensure improved vigilance.

Step up public investment in agriculture. Areas crying for attention include stronger input delivery

management, rapid expansion of irrigation facilities, improving agronomic practices through extension and farmers' education, building rural infrastructure and using ICT to deliver price and market information to growers.

Encourage technology infusion at every stage of farming and post-harvest covering inputs, production, protection and processing.

Instead of excessive reliance on markets and marketisation of food crops, create conditions for production of genuine surpluses primarily through increased yields and improved quality by fostering effective farm R&D.

Encourage contract farming — start with designing model contracts and making contracts enforceable. Incentivise contract farming for corporate houses.

Commercial intelligence and research: The Government lacks the ability to foresee and forecast changes in global and domestic commodity market conditions. This is a serious weakness. As markets integrate, our domestic market is subjected to global trends.

The Government should set up a commercial intelligence and research desk manned by experts who will track global and domestic market dynamics based on leading indicators and provide a 'price outlook' for the future, say six months' timeframe. It will facilitate proactive policymaking.

In addition to stepping up public investment in agriculture, investment through the PPP model may be followed for building rural infrastructure.

Promote and facilitate agricultural research with industry participation.

*Courtesy : AICOSCA Newsletter,  
January 2011.)*



# Habits of Highly Effective Leaders!

Frank Julie

## 1. EFFECTIVE LEADERS BEWARE OF THEIR SHADOW1

So, what is your shadow? Allan Kaplan refers to the shadow as that thing or energy that arises when we have too much or too little of something or strive too much or too little towards something. He says: "When we direct our energies in too focused a fashion, a balance is lost; yet life strives towards balance". For example, you are fiercely fighting against poverty but you are poor in other respects, e.g. relationships with other people, don't look after yourself, mental poverty, etc. You start to romanticise poverty. I once worked with a health institute caring for sick people but internally the relationships were very sick. It was a sickness that pervaded the institute. Remember, the more you strive for something the more its opposite will appear. The sharper the light of consciousness the more intense is the darkness of the subconscious. Where you have high peaks you also find deep valleys. Where you have strengths you also have weaknesses, Your shadow is not necessarily a negative or destructive phenomena. It is when you deny this shadow that it is invested with destructive energy. You lose control over it and it starts to control you. So, how do you approach your shadow? Don't fight it. Make it your friend, your ally.

Be aware of it. Embrace it and integrate it. When you push it away then you live in denial. Then it will haunt you, control and ultimately destroy you!

## 2. EFFECTIVE LEADERS UNDERSTAND THEY ARE ALWAYS ON TRIAL:

I am always amused when I hear leaders in NPO's bemoan the fact that they have no privacy in their personal lives. Well, what do you expect? To think you can have privacy in an organization is to suffer from serious delusions. The risk of leadership is about the risk of occupying a space that makes you visible and vulnerable. If you try to deny this it will haunt you wherever you go. In leadership there is always a trade off be-

tween power, privilege and privacy. You cannot have the first two and refuse to let go of the third one. It is actually worse since we work with public funds and other resources entrusted to us. When you betray that trust how can you claim privacy or even confidentiality as some corrupt leaders prefer to call it?

Sorry, but you will always be under scrutiny. Not only what you do inside the organization but also outside of it. If you don't like this intense scrutiny then step down because you are then not qualified to lead. To lead is a choice, a choice to accept power and privilege, to occupy that space provided for you, a very sacred space. But it is also a choice not to accept power and privilege, to maintain your privacy and to abandon that space! This is why Drucker says that a leader is paid to be uncomfortable. As a leader you are always on trial.

Whatever you say, do, write or even not say, not write and don't do is always being scrutinised. As Drucker said, "But a leader is not a private person, a leader represents.

## 3. EFFECTIVE LEADERS COMBAT HERO WORSHIPPING:

All leaders are fallible because they are human. There is no perfect leader. When people start to hero worship you then it is not about you really. It is about them and what they lack in themselves. They develop expectations about you that you are not even aware of. When you cannot meet those expectations then they will crucify you, forgetting it was all about them and not about you! Where you see this phenomenon, fight it. You may feel good in the beginning when others put you on a pedestal, but there is a price to be paid later on. Most of the time it will happen that the very people that put you on that pedestal will try and destroy you at a later stage. I have heard this from many leaders in various organizations.

#### **4. EFFECTIVE LEADERS PAY ATTENTION TO INVISIBLE LEADERSHIP:**

This is probably one of the least appreciated elements of leadership development. Simply put, it means what are you doing when no one is watching? What are you doing behind closed doors? How well do you treat yourself and your family, your partner, children, friends, etc? What are you doing to advance the interest of your organization when no one is watching? What do you do at night, what are you reading and studying? How disciplined are you when on your own? Some people may not know it but great leaders are made through the things they do when nobody can see them. They make sacrifices without expecting credit for it, build relationships, caring for others, helping others grow without expecting anything in return. They don't abuse their partners and the trust others put in them. They don't use others as tools to advance themselves. They defend others even in their absence. They don't manipulate or take short cuts. In short, they build inner power, a power that cannot be taken from them. They build integrity. They learn to become whole. And they constantly strive for balance.

Many times great leaders create the unintended impression amongst subordinates that it is easy to manage an organization. It is like someone running a 100-metre hurdle effortlessly and someone in the crowd thinking how easy it looks. When the person in the crowd attempts the same thing, he realises how difficult it is. The point is that the athlete was not observed during training, when they constantly practised, when she was preparing for the race. Invisible leadership is like practising when no one is watching. You are on your own. Remember a race is not only won while running it. It is won while you also prepare for it. Invisible leadership is like preparing for your race. You have to practice all the time.

There is no end in how much you can learn. So, what are you doing while no one is watching? 5.

#### **EFFECTIVE LEADERS UNDERSTAND THAT IMAGE+IDENTITY = INTEGRITY**

Just like organizations, leaders also have an image that they project to the outside world. But your image (that which is visible) and your true identity (what you do privately) may not be the same. Your true identity refers to what I have stated under invis-

ible leadership. There must be congruence between what you stand for in your public and private life. I have seen many of my own close comrades who failed this test. Some of them still do. I have also failed this test miserably until I started to work more seriously on myself.

When there is an imbalance between your image and your real identity then you will suffer from a lack of personal integrity or inner character. What you stand for in public and what you do in private is not consistent. Scot Peck reminds us that the word integrity comes from the word integration. And integration he says means to bring the parts together. The opposite of integration is separation. When things separate, they disintegrate or they fall apart. When you lack personal integrity, then you fall apart. It is in this situation where leaders who are not authentic or real are forced to wear masks to cover up their treacherous deeds. They cover up, sow division, recruit camp followers to compensate for their own insecurities, ignore policies and objective criteria when making decisions, or use policies to benefit them personally, play up to (the camp followers who provide legitimacy to their masks, and become generally reckless!

The same applies to organizations where you also have an image and an identity. Sometimes you read beautiful reports about the work of organizations just to find out later how corrupt these organizations are internally. Then there is a lack of organizational integrity. (See the part dealing with board development) For example, an organization may preach about gender equality just for you to find out that its own female members feel marginalised and oppressed. When you lack personal integrity as a leader it becomes impossible for you to develop organizational integrity. You cannot have one without the other. And you are not born with this quality. You have to develop it. It is a process. You have to be open and honest with yourself. When you see signs of disintegration, learn to watch yourself and correct your behaviour. Admit your mistakes or indiscretions and move on. Learn to become whole. It is a process and a very painful one.

There are no short cuts. When you live in denial about this, then you become unfit to lead as well as a danger to yourself and others. So, get real!

*(Courtesy : Plant Horti Tech, Jan-Feb. 2011.)*

## “WISDOM”

### New Budget 2011-12

NEW BUDGET 2011-12 presented in the Parliament on 28th February, 2011 has some ray of hope for oilseed sector. Budgetary allocation to the hitherto over looked segments of agriculture sector- pulses, oil palm, coarse cereals, fodder development, vegetable supply chain near urban centers is a welcome change. The oil seed production in the country is stagnant at around 260 lakh tonnes with productivity at 950 kg/hectare. Last year country imported 92 lakh tonnes of vegetable oil at a cost of over Rs. 35000/-crores. In the current year, we are likely to import about 90 lakh tonnes of vegetable oil. Oil palm is considered as the most efficient of oil crop. Amount of Rs. 300 crores has been provided in the budget to bring 60000/-hectares under oil palm plantation by integrating farmers with the market. This is a welcome initiative which is expected to yield about 3 lakh tonnes of palm oil annually in 5 years. Similar specific provision should have been made for for other oilseeds like Groundnut, Soyabean, Rape & Mustard, Sunflower, Sesame, Safflower, Linseed etc. Even today the Govt. in its own wisdom does not appear to consider cottonseed as oilseed even though production of cottonseed crossed one more tonne mark, the highest amongst oilseeds grown in the country. Cottonseed yields every year about 12 to 13 lakh tonnes of precious cottonseed oil which is considered as 'Heart oil'. Cottonseed processed in the country is through age old traditional method, resulting in loss of valuable cottonseed byproducts like linters, hulls, cottonseed oil worth about Rs. 5000/- crores annually. Specific provision in the budget to prevent such losses by propagating scientific processing of cottonseed would have been welcomed.

*Chairman, AICOSCA*

*(Courtesy : AICOSCA Newsletter,  
February 2011.)*

## “ZOOM IN”

### Boeing, Airbus chasing supply chain for biofuels

#### Louise Downing

Airbus SAS and Boeing Co are " talking to farmers and refiners of biofuels made from raw materials such as algae and wood chips, aiming to supply as much as 30% of the \$140 billion aviation fuel market.

Airbus is working on an " Asian supply hub in India, where it's talking with government and airline officials about ventures that would provide the fuel, said Paul Nash, the company's head of new energies. Its US competitor is negotiating with companies in South America to create supply networks, said Billy Glover, managing director of environmental strategy at Boeing's commercial airplanes unit. '• The companies, which manufacture 81% of the world's passenger planes, are preparing their airline customers to meet tighter emissions rules from Europe to Japan. They say governments haven't yet provided enough incentives to build the industry's ability to supply low-pollution biofuels that can rival on price the kerosene that's now burned. '\* "It's a chicken-and-egg 'K problem," Glover said. "No 1 one is going to produce the feedstock until they have a re-' finery to take it, and no-one HI will get the backing for a re-finery until they can ensure feedstock availability and a "V fuel buyer."

" Airbus and Boeing are seek-9J ing to build up supply chains "n that will provide biofuels at a J'( competitive cost. They're talking to growers, refiners, distributors, airports and airlines that will burn the fuel about forming joint ventures and companies that will supply the fuel. Neither would name entities they're talking with.

Boeing is seeking government or private "loan guarantees, or agreements where you can establish long-term fuel off-take, to guarantee a market, to make the industry attractive," Glover said.

The 27-nation European Union is prodding air-

lines toward cleaner fuels by forcing them to cap and trade emissions permits beginning next year 2012. Mexico, Spain and Singapore have their own incentives. The US government since 2004 has invested about \$348 million through grants, loan guarantees, bonds and tax exemption to technologies that could produce "clean" jet fuel from non-food second-generation feedstocks.

Virgin Atlantic Airways in 2008 became the first airline to fly a plane using first-generation biofuel from babassu nuts and coconut oil blended with kerosene. The UK carrier said non-food biofuel will take over in the longer term.

Deutsche Lufthansa AG, Air New Zealand, Air France-KLM Group and Japan Airlines Co. have since undertaken test nights. Within the next few weeks, Lufthansa and Airbus will fly passengers from Hamburg to Frankfurt on a plane with one engine 50% powered by biofuel.

Airbus of Toulouse, France, estimates airlines may consume 30% of their fuel from plant-derived sources by 2030.

Boeing says that's possible, though the Chicago-based manufacturer is focusing first on building an industry that can fuel 1% of airlines' annual needs by 2015. Renewable energy forms such as electric batteries, hydrogen and solar power used in other transport sectors won't work in aviation,

*(Courtesy : DNA MONEY  
07 - 06 - 2011)*

**Consumers vote for worst  
product/service**

***Organisers say awards should motivate  
companies to improve***

**Sunchika B Pandey**

WHILE industry and business honchos and for that matter even Hollywood stars use the number of trophies won as a measure of their success, here's an award with a difference.

Launched three years ago by the Consumer Guidance Society of India (CGSI), the contest for the worst products and services for the year 2010 is back giving awards nobody would want to lay a claim on. Unfortunately the results have been declared. The unlucky winner for the worst product is Samsung and for worst service is Airtel.

"Our aim is not to put any company down nor do we have anything against the practice of rewarding the best. However we feel that consumer experience should be identified and presented to the industry This would help them take concrete steps to rectify or improve the product/service for the consumer. The companies rated the worst this year should take these results positively", said Sanjeeta Joshi, a CGSI member.

CGSI received over 4,000 consumer complaints in 2010 from a cross-section of society, about products and services. The complaints were mostly registered by gullible and innocent consumers who were cheated, sold defective goods, provided with no service and treated with disdain once they paid the money. "These awards give the consumers who do not get value for their

## **HOW CONSUMERS ARE CHEATED**

- For the past three years, the contest has been organised by the Consumer Guidance Society of India (CGSI).
- Builders take the full payment from consumers without giving receipts. Paperwork handed over to them are company brochures.
- Distributors of two-wheelers take full payment and verbally promise delivery within 15 days but do not respond to the consumer for months.
- Insurance companies refuse to acknowledge receipt of bills despite the consumer providing them with signed courier receipts.
- Get -rich-quick money schemes which do not deliver, even partially

money a chance to vent their anger," said another member DrMSKamath.

Launched in January, the contest gave consumers a wide range of options in product/services categories such as airlines, banking, mobile handsets, credit cards, white goods (fridges, washing machines etc), consumables (toiletries, cosmetics etc) etc. "Mobiles having become an intrinsic part of our everyday life, seemed to be on top of consumers' minds. However, close on its heels were government services like the municipality railways etc. Consumables got the third highest votes," said CGSI member N. Swaminathan.

According to the CGSI, consumers realize after some time that they have been duped. Even after this majority of consumers do not complain. Possible reasons are lack of time, little knowledge about where to complain, how to go about it, inclination, conviction about not getting justice and fear of being treated shabbily and being ridiculed.

"Consumers voted for the product / service which they felt had promised a lot, but fell abysmally short on delivery. This gave the average consumer a chance to decide the biggest defaulters of 2011," said CGSI office bearers.

*(Courtesy : DNA MONEY  
07 - 06 - 2011)*

## “LOOKING AHEAD”

**Govt. targets higher growth for agricultural sector**

The Centre seems to have been rattled by surging food inflation — such that the Economic Survey has taken a close look at the pattern of food production during the past decade. Not just that, it has drawn a comparison with the 1980s.

In the last few years, there has been little to link the intentions spelt out in the Economic Survey with proposals in the Budget. If the Union Finance Minister, Mr Pranab Mukherjee, and his team of officials break that trend, we could see significant

steps to raise production in agriculture, particularly food-grain.

Nothing illustrates this better than the Survey stating that the need of the hour is for 8.5 per cent growth in agriculture during the next fiscal. This is necessary to meet the current Plan's growth target of four per cent. Including the 5.84 per cent growth projected this year, growth in agriculture in the first four years of the current Plan period will be 2.87 per cent.

The problem with Indian agriculture is that its share in gross domestic product (GDP) is declining. From contributing 19 per cent to GDP in 2004-05, it dropped to 14.2 per cent during 2009-10 (at constant prices of 2004-05).

Though GDP has increased by an average 8.62 per cent, agriculture's share in it has increased by 3.46 per cent only.

## ANOTHER GREEN REVOLUTION

Recalling the pioneering work done by agriculture scientists that helped achieve a breakthrough in the 1960s leading to the 'Green revolution', the survey says that since then, the country has not witnessed any big technological breakthroughs.

With the food requirement rising, the survey says there is need for enhanced agricultural production and productivity in the form of a Second Green Revolution. Further, it draws attention to achieving higher production and productivity levels in pulses, oilseeds, fruits, and vegetables that have remained untouched in the First Green Revolution but are essential for nutritional security. It also says that achieving high production in poultry, meat and fisheries is also essential.

## SUPPLY CHAIN MANAGEMENT

The relatively weak supply responses to price hikes in agricultural commodities, especially food articles, in the recent past brings back into focus the central question of efficient supply chain management and the need for sustained levels of growth in agriculture and allied sectors.

The choice before the nation is clear — to invest more in agriculture and allied sectors with

the right strategies, policies, and interventions. This is also a 'necessary' condition for 'inclusive growth' and for ensuring that the benefits of growth reach a larger number of people, the survey says.

It talks of renewed research as a way to boost production and productivity in rice and wheat after their yield reaches a plateau. A similar approach is advocated for coarse cereals too, while stressing on a technological breakthrough in pulses.

### **IN SUM, THE SURVEY CALLS FOR**

A holistic approach, simultaneously working on agricultural research, development, dissemination of technology, and provision of agricultural inputs such as quality seed, fertilisers, pesticides, and irrigation to achieve the critical levels of productivity needed.

Sustained capital investment in the sector by the public and private sector.

Prioritising the targeted development of rain-fed areas.

Following the experience of cooperatives in the milk sector in managing the supply chain and providing remunerative prices to producers for agricultural products.

Investment in food processing, cold chains, handling, and packaging of processed food needs to be encouraged.

A thrust on horticulture products is needed to raise the per capita availability and ensure nutritional security.

Public Private Partnership models for transport, storage and distribution to improve infrastructure.

Tackling on a war footing the issue of efficient food stocks management and offloading stocks in time.

(The Hindu Business Line, 26th February, 2011)

(Courtesy : AICOSCA Newsletter,  
February 2011.)

## **“GOOD PROGRESS”**

### **Increasing the price for biodiesel made from JATROPHA**

In January, India's Ministry of New and Renewable Energy and the Confederation of Indian Industry jointly recommended increasing the price for biodiesel made from jatropha from the present price of Rs26.5 (\$0.58) per liter, as per the Government-declared biodiesel policy, to Rs36 (\$0.79) per liter to make it sustainable and to stimulate growth of the Indian biodiesel industry. Their joint study also suggested an average purchase price of Rs6000 (\$132.42) per metric ton to ensure that people use agricultural land to grow food, not biofuel feedstocks.

(Courtesy : *inform* March 2011, Vol.22 (4).)

## **“GOOD START”**

### **Increasing the price for biodiesel made from JATROPHA**

INDIAN Railways is ready to build up to four biodiesel plants costing about Rs 120 crore (\$26.3 million). Two esterification plants will be commissioned at Raipur and Chennai during the next two years, according to a senior railway ministry official. Plans for the other two will be made firm at a later date. Each plant will produce about 30 metric tons of biodiesel per day from waste oil, fatty acid, and non-edible vegetable oils. The biodiesel will then be blended with HSD (high-speed diesel) oil for running the locomotives.

(Courtesy : *inform* April 2011, Vol.22 (4).)

## **“TRUTH WILL SUCCEED”**

### **No consensus on JATROPHA in Africa**

QUESTIONS continue to arise regarding the suitability of jatropha as a cash crop in places such as Africa.

**Speaking against jatropha:** Three nongovern-

mental organizations—the African Biodiversity Network, the Ethiopian Society for Consumer Protection, and The Gaia Foundation—released a report in December 2010 entitled "Biofuels—A Failure for Africa." The groups decry the idea that biofuels are a great opportunity for Africa, because the plant does not produce sufficient seeds for farmers to make a profit under conditions of inadequate water.

According to the report, *jatropha* is failing on these counts:

1. *Jatropha* performs poorly in areas with low rainfall or low-nutrient soil, to the extent that it is no longer being grown in areas originally developed for plantations.

2. Due to unproductive yields on *jatropha* plantations, companies have recruited small farmers as out-growers to grow castor oil. Yet castor's yields are still just a fraction of those expected by companies and farmers alike.

3. Biofuel companies are paying farmers lower prices per unit than they would earn from growing traditional food crops, or failing to pay farmers at all.

4. Biofuel feedstock produced in Ethiopia is being exported for processing and sale in European and Asian markets. Thus, it is not in any way addressing the government's stated need for energy security.

5. Challenges at policy level mean that the government is also failing to undertake the monitoring and regulation required to prevent negative socio-economic and environmental impacts.

Speaking for *jatropha*: Karl Hilding Thunes, a scientist with the Norwegian Forest and Landscape Institute, has been investigating the characteristics of *jatropha* by performing controlled experiments on irrigation and fertilization. He is conducting these experiments with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), under the auspices of the Consultative Group on International Agricultural Research.

According to Thunes, "*Jatropha* has undoubt-

edly been over-hyped somewhat in recent years. Expectations have become more realistic now, but there is no question that *jatropha* has major potential."

Thunes has conducted studies and field trials of pest risks with *jatropha* in Ghana and Niger. He reports, "A number of species consume *jatropha*, such as grasshoppers, beetles, mites, butterflies, and thrips" ([http:// tinyurl.com/jatropha-Thunes](http://tinyurl.com/jatropha-Thunes)). However, he contends these pests do not pose serious threats, and they can be thwarted by establishing blooming hedges to help with pollination or planting natural barriers of mango or avocado trees between fields of *jatropha*.

Furthermore, *jatropha* can be fertilized with its own nutrient-rich press cake, a residue of the oil extraction process, and utilizes much less water than sugarcane and corn.

*(Courtesy : inform April 2011, Vol.22 (4).)*

## “SLIPPING AWAY”

### Jatropha in Mozambique

SERGIO Gouveia, business development manager of Sun Biofuels Mozambique, announced in late November that the company, a subsidiary of UK-based Sun Biofuels Ltd., plans to expand its cultivation of *jatropha* in the country by more than five times in the next five years.

At present, the company has *jatropha* plants growing on 2,000 hectares; when expansion is complete, 11,000 hectares in central Manica and Sofala provinces will have been planted.

According to Bloomberg.com (November 25, 2010), Gouveia said the company "will follow the pattern of land zoning approved by the government so that we do not affect food productions."

The state-run Petroleos de Mozambique SA will purchase the oil for production of biofuel.

The company is presently experimenting with six varieties of *jatropha*, from which it will choose

the most suitable for planting in their expanded efforts.

*(Courtesy : inform April 2011, Vol.22 (4).)*

## “ADVENTUROUS”

### Lufthansa to use biofuel on commercial flights

IN a press conference held November 29, 2010, the German airline Lufthansa, along with government officials and the German Aerospace Center, announced a biofuel project that will begin in April 2011. At that time Lufthansa will begin flying an Airbus A321 on scheduled commercial flights going from Hamburg to Frankfurt and back to Hamburg. One of the aircraft's engines will use a 50:50 mix of biofuel and traditional kerosene. A primary purpose of the project is to evaluate the long-term effects of biofuel on engine maintenance and engine life.

According to Lufthansa Chairman and Chief Executive Officer Wolfgang Mayrhober, "Lufthansa will be the world's first airline to utilize biofuel in flight operations within the framework of a long-term trial."

As part of its preparations for these tests, Lufthansa is acquiring biofuel in sufficient volume to conduct these flights. Logistics also must be determined well in advance. The aircraft will be fueled only in Hamburg. This entails the airline changing its internal procedures, since it does not normally use a plane exclusively on a single route. Instead, a plane always flies in a rotation to different destinations.

The project is estimated to cost Lufthansa €6.6 million. Supplier of the biosynthetic kerosene will be Neste Oil (Porvoo, Finland), a fuel refining and marketing company. Certification of its biofuel is expected in March 2011.

A company statement indicated Lufthansa has improved its fuel efficiency by 30% since 1991. Average fuel consumption per passenger is now 4.3 liters of kerosene over 100 kilometers.

British Airways pic is also preparing to fly with biofuels. It is cooperating with Solena Group Inc.

to build a waste-to-biofuels plant east of London. Construction is expected to begin in 2012, with fuel production to start in mid-2014. British Airways, anticipates buying all of the plant's 16 million gallons (61 million liters) of biofuel, made from 500,000 metric tons of waste biomass otherwise destined for landfill, annually for up to 10 years, said Jonathon Counsel!, the airline's head of environment, in a July 2010 interview (http://tinyurl.com/BA-Solena).

*(Courtesy : inform April 2011, Vol.22 (4).)*

## “LEADER”

### Eye on talent, Godrej looks to build global brand equity

AFTER making seven acquisitions across three continents -Asia, Africa and South Africa - the Rs.13,000 crore Godrej Group is now launching an exercise to build the equity of the master brand Godrej in the international market. The aim is to attract talent for its international companies.

The 114-year-old Godrej brand is well known in India-with products ranging from soaps to cupboards. In a bid to build its equity globally, the group is considering various options, including hiring an external consultant.

Three years back, a similar initiative was undertaken in the domestic market and the group had roped in UK-based brand consultancy firm, Inter brand for the task. This had resulted in a younger looking Godrej Logo and a vision to treble the turnover of its fast moving consumer goods (FMCG) business by 2012.

"A lot of thinking has gone into how we could leverage the Godrej brand from the perspective of attracting talent in the international market. One way of doing that is to try and push the brand more in the international market to build its equity. Earlier, we did a successful brand' relaunch with Interbrand and now we are in discussion and how we could take this forward for a geographic expansion of the Godrej brand," said Vivek Gambhir, chief strategy officer, Godrej Industries.

The group's FMCG, arm, Godrej Consumer Products (GCPL) has acquired a host of compa-



nies globally in the last six years. After buying out Keyline Brands of the UK in 2005, GCPL acquired Rapidol (Africa) in 2006 and Kinky (South Africa) in 2008. Last year, the acquisition of Tura (Nigeria) was followed by the acquisition of Megasari (Indonesia), Issue Group (Argentina) and Argencos (Argentina), Each of these companies have independent brands which are popular in their respective regions. That makes it imperative for the group to build its master brand.

Along with these acquisitions came the task of consolidating the business and ensuring that the talent pipeline did not get clogged. Last year, the group took to integrating these business which were spread across three continents on a common HR platform. While no final decision has been taken, the group is likely to rope in an external consultant to enable it to meet this objective.

A number of Indian companies which have established a presence globally, like Tatas, Mahindra & Mahindra, Asian Paints and Marico, have been pushing their brands in the international markets as well. According to Jagdeep Kapoor, CMD, Samsika Marketing Consultants, one of the reasons why Indian companies have been slow to establish their brands globally, even as they continued to grow strong in the domestic market, is because of the depth of the Indian market. "Amul as a brand, after so many years, is now increasing its presence in India from 1,000 towns to 3,000 towns. The fact is that there are 8,100 towns in India, which can consume all the efforts of a company to expand its presence. But what is important is that Indian companies simultaneously build their brands in the international markets as well. After all, Indian professors have gone global and so have Indian managers. So why not take Indian brands global too?" said Kapoor.

Godrej has also set up a dedicated international centre and roped in Shashank Sinha as president, GCPL. The objective behind the move is to consolidate the business and put it under one reporting structure to drive synergies and collaboration.

Sinha is an MNC veteran with more than twenty years experience with various FMCG multinationals Iijis-8ara Lee Corporation and Reckitt Benckiser.

*(Courtesy : Soaps, Detergents & Toiletries Review, May 2011)*

## “SAD”

### Union Budget - Oilseed Sector Disappointed

The bad thing about good times is that they too come to an end, especially when we do not take measures to sustain them. The euphoria over the good crop of oilseeds will not last for long, as the Government of India has taken no major steps in the recent budget to improve the oilseed production or its productivity. On the contrary, certain proposals in the recent budget are counter productive and could actually discourage the farmers from growing oilseeds.

The Oilseeds production in the country has been stagnant at around 26-27 million tonnes with the productivity at around 950 Kg. per hectare. The country is heavily dependent on import. During the last oil year (2009-10), India had to import 92 lakh tonnes of vegetable oils at the cost of over Rs.35,000 crores. Our dependence on import of vegetable oils has increased to over 55% of our total requirement of edible oils. This is a matter of grave concern with regard to food security and the country can ill afford to depend so heavily on import of such an essential food item.

In view of this, SEA in its Pre-Budget Memorandum had pleaded the Government for greater allocation of funds for Pulses & Oilseed Villages; weighted deduction for Oilseeds Extension Program; re-alignment of Tariff Value for Edible Oil; import duty on edible oils to nullify the disadvantage to local producers and other similar measures that would enable farmers to get remunerative prices for oilseeds.

Contrary to our expectations, the Hon'ble Finance Minister in the present budget has allotted 300 crores only for 'pulses villages' as against Rs.300 crores that was allotted for 60,000 'pulses and oilseed villages' during the last budget. This has deprived the oilseeds farmers of this benefit.

Secondly, the Government has decided to impose 10% export duty on deoiled rice bran and also remove custom duty on its import. This is a most unfortunate decision as it will hit the domestic processors of rice bran particularly those from

Eastern India. The total production for rice bran and deoiled rice bran in the country is about 75 lakh tonnes, out of which hardly 1.50 lakh tonnes i.e. less than 2% is exported. The major consuming centre's of deoiled rice bran are in Western and Southern India where the Dairy Industry is fully developed. Whilst West Bengal is one of the leading producers of deoiled rice bran, there are no dairies to consume even 25% of it's production. The high Railway freight from West Bengal to Western or Southern India makes transportation of deoiled bran unviable, thereby compelling the producers in Eastern India to resort to export of deoiled rice bran to neighboring countries like Bangladesh & Vietnam. The imposition of 10% export duty will make the solvent extractors processing rice bran in West Bengal unviable, compelling the plants to close down, and consequently reducing the production of rice bran oil.

The Association had also suggested imposition of 10% import duty on crude oil and 17.5% duty on refined oil to offset the impact of local taxes paid by the domestic producers of vegetable oils vis-a-vis importers of vegetable oils. This would provide a level playing field to the domestic producers. Unfortunately, this proposal also has not been considered favorably.

The only favorable announcement made by Hon'ble Finance Minister in his Budget was the allocation of Rs.300 crores to encourage expansion of area under oil palm cultivation. This would facilitate bringing 60,000 hectares under Oil Palm plantation to yield an additional 3 lakh metric tonnes of palm oil annually in five years. However one of the

critical reasons for slow expansion of oil palm is that the government has not declared Oil Palm as a plantation crop. If this were done, it would attract large investments both from the local entrepreneurs and from foreign companies. This would help in significantly bridging the gap between the demand-supply of edible oil especially in view of the fact that oil palm yields nearly 4000 kgs of oil per hectare as against 300 to 400 kilos of oil per hectare obtained from the conventional oilseeds.

The Association has sent Post Budget Memorandum 2011-12 to the Hon'ble Union Finance Minister drawing his attention to our concerns and requesting him to reconsider various issues including withdrawal of export duty on deoiled rice bran. The Association has also requested the Apex Chambers like, CII, ASSOCHAM, FICCI & FIEO to include the mentioned issues in their Post Budget Memorandum to the Hon'ble Union Finance Minister. We sincerely hope that at least some concessions or benefits are given to the edible oil industry.

SEA will continue its crusade for improving the oilseed production and its productivity by coordinating with various Governmental agencies for we are always guided by The Golden Words of King Martin Luther:

***"If you can't fly. Run! If you can't Run, Walk! If you can't Walk, Crawl! But whatever you do, Keep Moving Towards your Goal!!!!***

*(Courtesy : Sea News Circular - Vol. XIII, Issue 12, March 2011.)*

## “AN EXPERT VIEW”

### POLICY FRAMEWORK FOR VEGETABLE OILS SECTOR TO MEET THE FUTURE DEMANDS

Dr. B. V. Mehta

Executive Director The Solvent Extractors' Association of India

#### Preamble:

In the last 15 years, the edible oil and oil seeds scenario has undergone a vast change. Our dependence on imports which was only 3% in 1992-93 has gone over to 50% currently. The main reason for this dismal state of affairs is that oilseed production has remained almost stagnant, while demand has been growing, both because of increase in per capita consumption and population growth. If indigenous production does not go up significantly, our dependence on imports may even go up over 60% with in few years. The Oilseeds production and the productivity is stagnant at around 26-27 million tonnes and the productivity at 950 to 1000 Kg. per hectare. The Government and the industry needs to go to the root cause of the problem and take appropriate policy initiatives to boost the production and productivity in the country.

#### Lost focus on Food Security

If we minutely analyse the reasons in food items, we shall find that a major part of it has been contributed by the increase in prices of some food articles due to shortage and lesser production. One single reason for the unprecedented increase in prices of the food articles is the lost focus on food security during the recent years. In fact a few years back we had huge buffer stocks of food grains to the extent that we had storage problems. Even the Government had to subsidise exports of food grains to get rid of the surplus stocks. Such a situation led the policy makers to believe that there was surplus production of food grains and there was no need to bother about food security. So much so that the agriculture sector lost its priority. But it was really unfortunate. In fact we never had surplus production of food grains in the real sense. A large part of our population could not afford to buy the nutritionally required quantities of food grains because of the lack of purchasing power.

With the impressive GDP growth in the recent years resulting in increased purchasing-power, coupled with ever increasing population, the demand for all kinds of food articles has gone up. On the other hand, the performance of the agriculture sector in the recent years had been very poor.

#### Agriculture not performing well

Production of essential food items has failed to keep pace with the increased demand resulting in pressure on the prices of these products. It is a matter of great concern that agriculture, on which depends the livelihood of a majority (nearly 600 million people), has not been performing well. The annual average growth in agriculture & allied activities has been rather modest at 2.2 percent over the last ten long years. Last year agricultural sector had negative growth of (-)0.5%. As production growth trails demand growth, India has become a large importer of a wide variety of food products including vegetable oils and pulses, and occasionally wheat and even sugar.

#### Stagnant Oilseed production

Under the circumstances, stagnant oilseed production must be on top of the Government agenda; but it does not appear to be so. In the last Budget Speech in the Parliament for 2010-11 on February 26, 2010, Hon'ble Finance Minister had announced on Agriculture Growth that "in the 60th year of the Republic, it is proposed to organize 60,000 'pulses and oilseed villages' in rain-fed areas during 2010-11 and provide an integrated intervention for water harvesting, watershed management and soil health, to enhance the productivity of the dry land farming areas. I propose to provide Rs.300 crore for this purpose. This initiative will be an integral part of the Rashtriya Krishi Vikas Yojana". This allocation is very meager and does not seem to make any impact to cope up with demand for oilseeds in order to make the country self-sufficient in edible

oils in near future. As per agricultural growth projections made by the Government of India for the period 2008-12, oilseeds output is targeted to increase by 4 percent a year. Based on the current output of about 26 -28 million tons, this 4 percent increase translates to about one million tons of oilseeds a year, equivalent to about 300,000-350,000 tons of oils. In fact, 4 percent is the targeted growth rate taking into account various operational constraints. In fact, last year (2009-10) production reduced to just 24.9 million Tons.

There is no guarantee that even this modest growth will be achieved. On the other hand, given income increases and demographic pressure, India's vegetable oil consumption demand is expected to rise faster than domestic production growth. This will lead to a continual expansion of import volumes from the present levels, and growing on an average by about 700,000 to 800,000 tons a year. In other words, our import dependence is likely to worsen in the coming years.

(Courtesy : Sea News Circular - Vol. XIII, Issue 12, March 2011.)

## 32nd ALL INDIA SEMINAR ON RABI OILSEEDS, OIL TRADE & INDUSTRY ON 13th MARCH, 2011 AT JAIPUR

### COOIT'S ESTIMATES OF PRODUCTION AND MARKETABLE SURPLUS OF RABI OILSEEDS AND AVAILABILITY OF VEGETABLE OILS DURING OIL YEAR 2010-11 (NOV-OCT)

1. GROUNDNUT		(IN LAKH TONNES)					
Sr. No.	State	Trade Estimate					
		2010-11 SEASON			2009-10 SEASON		
		Kharif	Rabi	Total	Kharif	Rabi	Total
1.	Guj'arat	18.70	2.30	21.00	13.8	2.2	16.0
2.	Maharashtra	2.00	0.50	2.50	1.8	0.5	2.3
3.	Andhra Pradesh	6.00	4.80	10.80	5.0	5.3	10.3
4.	Tamil Nadu	2.00	2.90	4.90	1.0	4.4	5.4
5.	Karnataka	4.00	3.40	7.40	3.0	3.3	6.3
6.	Madhya Pradesh/C.G.	1.50	—	1.50	1.5	—	1.5
7.	Rajasthan	4.50	—	4.50	5.0	—	5.0
8.	Punjab/Haryana/U.P	0.80	..	0.80	0.7	—	0.7
9.	Orissa	1.00	2.50	3.50	1.0	2.0	3.0
10.	Others	0.50	1.00	1.50	0.1	0.6	0.7
Total in Shells		41.00	17.40	58.40	32.9	18.3	51.2
Equivalent in Kernals (70%)		28.70	12.20	40.90	23.0	12.8	35.8
Retained for sowing. direct consumption & export		20.00	2.50	22.50	18.6	2.0	20.6
Marketable surplus (Inkernals for crushing)		8.70	9.70	18.40	4.4	10.8	15.2

<b>2. SOYBEAN</b>							
Sr. No.	State	2010-11 SEASON			2009-10 SEASON		
		Kharif <sub>(R)</sub>	Rabi	Total	Kharif	Rabi	Total
1.	Madhya Pradesh	<b>56.00</b> <sub>(R)</sub>	—	<b>56.00</b>	55.0	—	55.0
2.	Maharashtra	<b>27.00m</b>	—	<b>27.00</b>	20.0	—	20.0
3.	Andhra Pradesh	<b>1.50</b>	—	<b>1.50</b>	1.5	—	1.5
4.	Rajasthan	<b>6.50</b>	—	<b>6.50</b>	5.0	—	5.0
5.	Karnataka	<b>1.80</b>	—	<b>1.80</b>	1.5	—	1.5
6.	Chhatisaahr	<b>1.60</b>	—	<b>1.60</b>	1.2	—	1.2
7.	Others	<b>0.60</b>	—	<b>0.60</b>	0.8	—	0.8
	Total	95.00	—	95.00	85.0	—	85.0
	Retained for sowing & direct consumption	8.00	—	8.00	10.0	—	10.0
	Marketable surplus for crushing	87.00 <sub>(R)</sub>	—	87.00	75.0	—	75.0

(R) : Revised

<b>3. RAPE/MUSTARD/TORIA</b>							
Sr. No.	State	2010-11SEASON			2009-10 SEASON		
		Kharif	Rabi	Total	Kharif	Rabi	Total
<b>A) RAPE/MUSTARD</b>							
1.	Uttar Pradesh	—	<b>9.00</b>	<b>9.00</b>	—	8.0	8.0
2.	Raiasthan	—	<b>35.00</b>	<b>35.00</b>	—	26.0	26.0
3.	Punjab/Han/ana	—	<b>7.70</b>	<b>7.70</b>	~	7.0	7.0
4.	Gujarat	—	<b>3.30</b>	<b>3.30</b>	—	3.2	3.2
5.	M.P./Chhatisgarh	—	<b>7.50</b>	<b>7.50</b>	--	8.5	8.5
6.	West Bengal	—	<b>3.20</b>	<b>3.20</b>	--	2.6	2.6
7.	Eastern India & Others	—	<b>4.30</b>	<b>4.30</b>	—	4.0	4.0
	Sub Total	—	<b>70.00</b>	<b>70.00</b>	--	59.3	59.3
<b>B)</b>	<b>TORIA (All India)</b>	<b>1.0</b>	—	<b>1.00</b>	1.0	—	1.0
	Grand Total	1.0	70.00	71.00	1.0	59.3	60.3
	Retained for sowing & direct consumption	—	2.00	2.00	—	2.0	2.0
	Marketable surplus forcrushing	1.0	68.00	69.00	1.0	57.3	58.3

<b>4. SUNFLOWERSEED</b>							
Sr. No.	State	2010-11 SEASON			2009-10 SEASON		
		Kharif	Rabi	Total	Kharif	Rabi	Total
1.	Karnataka	<b>0.60</b>	<b>2.20</b>	<b>2.80</b>	2.0	2.6	4.6
2.	Andhra Pradesh	<b>0.30</b>	<b>1.30</b>	<b>1.60</b>	0.6	2.5	3.1
3.	Maharashtra	<b>0.35</b>	<b>1.00</b>	<b>1.35</b>	0.5	0.9	1.4
4.	Tamilnadu	—	—	—	--	0.1	0.1
5.	Punjab	—	—	—	--	0.1	0.1
6.	Haryana	—	—	—	--	0.1	0.1
7.	Uttar Pradesh	—	—	—	—	0.1	0.1
8.	Bihar	—	<b>0.30</b>	<b>0.30</b>	--	0.2	0.2
9.	Others	<b>0.10</b>	<b>0.40</b>	<b>0.50</b>	0.1	0.1	0.2
Total		<b>1.35</b>	<b>5.20</b>	<b>6.55</b>	3.2	6.7	9.9
Retained for sowing . direct consumption & export		—	—	—	0.1	—	0.1
Marketable surplus for crushing		<b>1.35</b>	<b>5.20</b>	<b>6.55</b>	3.1	6.7	9.8
<b>5. SESAMESEED</b>							
Sr. No.	State	2010-11 SEASON			2009-10 SEASON		
		Kharif	Rabi	Total	Kharif	Rabi	Total
1.	Gujarat	<b>0.50</b>	<b>0.40</b>	<b>0.90</b>	0.8	0.6	1.4
2.	Rajasthan	<b>1.30</b>	—	<b>1.30</b>	0.9	--	0.9
3.	Tamil Nadu	<b>0.10</b>	<b>0.25</b>	<b>0.35</b>	0.1	0.4	0.5
4.	Madhya Pradesh/C.G.	<b>0.70</b>	—	<b>0.70</b>	0.8	—	0.8
5.	Andhra Pradesh	<b>0.20</b>	<b>0.20</b>	<b>0.40</b>	0.1	0.2	0.3
6.	Maharashtra	<b>0.10</b>	—	<b>0.10</b>	0.1	--	0.1
7.	Karnataka	<b>0.20</b>	—	<b>0.20</b>	0.2	--	0.2
8.	U.P./Jharkhand	<b>0.80</b>	—	<b>0.80</b>	0.7	--	0.7
9.	West Bengal	—	<b>1.50</b>	<b>1.50</b>	--	2.0	2.0
10.	Orissa	<b>0.45</b>	<b>0.75</b>	<b>1.20</b>	0.5	--	0.5
11.	Others	<b>0.05</b>	<b>0.05</b>	<b>0.10</b>	0.1	0.1	0.2
Total		4.40	3.15	7.55	4.3	3.3	7.6
Retained for sowing,direct consumption & export		3.00	0.50	3.50	2.5	0.5	3.0
Marketable surplus for crushing		1.40	2.65	4.05	1.8	2.8	4.6

<b>6. CASTORSEED</b>							
Sr. No.	State	2010-11 SEASON			2009-10 SEASON		
		Kharif <sup>(R)</sup>	Rabi	Total	Kharif	Rabi	Total
1.	Gujarat	8.60	—	8.60	7.6	—	7.6
2.	Rajasthan	1.60	—	1.60	1.4	—	1.4
3.	Andhra Pradesh	1.40	—	1.40	0.4	—	0.4
4.	Maharashtra	0.30	—	0.30	0.3	—	0.3
5.	Punjab & Others	—	—	—	—	—	—
Total		11.90	—	11.90	9.7	—	9.7
Retained for sowing & export		—	—	—	—	—	—
Marketable surplus for crushing		11.90	—	11.90	9.7	—	9.7
(R) : Revised							
<b>7. NIGERSEED</b>							
Sr. No.	State	2010-11 SEASON			2009-10 SEASON		
		Kharif	Rabi	Total	Kharif	Rabi	Total
1.	Orissa	<b>0.25</b>	—	<b>0.25</b>	0.3	—	0.3
2.	M. P. & Chhatisqarh	<b>0.50</b>	—	<b>0.50</b>	0.3	—	0.3
3.	Others	<b>0.25</b>	—	<b>0.25</b>	0.2	—	0.2
Total		<b>1.00</b>	—	<b>1.00</b>	0.8	—	0.8
Retained for sowing, direct consumption & export		<b>0.30</b>	—	<b>0.30</b>	0.3	—	0.3
Marketable surplus for crushing		<b>0.70</b>	—	<b>0.70</b>	0.5	—	0.5
<b>8. SAFFLOWERSEED (KARDI)</b>							
Sr. No.	State	2010-11 SEASON			2009-10 SEASON		
		Kharif	Rabi	Total	Kharif	Rabi	Total
1.	Maharashtra	—	<b>0.85</b>	<b>0.85</b>	—	0.9	0.9
2.	Karnataka	—	<b>0.40</b>	<b>0.40</b>	—	0.4	0.4
3.	Andhra Pradesh	—	<b>0.10</b>	<b>0.10</b>	—	0.1	0.1
4.	Others	—	<b>0.05</b>	<b>0.05</b>	—	0.1	0.1
Total		—	1.40	1.40	—	1.5	1.5
Retained for sowing & direct consumption		—	0.10	0.10	—	0.1	0.1
Marketable surplus for crushing		—	1.30	1.30	—	1.4	1.4

<b>9. LINSEED</b>							
Sr. No.	State	2010-11 SEASON			2009-10 SEASON		
		Kharif	Rabi	Total	Kharif	Rabi	Total
1.	Madhya Pradesh	—	<b>0.70</b>	<b>0.70</b>	—	0.7	0.7
2.	Uttar Pradesh	—	<b>0.10</b>	<b>0.10</b>	—	0.2	0.2
3.	Maharashtra	—	<b>0.15</b>	<b>0.15</b>	—	0.3	0.3
4.	Bihar	—	<b>0.15</b>	<b>0.15</b>	—	—	—
5.	Nagaland	—	<b>0.15</b>	<b>0.15</b>	—	—	—
6.	Others	—	<b>0.35</b>	<b>0.35</b>	—	0.4	0.4
Total		—	<b>1.60</b>	<b>1.60</b>	—	1.6	1.6
Retained for sowing & direct consumption							
Marketable surplus for crushing		—	1.60	1.60	—	1.6	1.6
<b>TOTAL ESTIMATED PRODUCTION OF NINE MAJOR OILSEEDS</b>							
		2010-11 SEASON		2009-10 SEASON	CHANGE		
Kharif		1 55.65 (R)		136.9	(+ ) 18.75		
Rabi		98.75		90.7	(+ ) 8.05		
Total		254.40		227.6	(+ ) 26.80		

(R) : Revised

(Courtesy : SEA News Circular, March 2011)

## “AT LONG LAST”

### Edible Oils Continue To Slip On Global Cues

Edible oils market remained bearish on Monday, taking cues from the continuing decline at markets in Malaysia and Chicago, amid concerns that Japan's earthquake could damage regional economies and demand for commodities.

In line with the foreign markets, palmolein declined by Rs 4, soya refined oil by Re 1, rapeseed oil by Rs 2, cotton oil by Re 1 and

sunflower oil by Rs 5 for 10 kg. Only groundnut oil ruled unchanged on steady reports from Gujarat and South India. Higher arrivals of seeds kept indigenous oils under check. Bearish trend at Indore soya futures weighed on the spot market that witnessed limited resale volume. Morale was weak.

Crude palm oil (CPO) futures on Bursa Malaysia Derivatives (BMD) closed lower for the fifth consecutive day. Traders continued to book profits on speculation that rising soyabean oil supplies from Argentina and Brazil may cool demand for the palm oil, said



sources.

Market sources said in absence of fresh local demand and need-based physical buying volumes remained negligible. In resale, traders were unwilling to bet for fresh bulk-buying even at lower rates. Refineries were also quoting palmolein and soyabean oil on par with the market, but the response was poor because of cheaper offers from resellers. (Source :TheHindu Business Line dt 15th Mar ch, 11)

(Courtesy : SEA News Circular, March 2011)

## “AND YET ... THE LOSERS”

**India, major producer of  
CASTOR OIL**

CASTOR (*Ricinus Cummunis*) is also known as the "Palm of Christ". It belongs to the Euphorbiaceae family and is indigenous to the southeastern Mediterranean Basin, Eastern Africa and India.

### Castor crop

The crop is cultivated around the world for its non-edible oilseed. Castor is a perennial crop but is grown as an annual for economic purpose. It is cultivated mostly in the arid and semi- arid regions of the world. The crop duration is 4-5 months. In India, it is sown in July/August and harvesting commences around December /January.

The presence of hydroxyl fatty acid known as ricinoleic acid makes castor oil unique among other seed oils. Castor oil is also distinguished from other vegetable oils by its high specific gravity and thickness thus making it amenable for a number of uses.

### Castor oil

Castor oil and its derivatives have applications in the manufacturing of soaps, lubricants, hydraulic and brake fluids, paints, dyes, coatings, inks, cold resistant plastics, waxes and polishes, nylon, pharmaceuticals and perfumes. Castor meal, the byproduct of the oil extraction process is mainly used as fertiliser.

## Production

In 2009, total global area and production of castor oil seed stood at 1.47 million hectare (mh) and 1.5 million tonnes (mt) respectively, of which India alone contributed approximately 73 per cent of total global production.

Other major producers include China, Brazil and Mozambique. India is the largest exporter of castor oil and exported 3.45 lakh mt in the year 2009-10.

## Exports and imports

Other major exporters of castor oil include US, EU-27 and Brazil. China is the largest importer of castor oil with an overall share of 46 per cent of world imports. Other important import destinations include EU-27, US, Japan and Thailand.

India is a major contributor in global castor oil seed production with total production of 1.1 million mt cultivated across an area of 0.84 mh (in 2009). The average domestic productivity is 1.3 million tonnes a hectare (mt/ha), which is approximately 30 per cent higher than the global productivity level (1 mt/ha).

In the year 2000, total castor oil seed production was at 8.82 lakh mt, which has increased to 1.1 million mt in the year 2009. In the last decade (2000-2009), India's castor oil seed production has registered the compound annual growth rate (CAGR) of 2.5 per cent.



## Producing states

The major castor producing States in India are Gujarat, Rajasthan and Andhra Pradesh. Together, these States account for more than 90 per cent of total domestic production with Gujarat being the largest castor oil seed producing State. Gujarat also leads in terms of productivity with a yield of 1.71 mt/ha. The major districts where castor is cultivated in Gujarat are Banaskantha, Gandhinagar, Kutch, Mehsana, Patan, Rajkot and Surendranagar.

On the other hand, Rajkot, Ahmedabad, Gondal, Gadwal and Bhabar are the main trading centres for castor in the State. In 2010, domestic castor oil seed price varied in the range of Rs 2,440 (February) to Rs 3,194 (November) a quintal, with yearly average price of approximately Rs 2,818 a quintal.

After looking at the growth of lubricant and grease, coatings, personal care, surfactants and oleochemicals industries, the demand for castor oil is going to increase in time to come and India will be the front runner in controlling global trade.

Given the competitive advantage and edge that India has over other countries in this crop, the country should focus on development of varieties that are resistant to lepidopteron pests — which is the major cause of value loss at the field level. Given that castor is a non-food crop, developing genetically modified varieties that are resistant to lepidopteron pests could be an important focus that could take the productivity of the crop to higher levels. *Source: Yes Bank*

*(Courtesy : SAARC Oils & Fats Today, May 2011).*

# Technology

## Ad hoc biodiesel industry review

*Editor's note: In light of changes in the biodiesel industry worldwide, AOCS surveyed the program committee that planned the 2nd International Congress on Biodiesel, held in November 2009, about the current and future state of the biodiesel industry. We asked: (1) What is going on in the industry? (2) Are there new developments and growth projected? (3) How are China and Latin America affecting the industry? Except where indicated in the text, their responses came in the fourth quarter of 2010, before the \$1/gallon blenders tax credit was renewed in the United States.*

### **Bob McCormick, National Renewable Energy Laboratory, USA**

(1) IN THE United States the industry is significantly hindered by low petroleum prices, the expiration and non-renewal of the \$1/gallon blenders tax credit, and overbuilt production capacity relative to market demand and feedstock supply. Low petroleum prices are likely to continue for a few years because of the weak global economy and because of two policy actions in the United States: the renewable fuel standard and the implementation of stricter vehicle fuel economy standards. These will both hold down demand for petroleum products, keeping prices low until demand from other places (such as China) picks up. The blenders tax credit may be renewed by the end of this year, but who knows? I think that the problems in renewing it stem from all of the unjustified negative press coverage of biofuels in general over the past couple of years (related in life cycle environmental impacts and the "red herring" food vs. fuel debate), and all of the negative press from problems that some biodiesel users have encountered. The problems that biodiesel users encounter are mainly caused by biodiesel that fails to meet the quality specification, but not entirely. There were/are some quality issues that we do not understand very well yet and so are not covered in the quality specification] (effects of saturated monoglycerides on low-temperature operability, in particular) . Lack of demand is partly related to the \$ 1 / gallon credit expiring. Feedstock supply is something that demand might ul-

timately fix, and there has been a lot of innovation on this in recent years.

(2) In the United States, the renewable fuel standard will require 1 billion gallons (3.8 billion liters) per year of biomass-based diesel by 2012—I think this is about 3x more biodiesel than has ever been used in the United States before. Today only biodiesel is poised to meet this, but that will change and there are significant investments being made to build commercial-scale facilities to make renewable diesel (basically, hydrogenated and cracked fat or oil, likely palm oil). If biodiesel/renewable diesel is working well, the petros could choose to blend more than 1 billion gallons of biomass-based diesel to meet renewable fuel standard. But really it is going to require a renewal of the \$1/gallon credit for big growth to occur.

(3) I do not see China affecting the US market today. Latin America does affect the US market because both Brazil and Argentina are large global producers and exporters—impacting the US market potentially because we could import, but also because they affect global markets and the largest US producers have historically exported on the order of 50% of their production.

### **Paolo Bondioli, Stazione Sperimentale per le Industrie degli Oli e dei Grassi, Italy**

(1) The biodiesel industry is actually in a deep

crisis. From one side, high request to fulfill European Union targets. From the other side, high prices of starting material. There are also problems with sustainability, rules for import from extra EU countries, and general economic crisis.

(2) Activity is oriented toward new uses of glycerol to improve the economics; research for new feedstocks, algae included; improvement of biodiesel quality (reduction of content of monoglycerides and steryl glucosides).

(3) No information from these countries.

### **Tim Kemper, Desmet Ballestra North America, USA**

(1) Globally, reasonable production continues across Europe due to mandates. Production in Asia, dependent upon palm biodiesel, is virtually stopped. Production in the United States is limited to the most efficient operators due to weak mandates and inconsistent government support for the blenders tax credit. Production in South America is strong and growing, used internally in both Brazil and Colombia with Argentina exporting virtually all of its production. Overall, there is very low global utilization of capacity and only modest production growth.

(2) Outside Brazil and Argentina, virtually no one else is able to get funding for commercializing new biodiesel facilities due in large part to low capacity utilization.

(3) China is having very little impact on the global biodiesel industry. Latin America is growing in production, and specifically Argentina, with its favorable differential export tax, is exporting large quantities of biodiesel, presumably to Europe.

### **Marcel S.F. Lie Ken Jie, University of Hong Kong, Hong Kong**

(3) My comment on China biodiesel (BD) is that production is mainly from used cooking oil and some talk of a new hybrid of rape-seed (Yangzte River valley) and half-hearted attempts about jat-ro-pha in Guangdong area. Pure research is lacking. China instead went looking for international money in the past few years to shore up the

production—a business venture approach rather than a BD venture. (If property prices are going through the roof in China, as it is today, it is hard to expect accessible land to be used for a BD crop.)

The attention has gone into solar energy in the arid areas of China on a grand scale.

Take the case of Hong Kong, where we have two minuscule producers. The HK Government went public this year by legislating the "specifications for biodiesel" after 10 years of "monitoring" the biodiesel issue. They adopted the European standard and tried to work out a standard for B5 [S% biodiesel blended with 95% petrodiesel]. HK has little or no BD to affect the environment.

Mainland China's BD quality is poorly controlled—as long as the BD produced is cheaper than diesel fuel, in it goes.

There is an interest in BD, no doubt, as China has a great demand for energy. As for the other FE countries, I leave views on Malaysia, Indonesia and India to our more able colleagues to comment. Little progress from Philippines, Vietnam, Taiwan, Korea, and Japan.

### **Michael J. Haas, US Department of Agriculture, Agricultural Research Service, Eastern Regional Research Center, USA**

(1) My perceptions mirror those of Tim Kemper and Bob McCormick in many ways: The industry in the United States is weakened by the absence of long-term tax incentives that would support capital investment. The global recession remains.

The question now in 2011 is—okay, we have a tax credit and the recession seems to be ending—are things different?

Well, the tax credit is, as I understand it, for one year only. Longer-term reliable support is what leads investors to invest in new construction; it is unclear whether a one-year lifetime tax credit helps the industry expand, whereas a longer lifetime credit gives the security that investors need in order to act. At any rate, the credits available to

the industry through the Renewable Fuels Standard are in place and reliable, and running near a dollar a gallon in value (though as a researcher I am less familiar with that realm). Some producers have commented to me that these credits are of almost more value to them than the tax credit structure has proven to be.

The industry already has a lot more capacity to produce than it is using, and so new construction may not be the first thing to look for as an indication of industry health. Perhaps the number of plants that keep the doors open, and the degree to which they are running near capacity, are important parameters at this stage. Overcapacity in the industry did not prevent overexpansion in the past; maybe people will pay more attention to such things now.

Refined oil prices have risen quite high. It is probably difficult to make money on biodiesel under such conditions unless one can use lower-quality, lower-cost feeds.

The Renewable Fuels Standard has been put in place, mandating national use of definite, known volumes of biobased fuel. This establishes significant volume targets for the consumption of "advanced biofuel," of which biodiesel is presently the only approved domestically produced representative. This establishes demand and should energize the industry. In addition, within the past year the home heating oil industry, which moves substantial amounts of liquid fuel in the Northeast sector of the United States, has come to strongly support the use of biodiesel blends. This also provides a market pull that should encourage biodiesel production.

Perhaps as a barometer of the current and near-term mindframe, I felt that the mood at the meeting of the National Biodiesel Board, held in February 2011 in Phoenix, was less grim, a bit more optimistic, than last year's similar meeting.

## **Martin Mittelbach, University of Graz, Austria**

(1) Because of the European Directive on Renewable Energy and the mandatory goals of up to 10% biofuels until 2020, regulated in national laws, there will be a constant and rising demand for bio-fuels and biodiesel. Also there are mandates for developing B10 and B30 specifications, which additionally will raise the demand for biodiesel. After stagnation in 2009 and 2010, the production will go up slowly, but constantly.

(2) Because of the possibility of counting double for the goals, biodiesel from used frying oil and other waste material will be promoted in the future. Biodiesel plants will have to adapt their processes for those feedstocks.

Also the whole production chain has to be evaluated according to the sustainability criteria. A minimum of 35% GHG (greenhouse gas) savings has to be reached during the whole production chain, so the biodiesel production process also has to be optimized.

Also hydrotreated vegetable oil will come onto the market, especially for the aviation industry.

(3) China: No big developments can be seen, only used frying oil as feedstock, no food oils. Latin America: Argentina is still the major player, but Brazil is following up. Argentina has been concentrating on exports, but will use biodiesel also in the near future in their own country. For Brazil, biodiesel could be the same success story as bioethanol.

Today, still, a lot of biodiesel from Argentina is exported to Europe, therefore in Europe there is an overcapacity.

*(Courtesy : inform April 2011, Vol.22 (4).)*

## “HAIRY TIME”

### Hair dyeing poised for transformation

TECHNOLOGICAL progress may be fast-paced in many fields, but one mundane area has been left in the doldrums for the last 150 years: the basic technology for permanently coloring hair. That is the conclusion of a review of almost 500 articles and patents on the chemistry of permanent hair dyeing. The authors, Robert Christie and Olivier Morel, foresee much more innovation in the years ahead, including longer-lasting, more natural-looking dyes and genetic manipulation to reverse gray hair. They note that hair dye already is a multibillion dollar international industry, poised for even greater expansion in the future due to the graying of a global population yearning to cling to appearances of youth.

Most permanent hair coloring technology, however, is based on a 150-year-old approach that uses *p*-phenylenediamine (PPD), a chemical that produces darker, browner shades when exposed to air. Concern over the safety of PPD and other hair dye ingredients, as well as demand for more convenient hair dyeing methods, has fostered an upswing in research on new dyes and alternative hair coloring technologies.

The scientists describe progress toward those goals. Future hair coloring techniques are likely to include nano-sized colorants, for instance. Composed of pigments 1/5,000th the width of a human hair, they will penetrate the hair and remain trapped inside for longer-lasting hair coloration. Scientists are also developing substances that stimulate the genes to produce the melanin pigment that colors hair. These substances promise to produce a wider range of more natural-looking colors, from blond to dark brown and black, with less likelihood of raising concerns about toxicity and better prospects for more natural results. Other new technologies may stop graying of the hair or prevent its formation altogether, the scientists say.

The research appears in *Chemical Reviews* (doi: 10.102J cr1000145).

(Courtesy : *inform April 2011, Vol.22 (4).*)

## “UNIQUE”

### Ethanol production from biodiesel-derived crude glycerol by newly isolated *Kluyvera cryocrescens*

Choi, W.J., et al, *Appl. Microbiol Biotechnol.* 89:1255-1264,2011.

THE rapidly expanding market for biodiesel has increased the supply and reduced the cost of glycerol, making it an attractive sustainable feedstock for the fuel and chemical industry. Glycerol-based biorefinery is the microbial fermentation of crude glycerol to produce fuels and chemicals. A major challenge is to obtain microbes tolerant to inhibitors such as salts and organic solvents present in crude glycerol. Microbial screening was attempted to isolate novel strain capable of growing on crude glycerol as a sole carbon source. The newly isolated bacteria, identified as nonpathogenic *Kluyvera cryocrescens* S26, could convert biodiesel-derived crude glycerol to ethanol with high yield and productivity. The supplementation of nutrients such as yeast extract resulted in distinguished enhancement in cell growth as well as ethanol productivity under anaerobic condition. When glycerol fermentation is performed under microaerobic condition, there is also a remarkable improvement in cell growth, ethanol productivity, and yield, compared with those under strict anaerobic condition. In batch fermentation under microaerobic condition, *K. cryocrescens* S26 produced 27 g/L of ethanol from crude glycerol with high molar yield of 80% and productivity of 0.61 g/L/h.

## “THE FLIP”

### Identification and characterization of the propanediol utilization protein PduP of *Lactobacillus reuteri* for 3-hydroxypropionic acid production from glycerol

Luo, L.H., et al, *Appl Microbiol Biotechnol* 89:697-703,2011.

Although the *de novo* biosynthetic mechanism of 3-hydroxypropionic acid (3-HP) in glycerol-fermenting microorganisms is still unclear, the propanediol utilization protein (PduP) of *Lactobacillus* species has been suggested to be a key

enzyme in this regard. To verify this hypothesis, *zpdUP* gene from *Lactobacillus reuteri* was cloned and expressed, and the encoded protein was characterized. Recombinant *L. reuteri* PduP exhibited broad substrate specificity including 3-hydroxypropionaldehyde and utilized both NAD<sup>+</sup> and NADP<sup>+</sup> as a cofactor. Among various aldehyde substrates tested, the specific activity was highest for propionaldehyde, at pH 7.8 and 37°C. The  $K_m$  and  $V_{max}$  values for propionaldehyde in the presence of NAD<sup>+</sup> were 1.18 mM and 0.35 U $mg^{-1}$ , respectively. When *L. reuteri* pduP was overexpressed in *Klebsiella pneumoniae*, 3-HP production remarkably increased as compared to the wild-type strain (from 0.18 g L<sup>-1</sup> to 0.72 g L<sup>-1</sup>) under shake-flask culture conditions, and the highest titer (1.38 g L<sup>-1</sup> 3-HP) was produced by the recombinant strain under batch fermentation conditions in a bioreactor. This is the first report stating the enzymatic properties of PduP protein and the probable role in biosynthesis of 3-HP in glycerol fermentation.

## “GREAT”

**Biopolymer scaffolds for use in delivering antimicrobial sophorolipids to the acne-causing bacterium *Propionibacterium acnes***

Ashby, R.D., et al, *New Biotechnol* 28:24-30, 2011. Sophorolipids (SLs) are known to possess anti-

microbial properties toward many species (particularly Gram-positive, or Gram+) of bacteria. However, these properties can only be exerted if the SLs can be introduced to the bacterial cells in an acceptable manner. *Propionibacterium acnes* is the common bacterial cause of acne. It is a Gram+ facultative anaerobe that is susceptible to the antimicrobial effects of SLs. In this study we demonstrated that different biopolymer matrices could be used to produce SL composite films that exert various antimicrobial efficiencies against *P. acnes*. Increasing SL concentrations in poly-3-hydroxybutyrate (PHB) and PHB-co-10%-3-hydroxyhexanoate (PHB/HHx) resulted in noticeably improved (PHB/HHx was best) antimicrobial activity based on the size of the zones of inhibition using an overlay plating technique on synthetic growth medium. However, increasing concentrations of SLs in PHB and PHB/HHx films also increased film opacity, which diminishes the appeal for use especially in visible (facial) areas. Pectin and alginate improved the transparent character of SL composite films while also acting as successful carriers of SLs to *P. acnes*. The lactone form of the SLs proved to exhibit the best antimicrobial action and in concert with either pectin or alginate biopolymers provided a comparatively transparent, successful means of utilizing SLs as a renewable, environmentally benign anti-acne solution.

*(Courtesy : inform April 2011, Vol.22 (4).)*

## “UNIQUE”

### The A.I.S.E. Charter for Sustainable Cleaning

How Europe is reducing the footprint of the detergents and maintenance products Industry

Valerie Sejourne, Sandra Oworak, and Sascha Nissen

A.I.S.E., the International Association for Soaps, Detergents and Maintenance Products, is the official representative body of this industry in Europe. Its membership totals 37 national associations in 42 countries, covering about 900 companies ranging from small- and medium-sized enterprises to large multinationals active both in the consumer goods market and the industrial & institutional (I&I) domains. During the last 13 years, A.I.S.E. has conducted proactive work on sustainable production and consumption for the whole of the industry sector. A.I.S.E.'s mission is detailed in its Agenda for Sustainable Cleaning ([www.aise.eu/agenda](http://www.aise.eu/agenda)) and follows the Industry Vision, which is based on the three pillars of sustainable development—economically successful, environmentally sound, and socially responsible as identified at the UN World Summit in 2005.

#### Driving sustainability through voluntary action

The A.I.S.E. Charter for Sustainable Cleaning

#### In line with the EU political agenda

*Sustainable development is now enshrined in the European Union (EU) Treaty as an "overarching" principle of all EU policies and is also fundamental to the EU's proposed EU 2020 strategy, which focuses on three interlinked priorities: growth from knowledge, creating an inclusive society, and building a greener economy that is competitive at international level. In that spirit, the A.I.S.E. Charter is also in line with the European Commission's Action Plan on Sustainable Consumption and Production/Sustainable Industrial Policy (SCP/SIP) published in July 2008. The Action Plan clearly recognizes the value of the role played by self-regulatory voluntary industry initiatives.*

translates the concept of Sustainable development outlined in the Agenda into reality and actions. It was launched in 2005 in all European Union (EU) countries plus Iceland, Norway, and Switzerland, covering all product categories of the industry, in both the household and the I&I sectors. It is open to all companies, whether they are members of A.I.S.E. or not, and whether they manufacture, distribute, or market soaps, detergents, maintenance products, or cleaning systems.

The aim is to encourage the whole of industry to undertake continual improvement in terms of sustainability and also to encourage consumers to adopt more Sustainable ways of doing their washing, cleaning, and household maintenance. From the outset, the Charter has been regarded as a living scheme, evolving over time through regular upgrades. This ensures that it continues to offer the most advanced sustainability assurance scheme for promoting best practice within the industry, using life cycle analysis (LCA) and science as a basis.

The Charter is an LCA-based framework. It promotes and facilitates a common industry approach on sustainability practice and reporting. It covers a wide variety of activities and initiatives, ranging from the human and environmental safety of chemicals and products to eco-efficiency, occupational health and safety, resource use, and consumer information.

#### Success to date

As of early 2011, more than 130 companies have joined the A.I.S.E. Charter, representing more than 80% of the total production output for Europe.

The process of implementing the charter sustainability procedures (CSPs) and measuring and reporting the key performance indicators (KPIs) helps to drive continual improvement in



TABLE 1. Charter sustainability procedures for companies
<ul style="list-style-type: none"> <li>● Raw material selection and safety evaluation</li> <li>● Raw material and packaging supplier selection</li> <li>● Packaging design and selection</li> <li>● Resource use policy</li> <li>● Occupational health and safety management system</li> <li>● Environmental management system</li> <li>● Distribution risk assessment Product recall</li> <li>● Consumer and user information</li> <li>● Finished product safety evaluation</li> <li>● Product performance and product review</li> <li>● Internal target setting</li> </ul>

TABLE 2. Key performance indicators for industry reporting
<ul style="list-style-type: none"> <li>● Company participation</li> <li>● Chemicals safety evaluation</li> <li>● Occupational health and safety</li> <li>● Use of poorly biodegradable organics</li> <li>● Packaging used</li> <li>● Consumed energy and CO<sub>2</sub> emitted</li> <li>● Consumed water</li> <li>● Consumer and customer safety</li> <li>● Consumer and customer information</li> <li>● Waste</li> <li>● Percentage of production compliant with Advanced Sustainability Profiles for product categories</li> </ul>

Sustainable production and consumption. Improvements occur at all stages of the product life cycle, from product specification, through manufacturing, to end use and disposal. For example, safety improvements can come from selection of properly risk-assessed raw materials, adoption of best practice in manufacturing systems, and increased use of on-pack guidance for consumers. Environmental improvements can include reducing use of resources, creating less waste, and emitting less carbon dioxide.

In the Charter's first four full years of operation (2006-2009), verified returns from companies via the annual KPI reporting demonstrate how Charter members' efforts continue to yield positive results across all Europe:

- Energy consumed per ton of production: -5.5%;
- CO<sub>2</sub> emitted per ton of production: -8.9%;
- Packaging per ton of production: -1.5%;
- Waste per ton of production: -3.9%.

### How does it work?

The Charter consists of three main components, all of which are subject to independent verification.

CSPs. Based on ISO 14001 and other comparable standards, a number of CSPs have been defined for companies to implement in their management systems in order to become members of the Charter (see Table I). These CSPs must

apply to a minimum of 75% of the company's production, independently verified on the occasion of the Charter Entrance Check. The scheme also establishes synergies between the CSPs and certain other manufacturing standards such as ISO 9001, ISO 14001/EMAS, and BS OHSAS 18001.

KPIs. The Charter also defines a set KPIs (Table 2), which are specifically linked to the CSPs. Companies that sign up to the Charter are required to report annually to A.I.S.E. on the KPIs. A.I.S.E. collects and aggregates the results and publishes them in the annual A.I.S.E. Activity & Sustainability Report, providing measurable evidence of the progress for the whole industry sector at European level. The KPI reporting is also externally verified through a process of random audits managed by an independent body for A.I.S.E.

Product dimension-Advanced Sustainability Profiles (ASPs). ASP status represents a high standard of sustainability in the product characteristics which companies can adopt. Defined per product category, the ASP criteria/thresholds are based on the main life cycle impacts. Products that meet the requirements of these ASPs may use a differentiated Charter logo on pack, which signifies not only that the manufacturer is committed to certain sustainability processes at the manufacturing level but also that the product itself meets certain advanced sustainability criteria.



**Figure 1 - The A.I. S.E. charter covers the whole life cycle of products**

### Independent verification

Independent verification guarantees that all applicant companies are individually assessed on the same basis by a neutral, external body. Before a manufacturing company can join the Charter, it is visited by an accredited independent verifier who must certify that the company as the required CSPs in place, under control, and adequately applied, its verification process is part of the Charter Entrance Check and is signed to follow a well-defined path, directing attention in turn to each of the required sustainability elements. Verifications on all CSPs continue every three years subsequently.

In addition to the CSP checks, the annual reporting on KPIs is so verified each year through a system of random audits of reporting companies, again by an independent external verifier.

### Promoting sustainable use of the industry's products

In addition to industry's efforts, consumers and professional users have a critical role to play in ensuring that they get the best results from their products, while minimizing the impact on the environment (e.g., by reading the label and following the instructions for dosing correctly, washing with full loads, at low temperatures, recycling, etc).

The Charter builds on a number of campaigns that aim to promote the safe use and sustainable

consumption of products. It also encourages companies committed to the scheme to promote such tips on their websites by featuring the [www.cleanright.eu](http://www.cleanright.eu) industry portal.

For all details and complete documentation, please visit [www.stainable-cleaning.com](http://www.stainable-cleaning.com).

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## “AMAZING”

### Bomb-detecting plants?

RESEARCHERS at Colorado State University (CSU; Fort Collins, USA) have modified plants to allow them to detect explosives, toxic chemicals, and air pollution. The work could eventually be used for a wide range of applications such as security in airports or shopping malls, or monitoring for pollutants such as radon in a home.

"The idea to make detector plants comes directly from nature," said CSU's June Medford. "Plants can't run or hide from threats, so they've developed sophisticated systems to detect and respond to their environment. We've 'taught' plants how to detect things we're interested in and respond in a way anyone can see, to tell us there is

something nasty around."

"Plant sentinels engineered to detect explosives may ultimately help us protect our troops from improvised explosive devices (IED)," said Linda Chrisey, program officer for the Naval Biosciences and Biocentric Technology Program at the Office of Naval Research. The research—"Programmable Ligand Detection System in Plants Through a Synthetic Signal Transduction Pathway"—appears in PLoS One (doi: 10.1371/journal.pone.0016292).

Medford and colleagues used a computer program to redesign naturally occurring proteins called receptors. These redesigned receptors specifically recognize a pollutant or explosive. Medford's lab

then modified these computer-redesigned receptors to function in plants, and targeted them to the plant cell wall where they can recognize pollutants or explosives in the air or soil near the plant. When the plant detects the substance, it activates an internal signal that causes the plant to change from green to white.

Based on research so far, detection abilities of these plants are similar to or better than those of dogs, Medford said. The initial or first-generation plants respond to an explosive in hours, but improvements are under way to reduce the response time to a few minutes.

*(Courtesy : inform April 2011, Vol.22 (4).)*