



AGRI EXPORT ADVANTAGE



EXPORT-IMPORT BANK OF INDIA

Visit us at www.eximbankagro.com

Published in English, Hindi, Marathi, Assamese, Bengali, Gujarati, Kannada, Malayalam, Oriya, Punjabi, Tamil and Telugu

**MARCH 2005
VOL IV ISSUE II**

contents

- ★ International Conference on Water for Food and Ecosystem, The Hague 1
- ★ Hoodia - An Anti-obesity Herb 2
- ★ Bio-safety Protocol and Its Implication on Agricultural Trade 3-4
- ★ Mauritius: An Agriculture Economy 5
- ★ Cut Flower & Foliage: A Market Brief of EU 6-7
- ★ Agri Export Zones: An Updates 8-9
- ★ Irradiation Technology: A Snapshot 10-11
- ★ Export Potential of Indian Ethnic Food Products 11
- ★ News Focus 12

INTERNATIONAL CONFERENCE ON WATER FOR FOOD AND ECOSYSTEM, THE HAGUE

With growing population and increasing pressure on agriculture to produce more has put stress on availability of water, in particular, fresh water. The availability of sufficient amounts of good quality water is fundamental to all biological processes, for maintenance of biodiversity and ecosystems and for primary and secondary production functions. The demand for the scarce resource water is rising rapidly, challenging its availability for food production and putting global food security at risk. The natural ecosystem also plays an essential role in the availability and quality of water.

Under these situations of scarcity of water resources, the questions are no longer 'whether or why', but it is 'how' we can efficiently balance water for livelihoods to achieve sustainable development of the ecosystem.

Global food production will need to increase by 60% by 2030 to produce food for around 8.1 billion people and to respond to changes in diets. Hence, water withdrawals for agriculture are expected to increase by about 14% during that period. The main challenge in future would be to produce more food by using less water and at the same time safeguarding the natural ecosystems.

In view of the above, the Food and Agriculture Organization (FAO) and the Government of the Netherlands organised an International Conference on Water for Food and Ecosystems, from January 31 - February 5, 2005 in The Hague, the Netherlands. The conference attracted delegates including ministers from more than 140 countries. The main objective of the conference was to help

governments in identifying management practices, practical lessons and the necessary enabling environments that lead to sustainable water use at the river-basin level and the harmonization of food production and ecosystem management.

In the keynote address of Director General of FAO, it was highlighted that it has become increasingly evident that continued investments in agriculture, in particular in rural-based economies, are crucial for alleviating poverty and generating income. These investments need to be directed to more diversified and higher value-added products, taking into account the limits of local resources. In Africa, more emphasis should be given not only to the need for irrigation systems, but also to the need to improve the stability of rainfed agriculture.

According to an FAO study, in 2000-02, about 852 million people worldwide were suffering from hunger and malnutrition. It is also estimated that the current level of hunger is costing developing countries at least US\$ 500 billion per year in foregone economic activities.

Considering the challenges and goals under Millennium Development Goals (MDGs), in particular, Goal One, which aims to halve, by 2015, the proportion of people suffering from hunger, and Goal Seven aiming to integrate the principles of sustainable development into country policies to reverse the loss of natural resources, the conference holds paramount importance in changing the concerned policies leading to sustainable use of water and natural resources for food security and balanced ecosystem.



HOODIA - AN ANTI-OBESITY HERB

Hoodia gordonii, (commonly known as Hoodia) a genus of succulent plants in the family Apocynaceae has been used for thousands of years by southern Africa's San Tribe to dampen their appetites during long treks through the harsh Kalahari Desert. They chewed the bitter Hoodia twice a day to suppress hunger and thirst during long hunting trips. This cactus plant has recently been translated into a miracle obesity cure with a market potential of US\$ 6 billion. The leafless, spiky succulent Hoodia grows naturally in the Northern Cape, a province of South Africa, where it is registered as a protected species. This wonder succulent herb also grows in arid areas of Botswana and Namibia. The Convention on International Trade in Endangered Species (CITES) listed the Hoodia plant in its Appendix II (species not necessarily now threatened with extinction but might become so unless traded in controlled fashion) - which will regulate global trade in the species - at the behest of South Africa, Namibia and Botswana.



The Council for Scientific and Industrial Research (CSIR) in South Africa isolated an active compound (p57) for appetite suppression from *H. gordonii*. The CSIR licensed the rights for further development of p57 and the setting up of a sustainable production system to a Cambridgeshire bio-pharmaceutical company Phytopharm in the UK. Phytopharm in turn sub-licensed the rights to the giant Pfizer Corporation for development and global commercialization. Pfizer has recently returned the clinical developmental rights to Phytopharm.

Cultivation of Hoodia

Cultivating these slow growing plants is difficult, as they need fairly high temperatures to flourish. Therefore the Kalahari Desert is the ideal farming place. However, the

succulent plant thrives well with full sun or light shade and little water. It can be propagated through seeds and cuttings in a well-drained red sandy soil and takes five to six years to grow to full maturity. Growers generally grow the plant naturally in the reddish soil in the Kalahari and surrounding areas. Cultivation trials are currently underway in South Africa (under the auspices of the CSIR) and on a small scale in Namibia (National Botanical Research Institute). At present, only a small quantity of material has been harvested from cultivated material.

Uses

There are four known species of *Hoodia* each with medicinal uses. Most Hoodia species are eaten as a foodstuff, thorns peeled off and eaten like a cucumber. They form a much-needed emergency supply of food in harsh desert conditions when food is not plentiful.

Hoodia gordonii is eaten fresh as a food and is also used medicinally for abdominal pain suggestive of peptic ulceration. *Hoodia currorii*, which is also eaten as a food, works as an appetite suppressant and to treat indigestion, hypertension, diabetes and stomach ache. *Hoodia flava* (yellow flowered ghaap), apart from its use as fresh food stuff, also acts as a thirst and appetite suppressant. *Hoodia officinalis* has been used to treat pulmonary tuberculosis and hemorrhoids.

How does p57 work?

With the intake of food, the glucose level in blood goes up and the nerve cell of brain of human being starts sending indication of fullness of appetite. Research revealed that the p57 molecule in *Hoodia gordonii* is similar to glucose, but about 10,000 times as active as glucose. Scientists believe that the p57 molecule works by mimicking the effect that glucose has on nerve cells in the brain, in effect leading the body into thinking it is full, even when it is not, thus curbing the appetite. This property of weight reduction in obese person has attracted scientists to view Hoodia as herbal substitute to weight loss pills.

References:

- Council for Scientific and Industrial Research (CSIR), South Africa
- <http://www.thehoodiareport.com/>

BIO-SAFETY PROTOCOL AND ITS IMPLICATION ON AGRICULTURAL TRADE

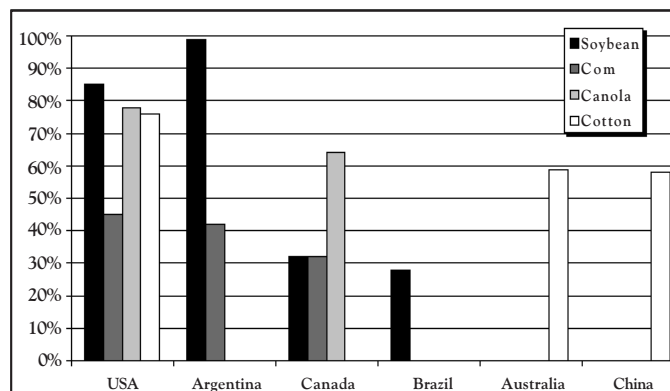
A new international agreement affecting the transboundary movement of agricultural commodities – the Biosafety Protocol (BSP) – entered into force in September 2003. The Protocol focuses on transboundary movement of any living modified organism (LMO) that could harm conservation and sustainable use of biological diversity. The difference between “living modified organisms” (LMOs) and “genetically modified organisms” or GMOs is that LMOs are capable of reproducing, whereas GMOs may not, if already processed or refined. This is a critical distinction since the BSP applies only to the LMOs and not to processed modified commodities.

Under the Protocol, a country requires prior notification through Advanced Informed Agreement (AIA) from countries exporting biotech seeds and living organisms intended for introduction into the environment. Further, it requires adequate labeling on LMO carrying shipments of food, feed and pharmaceuticals (LMO-FFP) accompanied by an extensive risk assessment. It also establishes a biosafety clearing house enabling countries to exchange scientific, technical, environmental and legal information about LMOs. The clearing house should also provide authenticated information on regulatory requirements of participating countries and adoption of LMO commodity at domestic level by a government within 15 days of such decision.

The Protocol and the Global Crop Production and Trade

World agricultural production and trade is dominated by eight crops, viz. wheat, maize, rice, soybeans, barley, sorghum, cotton and canola, with seven countries, viz. Argentina, Australia, Brazil, Canada, China, the EU and the USA supplying 60-90% of all exports in all key crops. While the vast majority of the importers are the developing countries. All the seven countries have adopted LMOs extensively in the four of the eight crops viz., maize soybeans, cotton and canola. In some of these crops, upto 80% of the total production in the exporting countries are genetically modified varieties. Since the adoption and use of LMOs occurred in key crops and major trading countries, the BSP covers a large portion of present agricultural commodity trade and is likely to expand as LMOs are introduced in other widely traded agricultural commodities in the future. Even trade in commodities without genetically modified varieties will be affected by the Protocol as a result of co-mingling during harvest, storage and transportation.

Adoption of LMOs in various Crops by Major Exporting Countries



The potential impacts of the BSP will be determined from the changes it imposes on the global marketing chain for agricultural commodities. Prior to the implementation of BSP for LMO-FFPs, key issues to be addressed include:

- Type of documentation and labeling requirement
- Testing requirements at the point of export and import
- Working definition for “adventitious presence” of LMOs and thresholds for inadvertent presence of LMOs in non-LMO shipment
- Effects on cost and structure of global crop production and trade, and
- Impacts on farmers

Labeling

Depending upon the decision governments make, under the current implementation of the Protocol, the exporter of LMO-FFPs must indicate the export cargo ‘may contain’ LMOs. In some countries, the Protocol requires specifications on identity and quantity of LMO presence in export cargoes. In absence of substantial efforts to source and identity preserve non-LMOs and given the prevalence of LMOs in major exporting countries, export vessels will contain LMOs irrespective of proportion in production. Since a typical export vessel contains produce from various different states in a given country, the exact quantity of LMOs and the share of individual LMO varieties will vary dramatically from vessel to vessel, depending on the origins of the commodity in that particular country.

Testing at Export Terminal

For passable labeling, the exporters will require a methodical testing of the export cargo and depending

on implementation decisions, the costs of testing could be significant. For example, one time sampling, testing and labeling of cargo as 'may contain LMO' at loading of all the 3,575 export cargoes of maize from USA and Argentina (the two largest producers of LMO maize and exporters) would cost US\$ 1million. For identification of LMO, the cost doubles to over US\$ 2.3 million and for identification and quantification, the cost would quadruple to US\$ 4.4 million. A more extensive testing ensuring representative sampling would explode the cost from US\$ 18 to 87 million. Other compliance costs (direct and indirect) include cost of additional handling, overhead, and lost flexibility and fungibility in the grain trade, added by uncertainty in freight prices, interest rates, and exchange rates would further add to the price risk confronted by operators in the crop marketing chain.

Testing at Import Terminal

The central implementation issue of importing LMOs is the extent of adoption and acceptability of the LMO cargo at the importing countries. The direct and indirect costs ranging between US\$ 1 million to US\$ 87 million would easily double if a similar sampling and testing of the cargoes were carried out on delivery. Testing being a statistical process is likely to vary at different terminals. A re-testing requirement would result into vessel being held up or diversion to other locations. Depending on the size of cargo, import location and halting period, port charges, travel costs, quality deterioration and insurance can inflate the costs to several million dollars for a single vessel. Further, the incremental risk of cargoes getting rejected will increase sharply if enforcement relies entirely on the test results. These risks would also expand disproportionately in response to variations in thresholds due to discontinuities in LMO approvals in exporting and importing markets.

Thresholds

Importers willing to avoid LMOs can contract non-LMO shipment, which will call for strict identity preservation throughout the market chain. Depending on the purity standard, the threshold for adventitious co-mingling, scale of the identity preservation system and scale of LMO production in the exporting country, cost may vary enormously. With the size of the current non-LMO market and a threshold of five percent, an identity preservation system for non-LMO soybeans adds US\$ 8 per metric ton to the cost of commodity, while one to two percent threshold adds US\$ 25 per ton. Sourcing non-LMO maize costs US\$ 10 with five percent threshold. Hence, the cost of identify-preserving two non-LMO commodities to two wealthy markets above and beyond the actual

cost of the commodities approaches US\$ 100 annually. In case of slightest market fluctuations in the share of the non-LMO commodities and /or in the thresholds, costs may go much higher.

The Present and the Future of the Protocol

Under the Biosafety Protocol, the importers can deny access to LMO varieties that have not been approved in the domestic market. To date only nineteen countries have established regulatory systems and have approved import for LMOs. Even then LMO varieties approved in major exporting countries are not necessarily approved in major importing markets. It has been difficult to keep unapproved varieties out of export channels. Given the vast and cumbersome infrastructure involved in movement of grains from farms to consumers around the world, adventitious co-mingling is virtually guaranteed, even in the stringent IP system. If implementation of the Protocol results in more segmented system, with differing lists of approved and unapproved varieties across major importers, the impact on trade and resulting costs could be very high. Ultimately, consumers in importing countries will likely pay most of these costs. Countries with largest volume of food and feed imports would pay bulk of compliance cost and developing country importers with smaller volumes would pay higher per unit costs on per ton as vessel compliance costs are largely fixed. They are also likely to pay disproportionate share of the costs as they lack adequate regulatory systems and testing facilities to implement and enforce the Protocol. As the costs are not static, in future, implementation costs are likely to increase with increase in LMO number, varieties and adoption in exporting countries, increase in number of traits in a given seed and improvements in testing technologies enabling detection at even lower levels.

Further, conflicting positions taken by the World Trade Organization and the Protocol could create confusion in international trade as a WTO clause states that no other multilateral agreement can take precedence over it. The Biosafety Protocol however, contradictorily includes, stating on the one hand that the rights and obligations under existing agreements are unchanged, but on the other hand that the Protocol is not subordinate to other international agreements.

References:

- The International Food & Agricultural Trade Policy Council (IPC), Washington DC
 - Convention on Biological Diversity, United Nations Environment Programme
 - Food and Agriculture Organisation (FAO)
-

MAURITIUS: AN AGRICULTURE ECONOMY

Mauritius has a long established agriculture sector, dominated by sugarcane cultivation and the production and processing of sugar. Despite diversification, sugar has remained an important sector of the economy with sugarcane covering more than 90 per cent of the total area of cultivated land. Nonetheless, the sugar industry's share of GDP declined from 9.5 per cent in 1983 to an estimated 3.5 percent in 2001-03. The earnings of sugar and molasses, as a percentage of total exports, also fell – from 30 per cent in the late 1980s to around 18 per cent in 2001.

The sugar industry has the advantage of a well-established marketing, research, information and insurance network, which encourage planters to continue to remain in cane production. Most Mauritian sugar is sold at guaranteed prices, which in recent years have been above the world free-market price, with the rest being sold in open market. Since 1998-99, Mauritius has had an annual quota of around 507,000 tonnes for export to the European Union (EU), mainly to the United Kingdom, under the Lomé Convention (now superseded by the Cotonou Convention). Other major markets are the United States (which has also offered guaranteed prices), Canada and New Zealand. Guaranteed prices have largely protected Mauritius from the fluctuations of the world market, although, in the long-term, continued overproduction in the international market is likely to exert downward pressure on prices.

The Ministry of Agriculture, Government of Mauritius, released a Sugar Sector Strategic Plan (SSSP) for 2001-05 with the aim of diversification and rationalisation of the sugar sector, domestic pricing arrangements, labour requirements and relations, and electricity generation from bagasse. The endeavour of the Plan is to reduce the cost of sugar production in the country, which is relatively higher than other producers in the region.

Tea is the island's second most important agriculture export, having come to the forefront in the late 1960s and early 1970s, when attempts to diversify the agriculture sector were initiated. However, by the mid-1990s, the sector was scaled down with tea land being converted to sugar production, and leased out in small units to

tenant planters. This was largely at the behest of the government, which initiated a major scheme designed to replace tea with sugar and other crops with higher profit margins and productivity. Tea prices have remained persistently low, while labour shortages and the high cost of inputs have exacerbated the sector's problems. The value and volume of tea exports declined in the late 1990s to their lowest levels since the late 1970s. Tea production fell from 7,393 tonnes in 1998 to 6,440 tonnes in 2000, but has been increasing in last few years, reaching 6,973 tonnes in 2003. Given the government's stated initiatives of moving away from primary products towards a services-oriented economy, tea production is likely to remain peripheral for the Mauritian economy.

Other crops are insignificant and the island is not self-sufficient in wheat, rice or milk. Growing flowers, especially anthuriums, and fishing for large shrimps are recent activities that have generated some volumes of exports. Though the production of fish has been fluctuating in last few years, 19,602 tonnes in 1993 to an average of 8,984 tonnes per year during 1999-2003, the fishing industry of Mauritius holds vast potential due to its long coastal region.

More than 80 per cent of dairy products and 90 per cent of beef consumed in Mauritius is imported. A National Dairy Board, set up in 1985, is encouraging milk production, but no significant increase in milk production has been achieved. Pork and poultry production are sufficient to meet local demand.

With a view to promote diversification and achieving the objective of modern agriculture, the Government has also launched a Strategic Plan for the Non-Sugar Sector 2003-07. The main component of this strategy is to promote a transition from the traditional practices, towards a more sophisticated, technology-based approach to agriculture.

References:

- Ministry of Agriculture, Food Technology and Natural Resources, Govt. of Mauritius
- Food and Agriculture Organisation (FAO)

CUT FLOWER & FOLIAGE: A MARKET BRIEF OF EU

Over the last few decades, the demand for cut flowers has grown considerably, moving beyond use for special occasions to becoming a more regular decorative feature of middle and upper income households. The EU being the largest market of cut flowers and foliage consumes over 50% of the world's flowers and includes many countries with a relatively high per capita consumption of cut flowers. In terms of total consumption, Germany is the biggest consumer, followed by the UK, France and Italy, whereas per capita consumption of cut flower and foliage is highest in The Netherlands, followed by Belgium, Austria and the UK.

Cut flowers and foliage exports to the EU is being routed either through a wholesaler or an auction. The Netherlands auctions play a pivotal role in the trade of flowers destined for both the domestic and other European markets. These are considered as an indicator for the best-sold cut flower species in the EU because for their largest market share in total European consumption. Rose is the most important cut flower traded at the Netherlands auctions, followed by Dendranthema, Tulipa and Lilium.

Table: Top 15 cut flowers species sold at the Netherlands auctions, 2003 (€ million)

	2003	% change 2002-2003
Rosa	681	-2.6
Dendranthema Ind Grp TR	299	-2.6
Tulipa	186	8.6
Lilium	160	-4.8
Gerbera	106	-1.7
Cymbidium	66	-0.7
Freesia	60	-3.0
Anthurium	43	2.6
Alstroemeria	40	-10.1
Dendranthema Ind Grp GE	38	7.5
Gypsophila	37	-7.4
Dianthus	35	-21.4
Eustoma russellianum	34	-7.1
Hypericum	31	-13.1
Zantedeschia	30	-2.6
Other	483	
Total	2,330	-2,6

Consumption Patterns and Trends

European consumers buy flowers for different purposes. Consumption behaviour of buyers reveals that the purpose of purchasing flowers is mostly to give them away as a gift (around 50-60%). Around 15% is bought for funerals and some 20% for own use with the intention of brightening up the home and creating a pleasant environment.

Though the sales of cut flowers and foliage in large markets such as Germany and Netherlands have been showing a sign of saturation, overall consumption of cut flowers in the EU are steadily increasing. The health, environment and cost-conscious market of Germany has peaked the sale of cut flowers in the year 2000, amounting more than € 3.1 billion. About 60% of the German population buys cut flowers. Rose is the leading cut flower purchased as mono-bunch followed by Tulipa, Carnation, Gerbera and Chrysanthemum. In last decade, the consumption of cut flowers and foliages has doubled in the UK market, mainly contributed by mono-bunches (51%) and mixed bouquets (40%). Carnation is the leading mono-bunch flower, followed by Rosa, Dendranthema, Lilium, Tulip and Freesia. Although cut flower and foliage market of the Netherlands is almost stagnated, consumers are shifting towards high value flowers such as mixed bouquets. France and Spanish consumption of cut flowers has been increasing steadily whereas Italian consumption has declined by 7% between 2001 and 2003. Mono-bunch being the most sold form in France and Spain amounting to 38% and 48% respectively, and mixed bouquets sold highest in Italy accounting for 36%. Mixed bouquets are increasing in popularity in Spain as well at 32%.

The newly acceded countries of the EU-25 have exhibited growth in consumption of cut flowers. The total market for cut flowers in the top five countries (Poland, Hungary, the Czech Republic, Slovakia and Slovenia) is estimated to be at € 597 million, with per capita consumption of € 9. With increasing income and assuming an economic growth of 4%, it is expected that the consumption of cut flowers will increase in these countries. The largest market in the region, Poland, is expected to increase by over 30% to € 380 million in 2005.

Imports

The EU is the world's leading importer of cut flowers and foliage with total imports amounting to about € 3.1 billion in 2003, indicating 2% decrease from 2001. The UK is the largest importer, accounting for 26% of total EU imports, followed by Germany (25%), The Netherlands (15%) and France (14%). Of the total EU flowers and foliage imports in 2003, 78% consisted of imports from other EU countries and only 22% was imported from outside the EU member countries. With regard to extra-EU imports, The Netherlands was the leading importer, accounting for almost 60% in both terms of value and volume. The Netherlands acts as hub for the EU market for supplying (export and re-export) cut flowers and foliage. The second largest importer of cut flowers and foliage from outside the EU was the UK with

€ 116 million in 2003, followed by Germany (€ 73 million) and Italy (€ 30 million). The Netherlands was the main supplier of cut flowers and foliage to other EU member states in 2003, accounting for almost € 2.2 billion or 70% of total imports in terms of value. Besides The Netherlands, other major cut flower suppliers to the EU were Kenya (largest non-EU supplier), Colombia, Israel, Spain, Ecuador and Zimbabwe. Of the leading supplying countries, only Kenya increased its supply continuously between 2001 and 2003.

The demand of the Netherlands markets is, to a large extent, met by local production, but the significance of imports is growing. Imports enable the Netherlands trade to supply a broad selection of cut flowers to its European customers throughout the year. The most significant imports consist of cut flowers in the winter months and selected flowers, which can be grown more successfully and/or competitively in other countries. A large proportion of the imported cut flowers are re-exported.

Role of Developing Countries

Imports of cut flowers and foliage in the EU markets from developing countries have increased considerably in last few decades. In 2003, imports from developing countries amounted to € 579 million, accounting for 19% of the total EU imports of cut flowers and foliage. Developing countries traditionally have a strong position in the Netherlands import market because of its massive trading role in distributing imported flowers throughout Europe. Kenya, Colombia, Ecuador and Zimbabwe are amongst the top ten supplying countries of cut flowers and foliage to the EU.

Leading developing country suppliers to the EU (% of total imports from developing countries), 2003

- **Dianthus** : Colombia (74%), Kenya (11%)
- **Rosa** : Kenya (43%), Ecuador (19%), Zimbabwe (16%)
- **Orchids** : Thailand (91%), Colombia (3%)
- **Gladiolus** : Colombia (71%), Thailand (13%)
- **Dendranthema** : South Africa (33%), Colombia (31%)
- **Other fresh cut flowers** : Kenya (31%), Zimbabwe (22%), Ecuador (20%)
- **Prepared cut flowers** : Kenya (43%), India (12%), China (11%)
- **Foliage** : India (36%), China (21%), South Africa (15%)
- **Total cut flowers and foliage** : Kenya (31%), Colombia (18%), Ecuador (14%)

Source: Eurostat (2004)

Rose followed by Dianthus, Dendranthema, Orchids and Gladiolus mainly dominates the EU imports. The major tropical flowers are Orchids, Anthuriums, Gingers, Strelitzia (birds of paradise), Heliconias and Proteas, which are distributed by specialized importers, who usually combine tropical flowers and foliage, working with positive temperature distribution chains. Other specialty products include summer flowers, bouquets and prepared cut flowers.

India contributed almost 36% of foliage import to the EU market from developing countries. India is the leading supplier of foliage, prepared cut flowers and Gladiolus to the Netherlands, contributing almost 18%, 35% and 26%, respectively, of total imports of the Netherlands from developing countries.

Conclusion

The market for cut flowers consists of a range of product groups, which offer varying opportunities for developing countries as potential suppliers. Demand for different cut flowers and foliage is still increasing in Europe particularly for specialty and novelty products, summer flowers, tropical flowers, prepared (dyed or dried) cut flowers, off season flowers and small leafed foliage.

It is a highly competitive market where importers are continually seeking for new, special and different products. The major threats for the developing countries are their poor image due to logistical problems, lack of professionalism and poor commercial attitude. Political instability in some countries is also adding to the affect. Hence, in order to compete, developing country exporters must be able to supply products of consistent quality and on a regular basis.

Source:

- Centre for the Promotion of Imports from Developing Countries (CBI), The Netherlands

**Chat Online with Exim Bank's Officials at www.eximbankagro.com on issues related to Agri-Business, Agri-Exports and Agri-Finance.
Time : 4.00 to 5.00 p.m. (IST) – every Tuesday and Friday**

AGRI EXPORT ZONES: AN UPDATES

With the primary objective of boosting agricultural exports from India, in March 2001, Government of India announced a policy of setting up of Agri Export Zones (AEZs) across the country. As of now, the Central Government, through its various departments, has sanctioned 60 AEZs comprising about 40 agricultural commodities. These AEZs are spread across 20 states in the country.

The objective of setting up AEZs is to converge the efforts made, hitherto, by various central and state government departments for increasing exports of agricultural commodities from India. The concept of Agri Export Zone takes a comprehensive view of a particular produce/product located in a geographically contiguous area for the purpose of developing and sourcing raw materials,

their processing/packaging, leading to final exports. The entire effort is centred on a cluster approach of identifying the potential products, geographical region in which these products are grown and adopting an end-to-end approach of integrating the entire process, right from the stage of production till it reaches the consumption stage.

The 60 AEZs sanctioned by the Government envisaged an investment of Rs. 1717.95 crores and export of Rs. 11821.47 crores over a period of 5 years. Against these projections, these AEZs have so far crystallised an investment of Rs. 449.90 crores and exports of Rs. 2768.00 crores over the last three and a half years.

The state-wise detail of 60 AEZs are outlined below:

STATES	FOCUS PRODUCTS	GEOGRAPHICAL AREAS
Andhra Pradesh	Mango Pulp & Fresh Vegetables	Chittor
	Mango & Grape	Ranga Reddy, Medak and Mahaboobnagar
	Mango	Krishna District
	Gherkins	Mahaboobnagar, Rangareddy, Medak, Karinagar, Warangal, Ananthpur and Nalgonda
	Chilli	Guntur
Assam	Fresh and Processed Ginger	Kamrup, Nalbari, Barpeta, Darrang, Nagaon, Morigaon, Karbi Anglong and North Cachar
Bihar	Lychee, Vegetables and Honey	Muzaffarpur, Samastipur, Hajipur, Vaishali, East and West Champaran, Bhagalpur, Begularai, Khagaria, Sitamarhi, Saran and Gopalganj
Gujarat	Mango & Vegetables	Ahmedabad, Khaida, Anand, Vadodra, Surat, Navsari, Valsad, Bharuch and Narmada
	Dehydrated Onion and Garlic	Bhavnagar, Surendranagar, Amreli, Rajkot, Junagadh and Jamnagar.
	Sesame Seeds	Amerali, Bhavnagar, Surendranagar, Rajkot and Jamnagar
Himachal Pradesh	Apple	Kinnaur, Shimla, Sirmor, Kulu, Mandi and Chamba
Jammu & Kashmir	Apple	Srinagar, baramula, Anantnag, Kupwara, Badguam and Pulwana
	Walnut	Baramulla, Anantnag, Pulwama, Budgam, Kupwara and Srinagar, Doda, Poonch, Udhampur, Rajouri and Kathua
Jharkhand	Vegetable	Ranchi, Hazaribagh and Lohardaga
Karnataka	Gherkin	Tumkur, Bangalore (Urban), Bangalore (Rural) Hassan, Kolar, Chitradurga, Dhrawad and Bagalkot
	Rose Onion	Bangalore (Urban), Bangalore (Rural), Kolar
	Flowers	Bangalore (Urban), Bangalore (Rural), Kolar, Tumkur, Kodagu and Belgaum
	Vanilla	Dakshin Kannada, Uttara Kannada, Udupi, Shimoga, Kodagu, and Chickamagalur
Kerala	Horticultural Products	Thrissur, Ernakulam, Kottayam, Alappuzha, Pathanumthitta, Kollam, Thiruvananthapuram, Idukki and Pallakod
	Medicinal Plants	Wayanad, Mallapuram, Palakkad, Thrissur, Ernakulam, Idukki, Kollam, Pathanamittha and Thiruvananthapuram
Madhya Pradesh	Potatoes, Onion and Garlic	Malwa, Ujjain, Indore, Dewas, Dhar, Shajapur, Ratlam, Nimach and Mandsaur

	Seed spices	Guna, Mandsaur, Ujjain, Rajgarh, Ratlam, Shajapur and Neemuch
	Wheat	Ujjain Neemuch, Ratlam, Mandsaur, Indore, Dhar, Shajapur, Dewas, Bhopal, Shehore, Vidisha, raisen, Hoshangabad, Harda and Narsinghpur
	Orange	Chhindwara, Hoshangabad and Betu
	Lentils & Grams	Shivpuri, Guna, Vidisha, Raisen, Narsinghpura and Chhindwara
Maharashtra	Grapes and Grapewine	Nasik, Sangli, Pune, Satara, Ahmednagar and Sholapur
	Alphonso Mango	Ratnagiri, Sindhudurg, Raigarh and Thane
	Kesar Mango	Aurangabad, Jalna, Beed, Latur, Ahmednagar and Nasik
	Flowers	Pune, Nasik, Kolhapur and Sangli
	Onions	Nasik, Ahmednagar, Pune, Satara and Solapur
	Pomegranate	Solapur, Sangli, Ahedabagar, Pune, Nasik, Osmanabad, Latur
	Banana	Jalgaon, Dhule, Nandurbar, Buldhana, Parbhani, Hindoli, Nanded and Wardha
	Oranges	Nagpur and Amraoti
Orissa	Ginger and Turmeric	Kandhamal
Punjab	Vegetables	Fatehgarh Sahib, Patiala, Sangrur, Ropar and Ludhiana
	Potatoes	Singhpura, Zirakpur (Patiala), Rampura Phul, Muktsar, Ludhiana, Jalandhar
	Basmati Rice	Amritsar, Gurdaspur, Kapurthala, Jalandhar, Hoshiarpur and Nawanshahr
Rajasthan	Coriander	Kota, Bundi, Baran, Jhalawar and Chittoor
	Cumin	Nagaur, Barmer, Jalore, Pali and Jodhpur
Sikkim	Flowers (Orchids) & Cherry Pepper	East Sikkim
	Ginger	North, East, South & West Sikkim
Tamil Nadu	Cashewnuts	Cuddalore, Thanjavur, Pudukottai and Sivaganga
	Flowers	Dharampuri
	Flowers	Nilgiri
	Mangoes	Madhurai, Theni, Dindigul, Virudhunagar and Tirunelveli
Tripura	Organic Pineapple	Kumarghat, Manu, Melaghar, Matabari and Kakraban Blocks
Uttar Pradesh	Potatoes	Agra, Hathras, Farrukhabad, Kanno, Merrut, aligarh and Bagpat
	Mangoes and Vegetables	Lucknow, Unnao, Hardoi, Sitapur and Barabanki
	Mangoes	Saharanpur, Muzzafarnagar, Bijnaur, Merrut, Bhagpat and Bulandshahar
	Basmati Rice	Bareilly, Shahajahanpur, Pilibhit, Rampur, Badaun, bijnor, Moradabad, J B Phulenagar, Saharanpur, Mujjafarnagar, Merrut, Bulandsahar, Ghaziabad
Uttranchal	Lychee	Udhamsingh Nagar, Nainital and Dehradun
	Flowers	Dehradun and Pantnagar
	Basmati rice	Udham Singh Nagar, Nainital, Dehradun and Haridwar
	Medicinal & Aromatic Plants	Uttarkashi, Chamoli, Pithoragarh, Dehradun and Nainital
West Bengal	Pineapple	Darjeeling, Uttar Dinajpur, Cooch Behar and Jalpaiguri
	Lychee	Murshidabad, Malda, 24 Pargana s(N) and 24 Parganas (S)
	Potatoes	Hoogly, Burdwan, Midnapore (W), Uday Narayanpur and Howrah
	Mangoes	Malda and Murshidabad
	Vegetable	Nadia, Murshidabad and North 24 Parganas
	Darjeeling Tea	Darjeeling

References:

- APEDA
- Ministry of Commerce, Govt. of India

IRRADIATION TECHNOLOGY: A SNAPSHOT

According to the Food and Agriculture Organisation (FAO) estimate, about 25-30% of world food production is lost due to pests, insects, bacteria, fungi and enzymes, which eat, degrade or destroy crops. India has been losing grains, cereals and pulses worth of Rs. 10,000 crores every year, According to Bhabha Atomic Research Centre (BARC) estimate. India also suffers huge (20-30%) post harvest losses of fruits and vegetables due to lack of processing and optimal storage facilities. Considering a food loss of this magnitude and stringent food safety standards in international trade, Irradiation Technology promises considerable improvement not only in preservation of food products but also in reducing the incidence of some food-borne diseases.

Food irradiation is the process of exposing food to a controlled source of ionizing radiation for the purposes of reduction of microbial load, destruction of pathogens, extension of product shelf life, and/or disinfestation of produce. Radiation processing of food strengthens food conservation, improves food hygiene and helps food exports overcome quarantine barriers. It facilitates packing, storage, transport and distribution of foods.

The Technology

Ionizing technology involves exposing food to the gamma and beta rays generated by electron beam, and X-rays in a facility called irradiator, whereby breaking the microbial DNA molecule and rendering the microbe dead. Reports from World Health Organisation (WHO), FAO, United States Food and Drug Administration (USFDA), the International Atomic Energy Agency (IAEA), Austria, Bhabha Atomic Research Centre (BARC), Mumbai, and Ministry of Food Processing Industries, Govt. of India, confirm that any food irradiated up to a maximum of 10 kGy is safe for human consumption.

Regulatory Status

The USFDA evaluates irradiation as a food additive on the logic that it affects the characteristics of the food or becomes a component in the food; however nothing is physically added to the food. FDA labeling requirements call for inclusion of the “radura”, which is the symbol developed to signify a food having been irradiated. Also, the words “treated with radiation” or “treated by irradiation” must be printed on the package, unless the word “irradiated” is part of the product name.

Current Status

Over 42 countries worldwide including India have approved irradiation for over 100 food items and 30 of them are applying for commercial viabilities. China has at present 40 centers of irradiation usage and in India there are 14 including two in private sectors. In India, BARC has done extensive research and development work on preservation of foods by irradiation. Board of Radiation and Isotope Technology (BRIT) of the Ministry of Atomic Energy has set up a facility for radiation processing of spices at Navi Mumbai with an initial throughput of 30 tonnes/day. A commercial demonstration irradiator for the treatment of onions and potatoes with a processing capacity of 10 tonnes/h has been set up and functional at Lasal Gaon in Nasik district of Maharashtra. It is proposed to use the same plant for low dose radiation processing of other foods with alterations in throughput.

Permissible limits for Radiation of Processed Foods in India

Food Item	Radiation Dose (kGy)		Purpose
	Minimum	Maximum	
Onions	0.03	0.09	Sprout inhibition
Potatoes	0.06	0.15	Sprout inhibition
Shallots (small onions), garlic, ginger	0.03	0.15	Sprout inhibition
Rice, semolina (sooji or rawa), atta (wheat flour) and maida (refined wheat flour)	0.25	1.0	Insect disinfestations
Pulses	0.25	1.0	Insect disinfestations
Dried sea-foods	0.25	1.0	Insect disinfestations
Raisins, dried figs and dates	0.25	0.75	Insect disinfestations
Mango	0.25	0.75	Shelf-life extension and quarantine treatment for export trade
Meat and meat products including chicken	2.5	4.0	Shelf-life extension and pathogen control
Spices	6.0	14.0	Microbial decontamination
Fresh sea-foods	1.0	3.0	Shelf-life extension
Frozen sea-foods	4.0	6.0	Microbial pathogen control

Source: Bhabha Atomic Research Centre, India

Irradiation can have a stabilizing effect on market price of foods by reducing storage losses resulting in increased availability of produce. Irradiation cost may range from Rs. 0.25 to Rs. 0.50 per kg for a low dose application such as sprout inhibition of potato and onion and insect disinfestations in cereals and pulses to Rs. 1 to Rs. 3 per kg for high dose application such as treatment of spices for microbial decontamination. The cost could be brought down in a multi-purpose facility treating a variety of products around the year.

For further information contact:

Head, Food Technology Division
Bhabha Atomic Research Centre
Trombay, Mumbai – 400 085
Email: ftd@magnum.barc.ernet.in
foodbase@apsara.barc.ernet.in

EXPORT POTENTIAL OF INDIAN ETHNIC FOOD PRODUCTS

India, with a large number of community having diverse culture and food habits, has been offering range of foods and food products suited for varied taste buds across the world. India has ancient history of exporting spices and making curries using them. With the upgradation of technology in food storage, packaging and transportation, the time has come to make these ethnic food products available across the globe, not only to the Indian Diaspora but also to local residents overseas. Of late, these products are being exported mainly as convenience foods such as ready-to-eat form (various curries) and preserved form (pickles, murrabba etc.).

Ethnic foods are food product, which reflects the culture and tradition of the source country. With the migration of native population to other countries and the desire to have traditional food in the settled country, export of ethnic food products offers opportunity. These products could be in the form of chilled ready meals (ready-to-eat curries), accompaniments such as bite-sized snacks (bhujia, mixtures, and prawn crackers), frozen ready meals and ethnic cooking sauces (chutneys and pickles and soya sauce).

As consumers become more adventurous in their tastes, a growing number of ethnic dishes are now forming part of the global food market. Within many countries, consumer interest in recipes from places such as China, India, Mexico and further a field is growing steadily.

Foodservice sector remains an important driver of trends in the retail market for ethnic foods. This is because restaurants, takeaways and other such outlets still represent the main point of reference for consumers as far as ethnic recipes and dishes are concerned. Statistics related to size of the global market of Indian ethnic foods is not available. The data available at some private research firms reveal that the market size of the UK Indian ethnic food is estimated to be around £613 million in 2003. The growth has come mainly from chilled ready meals and meal accompaniments, such as naan bread, chilled appetisers and poppadums. The market is evolving fast, both in terms of an ever-widening product choice and in terms of new product and service concepts, such as in-store takeaways, which are growing in popularity and beginning to challenge the restaurant takeaway sector. Though the market size of Indian ethnic food products in UK is steadily growing, it is facing stiff competition from Chinese, Mexican, Japanese and Thai foods. With the new ethnic foods entering into the market, consumers are becoming even less brand loyal, which in turn increases the competition for all ethnic food products.

With more than 20 million Indian Diaspora spread across the globe, from nearest export destination like middle east countries to farthest export destinations such as the USA, UK and few African Countries like Mauritius, there is no doubt about the demand for Indian ethnic foods across the globe. Indian ethnic foods are also increasingly becoming popular amongst the local residents of these countries. Convenience, the major factor in success of any ethnic foods, should be the major concern for Indian exporters and manufacturers of ethnic foods catering to the palate of overseas Indian as well local residents. The importance of the Indian ethnic foods could also be gauged from the statement appearing in the draft Food Processing Policy 2005, Govt. of India:

“India has a very wide range of eating habits and food products. Such products and processes need to be documented, where necessary improved upon and patented. R&D on ethnic foods shall not only address regional needs but open up a market amongst the large Indian Diaspora.”

References:

- Ministry of Food Processing, Govt. of India
- www.marketresearch.com
- www.preparedfoods.com

NEWS FOCUS

Record U.S. Soybean Production For 2004-05

U.S. oilseed production for 2004-05 could reach 96.6 million tonnes, up 20 million tonnes from last year, according to the latest estimates from USDA. Increased soybean, canola, cottonseed, and peanut production will drive the increase, USDA said. Soybean production is estimated at a record 85.5 million tonnes. Soybean crush could be 408,000 tonnes as USDA expects higher soybean meal and oil exports in 2004-05. Soybean stocks are projected by USDA to reach 11.8 million tonnes.

USDA expects global oilseed production for 2004-05 to be a record 391.4 million tonnes. Non-U.S. oilseed production for 2004-05 is projected by USDA to be 294.8 million tonnes.

Source: The American Soybean Association Weekly Update, January 17, 2005

Research Shows Health Benefits of Organic Milk

Sales of organic milk could be set for expansion in the light of new research on its health benefits. Scientists have discovered that it has higher levels of vitamin E, antioxidants and omega 3 essential fatty acids.

Jacob Holm, a senior biochemist at the Danish Institute of Agricultural Sciences, has discovered organically-reared cows, which eat high levels of fresh grass, clover pasture and grass clover silage, produce milk which is on average 50% higher in vitamin E than traditional milk. The milk is also 75% higher in beta carotene, which the body converts to Vitamin A, and two to three times higher in the antioxidants lutein and zeaxanthine than non-organic milk.

After failing in getting premiums they expected, some producers reverted to conventional milk. But the market

has steadily strengthened since then, helped by the success of few processors, which has turned organic yogurts and other dairy products into top-selling lines.

Source: <http://www.organicmonitor.com/> January 7, 2005

China's Agricultural Exports Exhibit Steady Growth

According to statistics released by Government of China, the exports of agricultural products, in particular high valued agricultural products, increased steadily in 2004. Gardening, poultry, aquatic and seafood products, which registered a US\$12.17 billion growth, accounted for 67.7% of the total farm export products in the first 10 months of 2004. Prices of 26 of the 30 export products rose steadily in the first 10 months.

With the use of technologies, quality of farm products has improved. Hence, all animal-sourced products, except poultry, are now successfully meeting the strict standards set by EU countries. Live sheep and cattle have again found their way into the Middle East market after a suspension for eight years. It was the first time for Chinese apples to get into the Latin American market.

Foreign-funded enterprises and private businesses have become the main exporters of farm products. The steady growth of farm products export is attributable to efforts to control the spread of bird flu and provide export incentives and guidance. China has also restored the supply of poultry to Japan and South Korea through diplomatic efforts. To provide timely information about export of agricultural products, concerned departments have kept publishing and improving monthly statistical reports on the export of agricultural products.

Source: China Daily (<http://www.chinadaily.com>)

The news items and information published herein have been collected from various sources, which are considered to be reliable. While every care has been taken for authenticity of the material published, Exim Bank accepts no responsibility for authenticity or accuracy of such items.

Export-Import Bank of India, Centre One Building, Floor 21, World Trade Centre Complex, Cuffe Parade, Mumbai 400 005. Tel.: 2218 5272 Fax: 2218 2572 E-Mail: eximcord@vsnl.com
Agri Business Group: agrigrp@eximbankindia.com / sailash@eximbankindia.com

Contact Numbers: Ahmedabad: 26576852, Bangalore: 25585755, Chennai: 25224714, Guwahati: 2599135, Hyderabad: 23307816, Kolkata: 22293416, Mumbai: 22830761, New Delhi: 23326375, Pune: 26458599, Budapest: (00361) 3382833, Johannesburg: (002711) 4428010, Milan: (003902) 58430546, Singapore: (0065) 653 26464, Washington D.C.: (001) 202-223-3238

