LIPID UNIVERSE

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Organic Food : Less for More or More for Less

Olive Oil : Important Aspects

PASSION FRUIT SEED OIL

Health Tips

Published by : Oil Technologists' Association of India (North Zone)

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MESSAGE

I am happy that the Oil Technologists' Association of India North Zone, is publishing a news magazine in the Oils and Oleo chemicals space covering business issues of national and international significance along with general awareness, this will go a long way in improving the knowledge as well as raise issues of relevance for the food industry.

Food Safety Authority of India wishes that along with business issues articles related to Food Safety and Standards are regularly published for the general awareness of industry as well as for the general public. This would help the readers being more conscious in their choice of foods and raise the overall health and quality of life.

You have a unique advantage in publishing this magazine as all the three partners - technologists, industry and consumer - are represented and associated with this endeavour. Fcod standards and labelling norms need to be adhered by Food Business Operators, FSSAI would be keen to participate in raising awareness of the importance of adherence to these norms.

We wish OTAI North Zone all success in this publication venture and look forward to a mutually fruitful association.

(K. CHANDRAMOULI)
02/1/13

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MESSAGE

I am glad to learn that OTAI is going to launch a journal with the name and style "Lipid Universe" to enhance technical competence and professional skills among the industry.

Issues like nutritional and environment and state of art technologies for achieving excellence in the field of Oils, fats are discussed at length. The topics guide to achieve more and good quality products in large scale to meet the demand in the time to come. I find a much stress is given in the topics to conserve resources and focus to meet the challenges of environment, energy and food security. I wish and extend our greeting and good wishes to OTAI for launching the Journal. I am certain that the Journal shall feed with knowledge gathered by academia, industry and R&D organizations for more energy efficient and higher standards of production and product quality.

Again congratulations for launching the Journal and wish for its' growth.

Yours Sincerely

For **Ruchi Soya Industries Limited.**

Mr.M.K Vaidh
Business Head- North Hub

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With the changing time OTAI is committed to claim its place in India's industrial, commercial, technical and R & D space. It was felt that a strong representation by our 67 years old organization will help all the stake holders in the business of oil, fats and oleo chemicals.

OTAI has the capacity and legacy to become a major player in all the national level forums of trade, commerce, policy making & technological development.

In OTAI, (NZ) need was being felt since long to start a news letter to provide a forum of interaction and representation for safe -guarding and furthering the interest of all the stake holders at various levels of policy making through awareness generation.

This little efforts with the help and guidance of elders and all learned members of oil community will go a long way.

Now the first issue of the OTAI (NZ) news letter is in your hand. The editorial team would like to have your contributions, suggestions, feedback and comments.

Yours truly,

C. S. Joshi, Editor

President's Message

I feel happy to present you the 1st edition of OTAI Journal.

It was the need of the North Zone OTAI for a long time that we should have our own journal which will have adequate information on trade, statistical data, on market and news.

I trust this will fulfil the quest for the information and knowledge on oil related subjects in addition to the technical research papers.

It is our endeavour that we will cover the whole gamut of the oil related activities worldwide so that all the member's get full information and technology on the latest developments on technical marketing and professional fronts.

In future we will add some new subjects and topics in this after getting feedback from the members.

I wish all the best to this new endeavour and would like to see the magazine to be more useful to the members in time.

D. Mathur

Contents

Advertisers

Organic Food : Less for More or More for Less

Popularity of Organic food is increasing now a days, but most of the people do not have a clear idea regarding the definition of organic food. In simple words "Organic foods are those foods that are produced, processed and packaged without using chemicals". Organic farming is method of production of Vegetable and livestock using natural sources of nutrients (such as compost, crop residues, and manure) and natural methods of crop and weed control, instead of using synthetic or inorganic agro chemicals.

In 1939, Lord Northbourne coined the term organic farming in his book Look to the Land (1940), out of his conception of "the farm as organism," to describe a holistic, ecologically-balanced approach to farming—in contrast to what he called chemical farming, which relied on "imported fertility" and "cannot be self-sufficient nor an organic whole."

Organic foods are foods that are produced using methods that do not involve modern synthetic inputs such as synthetic pesticides and chemical fertilizers, do not contain genetically modified organisms, and are not processed using irradiation, industrial solvents, or chemical food additives.

Processed organic food usually contains only organic ingredients. If non-organic ingredients are present, at least a certain percentage of the food's total plant and animal ingredients must be organic (95% in the United States, Canada, and Australia) and any non-organically produced ingredients are subject to various agricultural requirements. Foods claiming to be organic must be free of artificial food additives, and are often processed with fewer artificial methods, materials and conditions, such as chemical ripening, food irradiation, and genetically modified ingredients. Pesticides are allowed so long as they are not synthetic.

Some of the popular organic food items include organic tea, organic coffee, organic wine, organic meat, organic beef, organic milk, organic honey, organic vegetables, organic fruits, organic rice, organic corn, organic herbs, organic essential oils, organic coconut oil and organic olive oil.

To be certified organic, products must be grown and manufactured in a manner that adheres to standards set by the country they are sold in :

Australia : Australian Organic Standard and NASAA Organic Standard
Canada : Canada Gazette, Government of Canada
European Union : EU-Eco-regulation
Sweden : KRAV
United Kingdom : Department for Environment, Food & Rural Affairs (DEFRA)
Norway : Debio Organic certification
India : NPOP, (National Program for Organic Production)
Japan : JAS Standards
United States : National Organic Program (NOP) Standards

While organic food accounts for 1–2% of total food sales worldwide, the organic food market is growing rapidly, far ahead of the rest of the food industry, in both developed and developing nations.

Demand for organic foods is primarily concern for personal health and concern for the environment. Organic products typically cost 10 to 40% more than similar conventionally produced products. According to the USDA, Americans, on average, spent $1,347 on groceries in 2004; thus switching entirely to organics would raise their cost of groceries by about $135 to $539 per year ($11 to $45 per month) assuming that prices remained stable with increased demand. Processed organic foods vary in price when compared to their conventional counterparts.

Health Benefits of Organic Food :

The health benefits of organic food are more perceived than real. However, the public opinion that organic food is healthier than conventional food is quite strong and is the sole reason for about 30% growth in the organic food industry since the past 5-6 years.

There is little scientific evidence to prove that organic food is better in quality than conventional food. Scientific research conducted so far on various organic food items have not been able to give strong signals about the superiority of organic food over non organic food. As a result, even the FDA and the USDA clearly mention that non organic food is as healthy as organic food. However, there are some scientific studies that have proved organic milk and organic tomatoes to be better than the non-organic ones.

Recent research conducted on organic milk has shown that it has more anti-oxidants, omega 3, CLA, and vitamins than non organic milk. According to the researchers at the Danish Institute of Agricultural Research, University of Aberdeen, and the Institute of Grassland & Environmental Research, organic milk is healthier than non organic milk as organic cows are pasture grazed which results in better quality milk.

According to a 10 year study conducted by the University of California, Davis, organic tomatoes are produced in an environment that has lower nutrient supply as nitrogen -rich chemical fertilizers are not added. This leads to excessive formation of antioxidants such as quercetin (79%

higher) and kaempferol (97% higher) in organic tomatoes. In general, organic food consumers, manufactures and farmers strongly believe in organic food having following benefits over non organic food :

Better health :

Since organic food is not prepared using chemical fertilizers and pesticides, it does not contain any traces of these strong chemicals and might not affect the human body.

Better taste :

People strongly believe that organic food tastes better than non organic food. The prominent reason for this belief is that it is produced using organic means of production. Further organic food is often sold locally resulting in availability of fresh produce in the market.

Environment safety :

As harmful chemicals are not used in organic farming, there is minimal soil, air & water pollution; thus ensuring a safe world for future generations to live in.

Animal welfare :

Animal welfare is an important aspect of producing organic milk, organic meat, organic poultry, & organic fish. People feel happy that the animals are not confined to a miserable caged life while eating organic animal products.

Reduced Pesticides :

The routine use of synthetic pesticides is not allowed under organic standards. "Organic food contains fewer residues of pesticides used in conventional agriculture, so buying organic is one way to reduce the chances that your food contains these pesticides". "Consumers who wish to minimise their dietary pesticide exposure can do so with confidence by buying organically grown food" (Baker et al 2002).

Children may be particularly susceptible to pesticide residues as they have a higher intake of food and water per unit of body weight than adults and their relatively immature organ systems may have limited ability to detoxify these substances.

Currently, over 400 chemicals can be regularly used in conventional farming to kill weeds, insects and other pests that attack crops. For example, Cox's apples can be sprayed up to 16 times with 36 different pesticides. Women with breast cancer are five to nine times more likely to have pesticide residues in their blood than those who do not.

The apparent link between hormone dependent cancers, such as those of the breast and prostate, may be via endocrine disrupting chemicals [compounds that artificially affect the hormone system] such as 2,4D and Atrazine (both herbicides, now banned or about to be banned).

Reduced Organophosphates :

The most dangerous chemicals used in farming such as organophosphates [pesticides] have been linked with a range of conditions such as cancer, decreasing male fertility, foetal abnormalities, chronic fatigue syndrome in children and Parkinson's disease. Pesticide residues have been ranked among the top three environmental cancer risks by the American Government.

Reduced Pesticide cocktail Effect :

Combinations of low-level insecticides, herbicides and nitrates have been shown to be toxic at levels that individual chemicals are not. It is clearly an enormous task to test all possible combinations of the 400 permitted pesticides currently in use. It is clear that not enough is known about how combinations of pesticides affect our health.

In recent years, UK Government research has consistently found pesticide residues in a third of food, including residues of more than one chemical in apples, baby food, bread, cereal bars, fresh salmon, lemons, lettuces, peaches, nectarines, potatoes and strawberries.

Reduced Food Additives :

Food colourings and additives can cause a range of health problems in adults and children. For example, tartrazine (the yellow food colouring E102) and other additives have been linked to allergic reactions, headaches, asthma, growth retardation and hyperactivity in children.

Specific ingredients and additives not allowed in organic food are monosodium glutamate, aspartame, phosphoric acid and hydrogenated fats. In each case their use has been banned because of evidence that they can be damaging to health.

GMO safe :

Genetically modified organisms are banned from organic food.

More supply of Essential vitamin and Minerals :

UK and US government statistics indicate that levels of trace minerals in fruit and vegetables fell by up to 76% between 1940 and 1991. In contrast there is growing evidence that organic fruit and vegetables generally contain more nutrients than non-organic food.

Antioxidant Rich :

A high antioxidant intake has been shown to be associated with a reduced incidence of coronary heart disease and some cancers. Such antioxidants include certain vitamins (vitamin E and beta-carotene) and substances known as phenolics. Researchers have recognised the growing concern that levels of some phenolics may be lower than is optimal for human health in conventionally grown foods. 38 Phenolics are generated by a plant when attacked by pests.

The Food Standards Agency responded to the Soil Association's report "Organic farming, food quality and human health' (2001) by stating that, " On the basis of current evidence, the Agency's assessment is that organic food is not significantly different in terms of food safety and nutrition from food produced conventionally".

"Organic food contains fewer residues of pesticides used in conventional agriculture, so buying organic is one way to reduce the chances that your food contains these pesticides" (Sir John Krebs, Cheltenham Science Festival debate, 5th June 2003).

Organic food is no healthier and provides no significant nutritional benefit compared with conventionally produced food, according to a new, independent study funded by the Food Standards Agency. But its conclusions have been called into question by experts and organic food campaigners.

The report looked at evidence published over the past 50 years of the different nutrient levels found in crops and livestock from both types of farming and also at the health benefits of eating organic food. The findings, partly published in the American Journal of Clinical Nutrition, contradict previous work that has found organically grown food to be nutritionally superior.

Dr Alan Dangour, who led the review by the London School of Hygiene and Tropical Medicine, said: "Most studies were based on the hypothesis that eating organic food is beneficial to health. Looking at all of the studies published in the last 50 years, we have concluded that there's no good evidence that consumption of organic food is beneficial to health based on the nutrient content."

He said that while small differences in nutrient content were found between organic and conventionally produced food, they were "unlikely to be of any public health relevance".

Gill Fine, the FSA director of consumer choice, defended the scope of the study. She said: "We are neither anti nor pro organic food. We recognise there are many reasons why people choose to eat organic, such as animal welfare or environmental concerns. We specifically checked claims that organic food is better for you.

"This study does not mean people should not eat organic food. What it shows is that there is little, if any, nutritional difference between organic and conventionally produced food and there is no evidence of additional health benefits from eating organic food."

(Compiled by : C. S. Joshi)

Trade News

Indonesia may cut palm export tax to 10.5% in November

Indonesia, the world's top palm oil producer, may cut its export tax for crude palm oil to 10.5 percent for November, from 13.5 percent for October, an industry group said on Tuesday.

Lower benchmark prices over the last month will prompt the government move, told Fadhil Hasan, executive director of the Indonesian Palm Oil Association (GAPKI).

From late August, benchmark Malaysian palm oil futures have fallen by as much as 29 percent due to a slowing economic outlook and a rise in stocks, but have partly recovered to trade at about 2,541 ringgit ($833) per tonne on Tuesday.

Southeast Asia's largest economy has a palm export tax system that aims to boost downstream industries, secure domestic supplies and reduce volatility in cooking oil prices.

The tax rate for the subsequent month is calculated by government officials based on CIF Rotterdam prices, the Malaysian benchmark and Jakarta futures prices.

Spanish Olive Oil under Constant Threat from Climate Change

Spanish olive oil output has doubled in the last ten years, but ongoing drought and climate change may mean a setback for the global leader in 'liquid gold' production. Spain produces 46 percent of the world's olive oil, a total that has increased from 28 percent in 2002. However, it is now being suggested that the countries production may fall to the same fate as fellow olive oil producing powerhouses Greece and Italy due to the effects of climate change. Italy has seen a drop of 50 percent in production since 2001 and Greece has also seen its annual production levels decline by half, with climate change thought to be an important factor.

Olive oil is of huge importance to the Spanish agriculture sector, and is one of the leading agricultural exports for the country. However, the current harvest in Spain will be a poor one, with a 40 percent drop in production due to drought, leading to a huge leap in market prices for olive oil.

This decreased level of production may become common place if continued scarcity of water and increased temperatures start to effect groves in Spain, as they have elsewhere on an ongoing basis. While high temperatures are optimal for growth and development of olives, heavy rain is also necessary to complete the ripening process.

Spanish researchers have already suggested that a key area of Spanish olive oil production in Catalonia, the Siurana DOP, may become unviable within 20 years due to these increasing temperatures and water shortages.

If Spain is to continue its supremacy as an olive oil producing nation, new & innovative irrigation alternatives will have to be created to combat the constantly changing climate.

Soybeans Drop on Speculation U.S. Harvest May Exceed Estimates

Soybeans fell in Chicago on speculation a government report this week will show larger U.S. production than previously estimated.

The U.S. soybean harvest may be 2.76 billion bushels, 4.9 percent more than estimated in September, according to a Bloomberg News survey of analysts before the U.S. Department of Agriculture updates its projections, analysts said. Memphis-based researcher Informa Economics pegged soybean output at 2.86 billion bushels, above analysts' consensus for soyabean crop.

"Informa's figures were a very real and very bearish surprise to the market and set the stage for a very bearish report from the USDA," economist Dennis Gartman wrote in his daily Gartman Letter.

Soybeans for November delivery fell 0.6 percent to $15.4175 a bushel on the Chicago Board of Trade. The oilseed is down 14 percent since Sept. 4, when concern that U.S. drought would hurt yields sent prices to a record $17.89 a bushel.

Low temperatures may slow germination & development of recently planted wheat in the central and southern U.S. plains, Telvent DTN Inc. said in a report today. Dry weather will cut soil moisture in the next five to six days, it said.

China's soybean imports to reach record high

China's soybean imports are likely to touch a record high of 57.5 million metric tons in 2012, up 9.3 percent year-on-year, due to the country's booming demand and shrinking domestic output.

China's soybean growing area fell 13.8 percent from the previous year to 5.79 million hectares in 2012, marking five consecutive years of decline, according to data from the Ministry of Agriculture.

The ministry forecast that yields will likely decrease 5.3 percent year-on-year to 1,693.5. kilos per hectare because of a summer drought, causing the country's total soybean output to a three-year low of 9.8 million tons.

Falling domestic output suggested that China is becoming more dependent on the global market.

According to the latest report from the US Department of Agriculture, China's soybean imports will rise to nearly 61 million tons next year, up 3 million tons from 2012.

Margins at Chinese oilseed crushers have been eroded due to rising import prices of soybean. But analysts said prices may fall in the future as South American soybeans will be harvested and come to market soon.

Tight outlook for oilseeds

EU end of season oilseed rape stocks are likely to be at an all-time low of one million tonnes according to the HGCA. Market specialist Sidra Shaheen said the global oilseed market in general was expected to remain tightly supplied in the first half of 2012/13 following the US drought.

"This is accentuated by production issues both for oilseed rape and sunflower seed crops. However, if weather conditions remain favourable record South American soyabean crops could bring relief in early 2013," she said.

"Oilseed rape and rape oil prices have been supported by the third consecutive year of suboptimal growing conditions in Europe. This has tightened the supply of rapeseed in the EU," she said.

"Export potential from the other major exporters is also likely to be lower this season," she said.

"Domestically, there is little coming forward from farms and the crushers are relatively absent from the market. UK rapeseed remains uncompetitive in the international markets, with UK domestic values offering better value than export markets," he said.

But with soyabeans the main driver in the oilseeds market, Mr Lane said this crop was continuing to come under pressure from the US harvest and managed money funds closing positions.

"South American soybean plantings are reported to be progressing well with favourable weather conditions, a record South American crop is forecast for early next year with the harvest starting in February."

HGCA analyst Jack Watts said coupled with a poor US soyabean crop, strong Chinese demand was keeping supplies tight for the world's main oilseed.

"Attention is now shifting to South America, where farmers are expected to respond to high prices with record plantings. However, with these harvests some months away, the weather once again will remain a key driver."

Finance Ministry proposes changes in imported edible oil tariff

The finance ministry has proposed to revise the tariff rate for imported edible oil shortly, after almost six years of freezing it at $420 per tonne. According to officials close to the development, the rate will be linked to the market to align it with international prices. The rate hike is likely to be effected primarily for palm oil, which is mainly imported into India.

Tariff rate is the base rate upon which custom duty is charged on imports. The officials, however, cautioned that it will not have any impact on the crude or raw edible oil imported since customs duty on this category is zero. It will only have an impact on the import of refined palm oil to the extent of 7.5 per cent of the total value.

As per data compiled by the Solvent Extractors' Association of India (SEAI), share of refined oil (RBC palmolein) has increased to 19 per cent in June, while crude oil has decreased to 81 per cent and reported at 5.047 million tonnes (mt) compared to 4.31 mt during corresponding period of previous year.

Further, the SEAI report is of the view that the share of RBD palmolein is likely to increase as current Indonesian inverted duty structure encourages larger export of refined oils (nine per cent export duty) over crude oil (18% export duty). Also, the gap between cure and refined palm oil has reduced to just $28 from $73 a year back, discouraging local refining.

Explaining this, officials said the tariff rate may be hiked to around $900-1000 per tonne which would translate into a duty of around $35-40 per tonne. In rupee terms, the increase in tariff value at the current exchange rate will translate into a duty of Rs 1,800-2,200 per tonne. Earlier the ministry of food had recommended for increase in import duty of refined oil.

However, the increase in export duty on crude oil is much more than the rise in duty on processed or refined oil, which is why Indian importers are preferring import of refined oil.

During November 2011 to June 2012, import of refined oil (RBD palmolein) nearly doubled to t 1.21 mt, compared to 638,715 tonnes in the same period the year before.

Besides, the drastic depreciation in the rupee against the dollar has proved as a barrier for import of veg oil into India. The rupee averaged at 55.94 against the dollar in June 2012, compared to 44.81 in the corresponding month of the previous year.

Edible oil price to be under pressure

Massive stockpiles, coupled with Indonesian government's decision to slash export duty on crude palm oil, are likely to keep edible oil price under check in Indian markets.

With the revision in tariff rate by the Indian government about a month ago to make it market-linked (currently at $1,022 a tonne) against the fixed tariff rate of $484 a tonne earlier, the incidence of import duty doubled. The increase in the cost of import, however, would be nullified by a cut in export duty by Indonesia of which India is a big importer of crude palm oil and a decline in global oil prices.

The Indonesian government, however, decided to levy 100 per cent more on crude palm oil (CPO) than refined, bleached and di-iodized (RBD or refined oil), in order to protect domestic refineries there which made import of CPO costlier. But, in a major relief for Indian importers, the government of Indonesia has cut exports duty on crude palm oil to 13.5 per cent for September as compared to 14 per cent in the previous month and 18 per cent around same time last year.

Also, CPO for delivery in November the Bursa Malaysia Derivatives Exchange recorded around four per cent decline in the last one month to trade at 3004 ringgit (Rs 53,460) a tonne on Thursday as against 3,122 ringgit on August 1. Despite lower acreage under kharif oilseed, the overall edible oil price to remain range-bound this year.

"For the next couple of months, edible oil price may go up marginally due to the lean crushing season in the domestic market. But, once soybean harvesting begins in late September - early October season, the price would move downwards," said Satyanarayan Agarwal, president, Central Organisation for Oil Industry and Trade (COOIT).

Meanwhile, edible oil prices remained firm so far this month amid reports of crop damage in the US due to drought and lower availability from domestic sources. In August, most edible oil price jumped between three-five per cent. Both RBD palmolein and refined soya oil were quoted range-bound in Vashi APMC market on Thursday at Rs 624 per 10 kg and Rs 765 per 10 kg. Sunflower oil also traded unchanged at Rs 775 per 10 kg.

Indonesia, the world's largest palm oil producer, reviews the rates and base export prices every month to make it closer with the movement in its price in the spot market. The duty is based on average rates in Kuala Lumpur, Rotterdam and Jakarta. Palm oil on the Malaysia Derivatives Exchange, the global benchmark, has fallen 5.4% so far this year on a drastic decline in demand due to the sovereign debt crisis in Europe and a slowdown in China.

Olive oil – Important Aspects

Olive oil is extracted from fresh olive fruits. As it is extracted from olive fruits it is like juice of olive fruits. Olive oil is produced by grinding the whole olive fruits and extracting oil by gravity separation or centrifugation or solvent extraction. Olive oil is an integral part of Mediterranean diet, but now it is being promoted and used as health oil throughout the world. In India also its use is increasing day by day. In 2007, 2300 tons of olive oil was imported while in 2008 it increased to 4500 tones. It is estimated that by 2012 the import of olive oil will touch 42,000 tones.

Olive oil is one of the best sources of mono- unsaturated fatty acids. Oil is popularly used as message oil. It moisturizes and helps in rejuvenating damaged skin. It is light on skin, absorbs well and does not leave oiliness on the skin.

Olive oil contains a wide variety of valuable antioxidants that are not found in other oils. "Hydroxytyrosol" is thought to be the main antioxidant compound in olives, and believed to play a significant role in the many health benefits attributed to olive oil.The phytonutrient and anti oxidant present in the olive oil make it effective in fighting against following diseases such as

- **Heart Disease :** Mono unsaturated fatty acid helps in lowering levels of blood cholesterol leading to heart disease.
- **Oxidative Stress :** Olive oil consists of high percentage of monounsaturated fatty acid, low in poly unsaturated fatty acids and rich in anti oxidants, especially vitamin E. This constitution of olive oil helps in reduction of oxidative stress in the body.
- **Cancer :** The phytonutrient in olive oil, oleocanthal, mimics the effect of ibuprofen in reducing inflammation, which can decrease the risk of breast cancer and its recurrence. Squalene and lignans are among the other olive oil components being studied for their possible effects on cancer.
- **Blood Pressure :** Recent studies indicate that regular consumption of olive oil can help decrease both systolic (maximum) and diastolic (minimum) blood pressure.
- **Diabetes :** It has been demonstrated that a diet that is rich in olive oil, low in saturated fats, moderately rich in carbohydrates and soluble fiber from fruit, vegetables, pulses and grains is the most effective approach for diabetics. It helps lower "bad" low-density lipoproteins while improving blood sugar control and enhances insulin sensitivity.
- **Obesity :** Although high in calories, olive oil has shown to help reduce levels of obesity.
- **Rheumatoid Arthritis :** Although the reasons are still not fully clear, recent studies have proved that people with diets containing high levels of olive oil are less likely to develop rheumatoid arthritis.
- **Osteoporosis :** A high consumption of olive oil appears to improve bone mineralization and calcification. It helps calcium absorption and so plays an important role in aiding sufferers and in preventing the onset of Osteoporosis.

A high-quality extra virgin olive oil has a higher smoke point than other oils, making it very suitable for many forms of cooking, including frying, and cooking doesn't destroy healthful polyphenols of extra virgin olive oil. "Extra virgin olive oil's smoke point is generally given as 410 degrees Fahrenheit, which gives plenty of room for the 250-350 degrees Fahrenheit that covers most cooking,"

Olive Oil Standards

(By INTERNATIONAL OLIVE COUNCIL (IOC) & CALIFORNIA TRADE STANDARDS for OLIVE OIL)

Olive oil is one of the most adulterated value added agricultural product in the European Union, USA and Asia.

Iindustry regulations are in place to ensure that standards of production are upheld and that consumers are informed of the quality of products they are buying.

For countries adhering to the standards outlined by the International Olive Council (IOC), the grade given to each oil, which is calculated according to the IOC grade criteria, is clearly written on the label.

On October 25th 2010, new standards for olive oil were introduced in the US, which is not a member of the IOC. Producers who wish to certify their product as US Extra Virgin Olive Oil may now begin the process of having it inspected by the USDA.

A draft of revised olive oil standards for Australia and New Zealand was announced on February 25th 2011 and recently concluded a period reserved for public comment.

The grades of oil extracted from the olive fruit can be classified as:

- Virgin means the oil was produced by the use of physical means and no chemical treatment. The term virgin oil referring to production is different from Virgin Oil on a retail label.

- Refined means that the oil has been chemically treated to neutralize strong tastes (characterized as defects) and neutralize the acid content). Refined oil is commonly regarded as lower quality than virgin oil; oils with the retail labels extra-virgin olive oil and virgin olive oil cannot contain any refined oil.
- Olive pomace oil means oil extracted from the pomace using solvents, mostly hexane, and by heat.

The International Olive Council (IOC) has a United Nations charter to develop quality and purity criteria for olive oil. Their main focus is regulating the legal aspects of the olive oil industry and preventing unfair competition. The standards they have developed are recognized by the vast majority of the world's olive oil producers and marketers. The International Standards under resolution COI/T.15/NC no 3-25 (revised June 2003) lists nine grades of olive oil in two primary categories –

(1) Olive Oil and
(2) Olive Pomace Oil.

These are the official definitions of each of the nine grades:

OLIVE OIL CATEGORY

Oil obtained solely from the fruit of the olive tree (Olea europa L.) to the exclusion of oils obtained using solvents or re-esterification processes and of any mixture with oils of other kinds (seed or nut oils).

1. **Virgin Olive Oils –** obtained solely by mechanical or physical means under thermal conditions that do not lead to alterations in the oil; using only treatments such as washing, decantation, centrifugation, and filtration. Those fit for human consumption are as follows:

   A. Extra Virgin Olive Oil - This oil, as evaluated numerically by the mean of a certified taste panel, contains zero (0) defects and greater than zero positive attributes. In other words, more than half of the tasters indicated that it is not defective and has some fruitiness. Extra-virgin oil also must have a free acidity percentage of less than 0.8 and conform to all the standards listed in its category. This is the highest quality rating for an olive oil. Extra virgin olive oil should have clear flavor characteristics that reflect the fruit from which it was made. In relation to the complex matrix of variety, fruit maturity, growing region, and extraction technique, extra virgin olive oils can be very different from one another.

   B. Virgin Olive Oil – this is oil with a sensory analysis rating of the mean of tasters, having defects from 0 to less than 2.5, a free acidity of less than 2%, and conforms to all the other standards in its category. These are oils with analytical and sensory indices that reflect slightly lower quality than extra virgin olive oil.

   C. Ordinary Virgin Olive Oil – oil with a lower organoleptic rating (defects from the mean of tasters 2.5 to less than 6.0), a free acidity of less than 3.3%, and conformity within its category for all other standards. This is inferior oil with notable defects that is not permitted to be bottled under European Union (EU) laws, so it is sent for refining. The EU has eliminated this category and other regulating agencies are likely to follow. It will simply be absorbed into the lampante category.

   D. Virgin Olive Oil – Not Fit for Human Consumption (Lampante) - Oil with severe defects (greater than 6.0) or free acidity of greater than 3.3%, and which conforms to the other standards within its category. It is not fit for human consumption and must be refined. These oils come from bad fruit or from improper handling and processing. This grade is designated as not fit for human consumption.

2. **Refined Olive Oil –** Not Fit for Human Consumption - Oil obtained from virgin oils by refining methods that do not alter the initial tri glyceride structure. It has a free acidity of less than 0.3 and must conform to the other standards within its category. Refined olive oil must not come from the solvent extraction of pomace. The refining process usually consists of treating virgin oil/lampante with sodium hydroxide to neutralize the free acidity, washing, drying, odour removal, colour removal, and filtration. In the process, the oil can be heated to as high as 430oF (220oC) under a vacuum to remove all of the volatile components. Refined olive oil is usually odourless, tasteless, and colourless. It is designated as not fit for human consumption.

3. **Olive Oil –** Olive Oil that are a blend of refined and unrefined virgin oils. It must have a free acidity of not more than 1% and conform to the other standards within its category. This grade of oil actually represents the bulk of the oil sold to the consumer on the world market. Blends are made in proportions to create specific styles and prices. Oils in the US labeled as "Extra Light" would most likely be a blend dominated by refined olive oil. Other blends with more colour and flavour would contain more virgin or extra virgin olive oil.

4. **OLIVE POMACE OIL CATEGORY**

   Oil obtained by treating olive pomace with solvents. It does not include oils obtained in the re-esterification processes or any mixture with oils of other kinds (seed or nut oils).

   A. Crude Olive-Pomace Oil – Not Fit for Human Consumption - This is the solvent extracted crude oil product as it comes out of the pomace extractor after distillation to separate and recover most of the solvent. EU law also defines any oil containing 300-350 mg/kg of waxes and aliphatic alcohols above 350 mg/kg to be crude pomace oil. It is designated as not fit for human consumption, but is intended for refining.

B. Refined Olive-Pomace Oil – Not Fit for Human Consumption - Oil obtained from crude pomace oil by refining methods that do not alter the initial glyceride structure. It has a free acidity of not more than 0.3% and its other characteristics must conform to the standard in its category. Refining includes the same methods used for "refined olive oil" except that the source of the raw product comes from pomace by means of solvent extraction. It is designated as not fit for human consumption.

C. Olive-Pomace Oil - A blend of refined olive-pomace oil and virgin olive oil that is fit for human consumption. It has a free acidity of not more than 1% and must conform to the other standards within its category. In no case shall this blend be called "olive oil."

Label wording

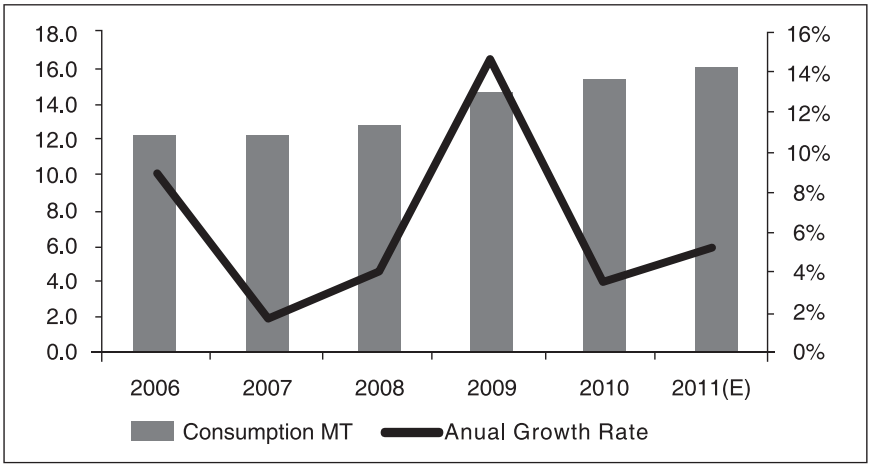
- The different names for olive oil indicate the degree of processing the oil has undergone as well as the quality of the oil. Extra-virgin olive oil is the highest grade available, followed by virgin olive oil. The word "virgin" indicates that the olives have been pressed to extract the oil; no heat or chemicals have been used during the extraction process, and the oil is pure and unrefined. Virgin olive oils contain the highest levels of polyphenols, antioxidants that have been linked with better health.
- "Made from refined olive oils" means that the taste and acidity were chemically controlled.
- Cold pressed or Cold extraction means "that the oil was not heated over a certain temperature (usually 80 °F (27 °C)) during processing, thus retaining more nutrients and undergoing less degradation."
- First cold pressed means "that the fruit of the olive was crushed exactly one time-i.e., the first press. The cold refers to the temperature range of the fruit at the time it is crushed."
- In Calabria (Italy) the olives are collected in October. In regions like Tuscany or Liguria, the olives collected in November and ground often at night are too cold to be processed efficiently without heating. The paste is regularly heated above the environmental temperatures, which may be as low as 10-15 °C, to extract the oil efficiently with only physical means. Olives pressed in warm regions like Southern Italy or Northern Africa may be pressed at significantly higher temperatures although not heated. While it is important that the pressing temperatures be as low as possible (generally below 25 °C) there is no international reliable definition of "cold pressed".

Furthermore, there is no "second" press of virgin oil, so the term "first press" means only that the oil was produced in a press vs. other possible methods.

- PDO and PGI refer to olive oils with "exceptional properties and quality derived from their place of origin as well as from the way of their production".
- The label may indicate that the oil was bottled or packed in a stated country. This does not necessarily mean that the oil was produced there. The origin of the oil may sometimes be marked elsewhere on the label; it may be a mixture of oils from more than one country.
- The U.S. Food and Drug Administration permitted a claim on olive oil labels stating: "Limited and not conclusive scientific evidence suggests that eating about two tablespoons (23g) of olive oil daily may reduce the risk of coronary heart disease."

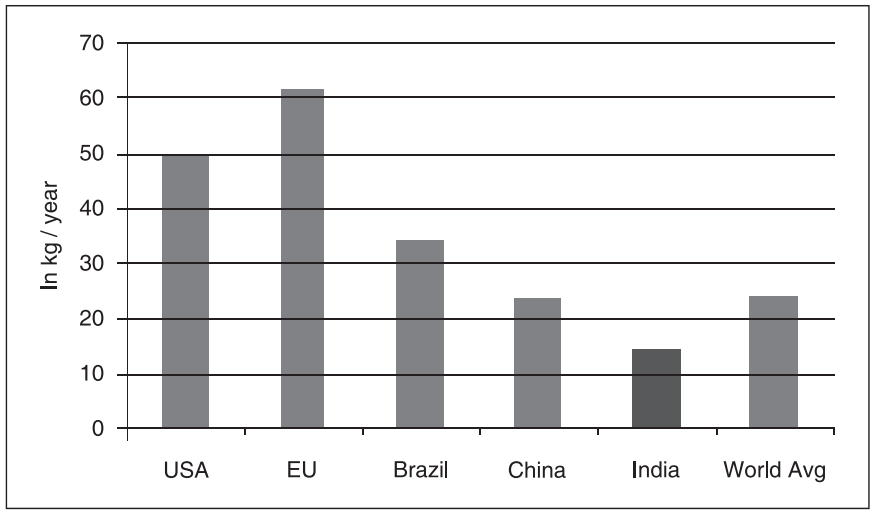
Important Figures :
Edible Oil Scenario in India

Chart 1 : Domestic demand of edible oils



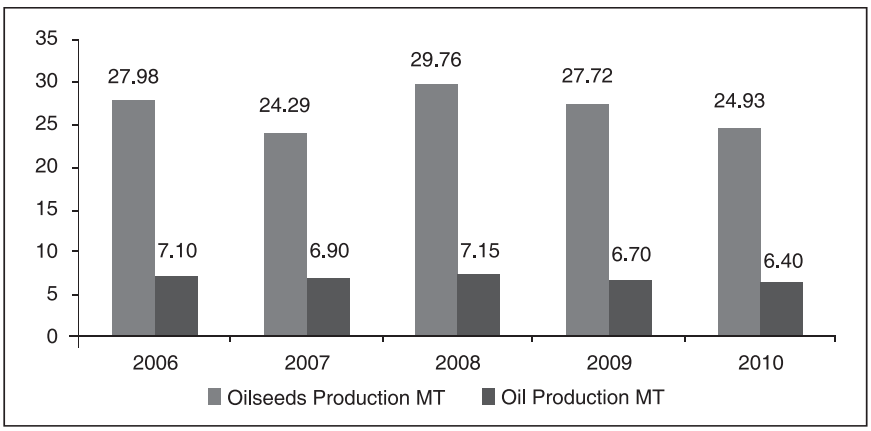
Source : SEA & ICRA analysis

Chart 2 : Per Capita Consumption (2009-10)



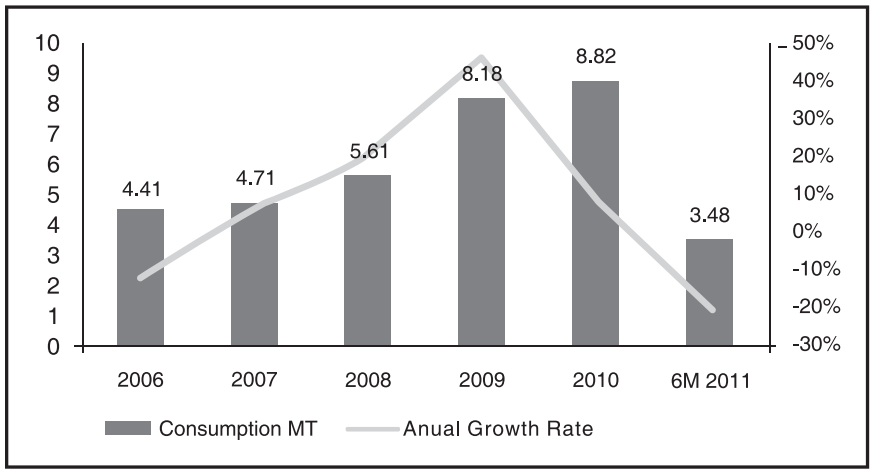
Source : SEA & ICRA analysis

Chart 3 : Domestic Oil & Oil Seeds Production



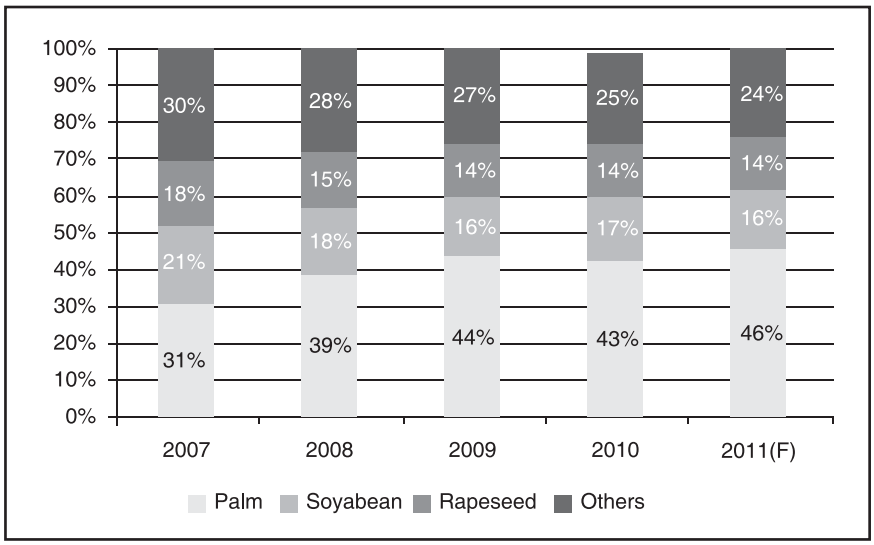
Source : SEA & ICRA analysis

Chart 4 : Year-wise Edible Oil imports



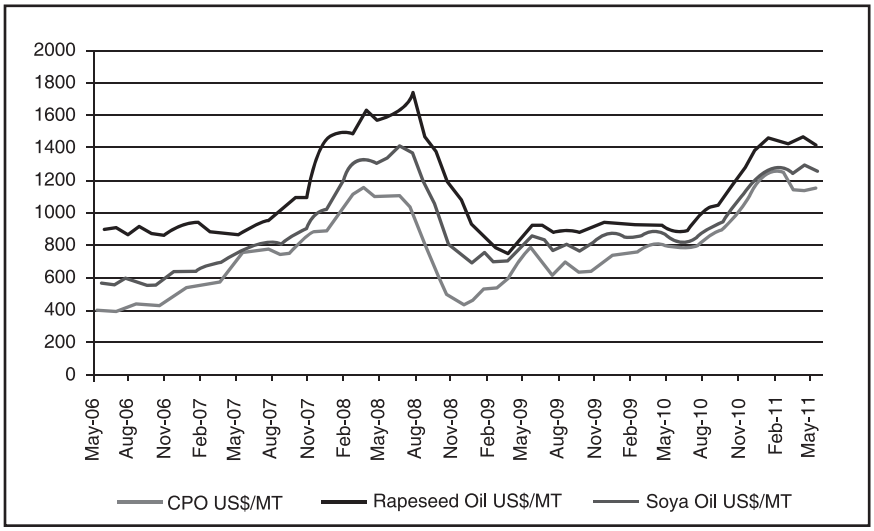
Source : SEA & ICRA analysis

Chart 5 : Domestic Consumption Trend



Source : SEA & ICRA analysis

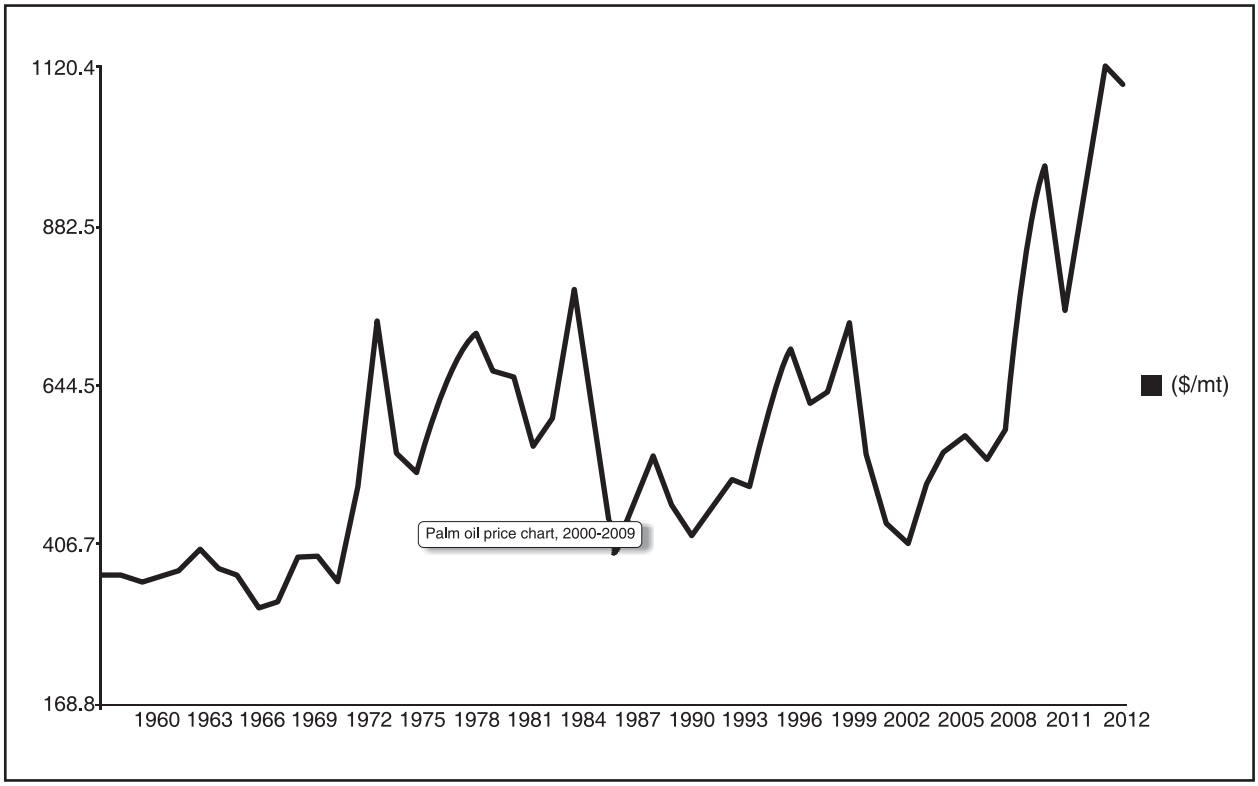
Chart 6 : Edible Oil Price Movement



Source : Index Mandi

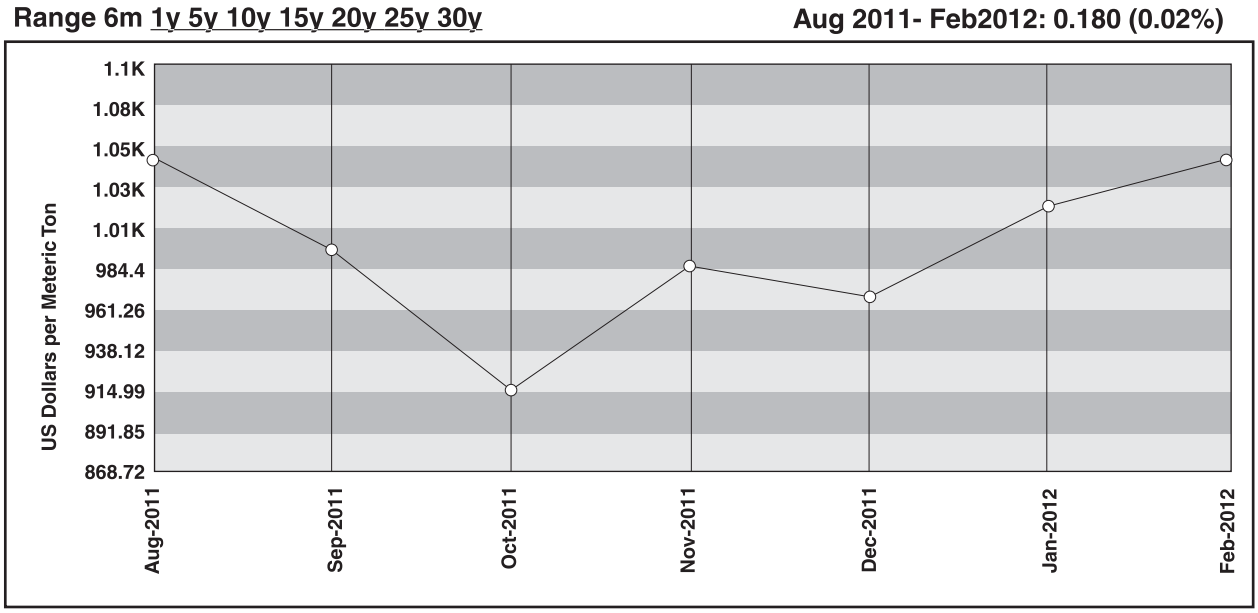
Palm Oil Important Trends

Chart 1 : Palm Oil Price Chart



Source : Complied by mongabay.com using figures from World Bank Commodity Price Data

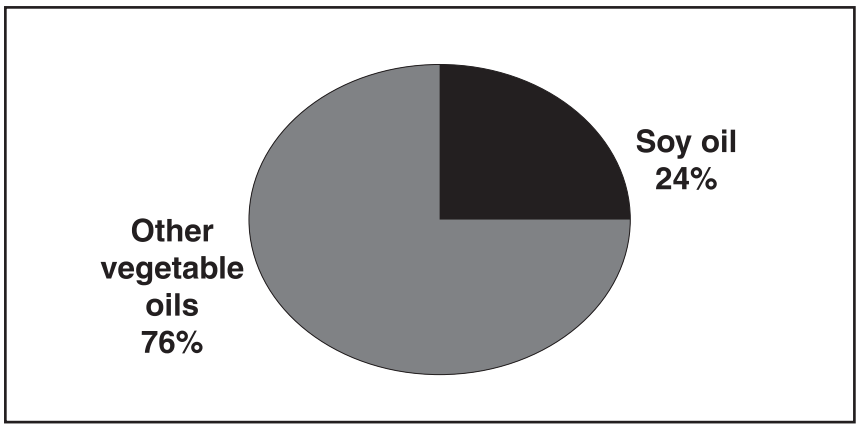
Chart 2 : Palm Oil monthly price - US Dollar per meteric ton



Source : Index Mundi, Description : Palm oil, Malaysia Palm Oil Futures (first contract forward) 4-5 percent FFA, US Dollars per Metric Ton

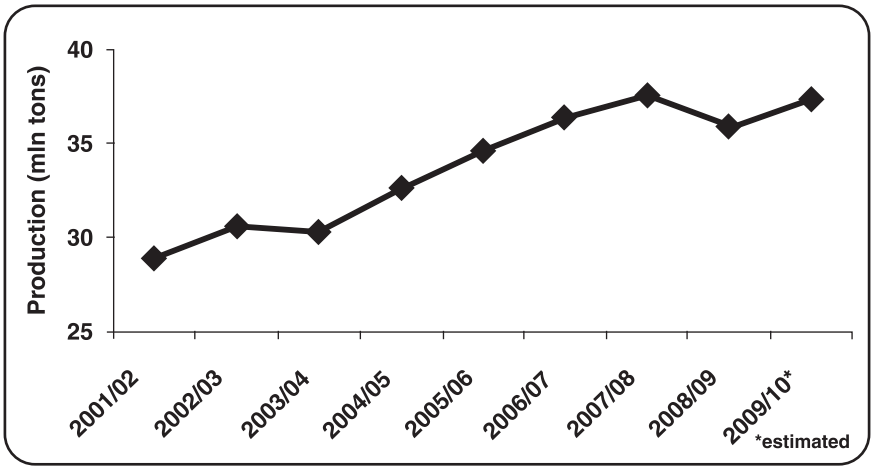
Soyabean Oil Scenario

Chart 1 : Trade Share in International Market in %



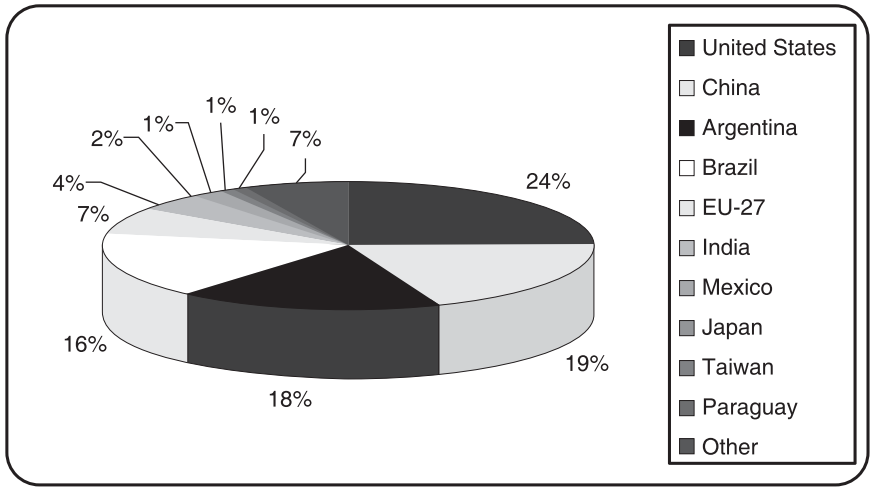
Source : USDA, Soya oil vs. other oil in international trade 2007-08

Chart 2 : World Soyabean oil production



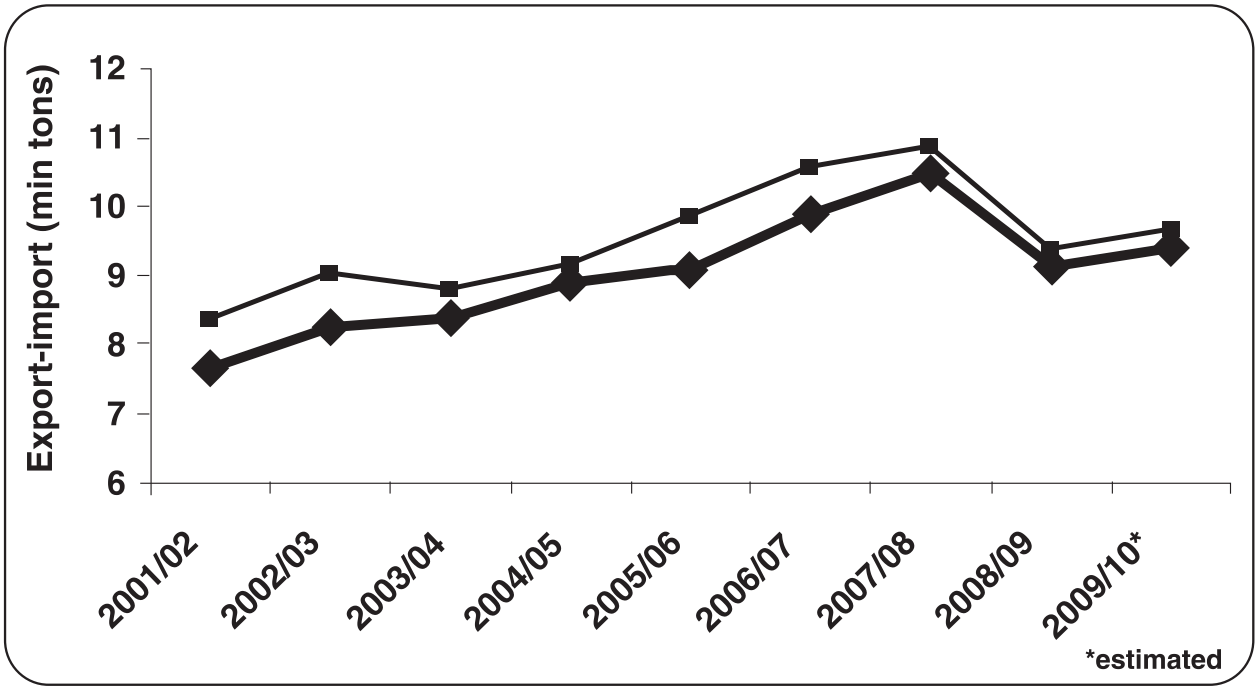
Source : USDA

Chart 3 : World Major Soyabean oil producing Countries



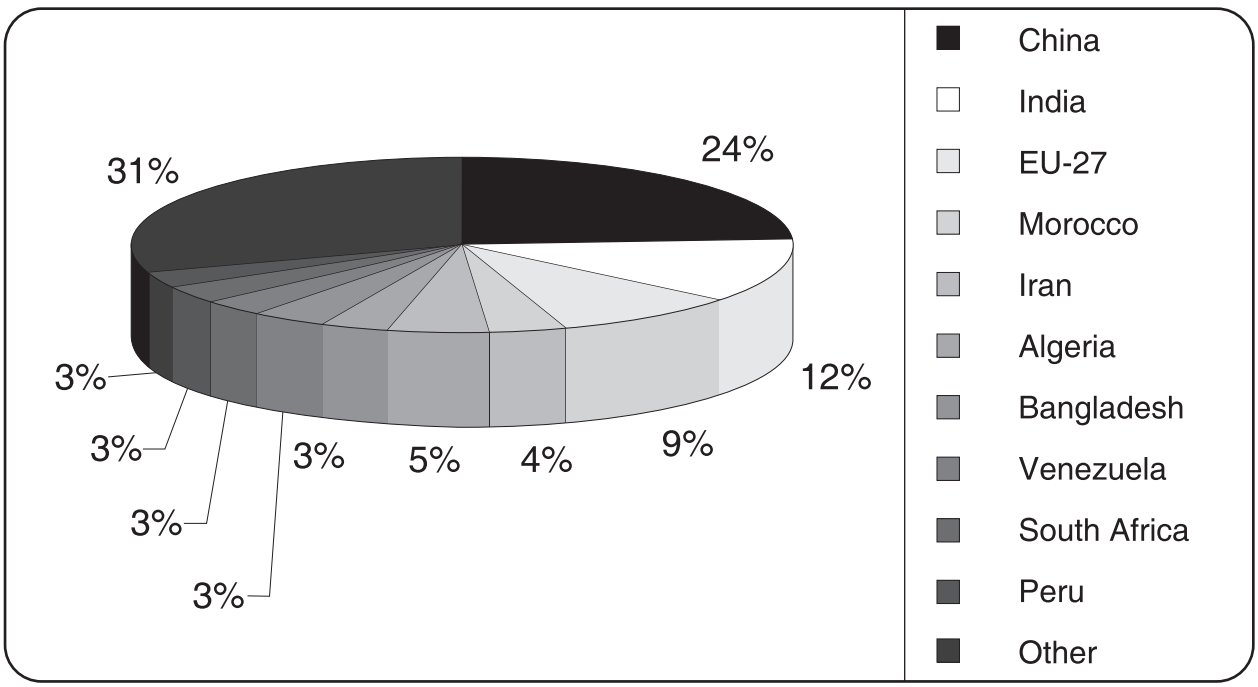
Source : USDA, from 2005-06 till 2009-10

Chart 4 : World Soyabean oil Export and Import



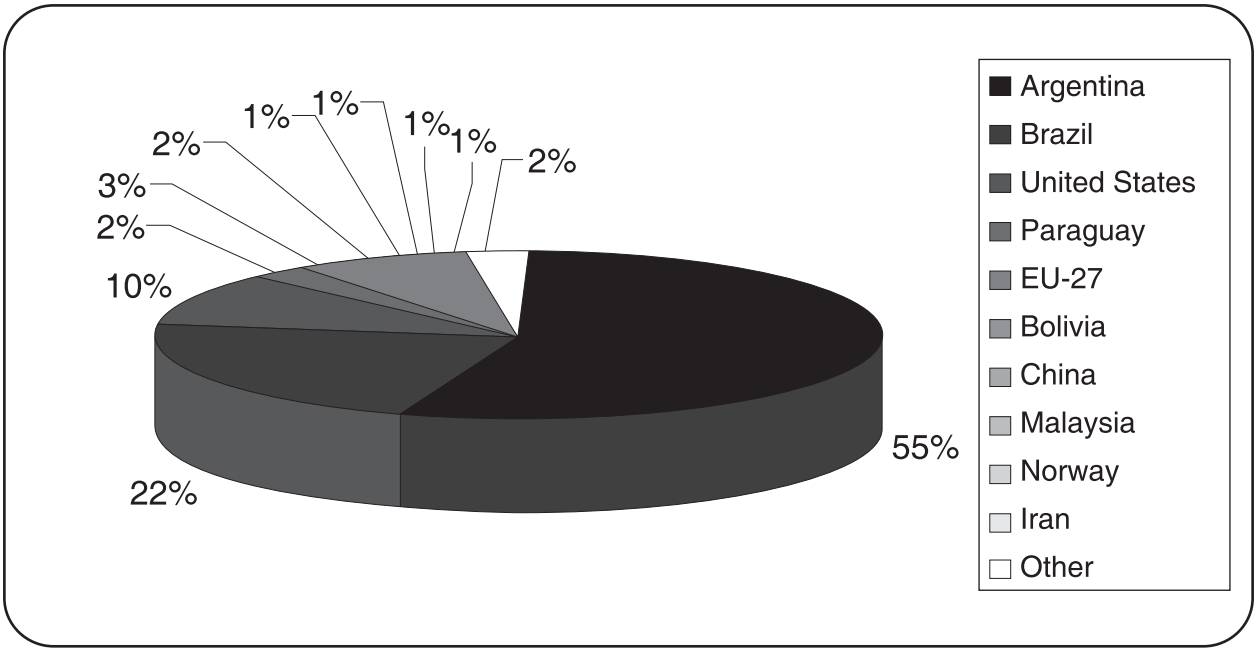
Source : USDA

Chart 5 : Major Soyabean oil Importing Countries from 2005-06 till 2009-10



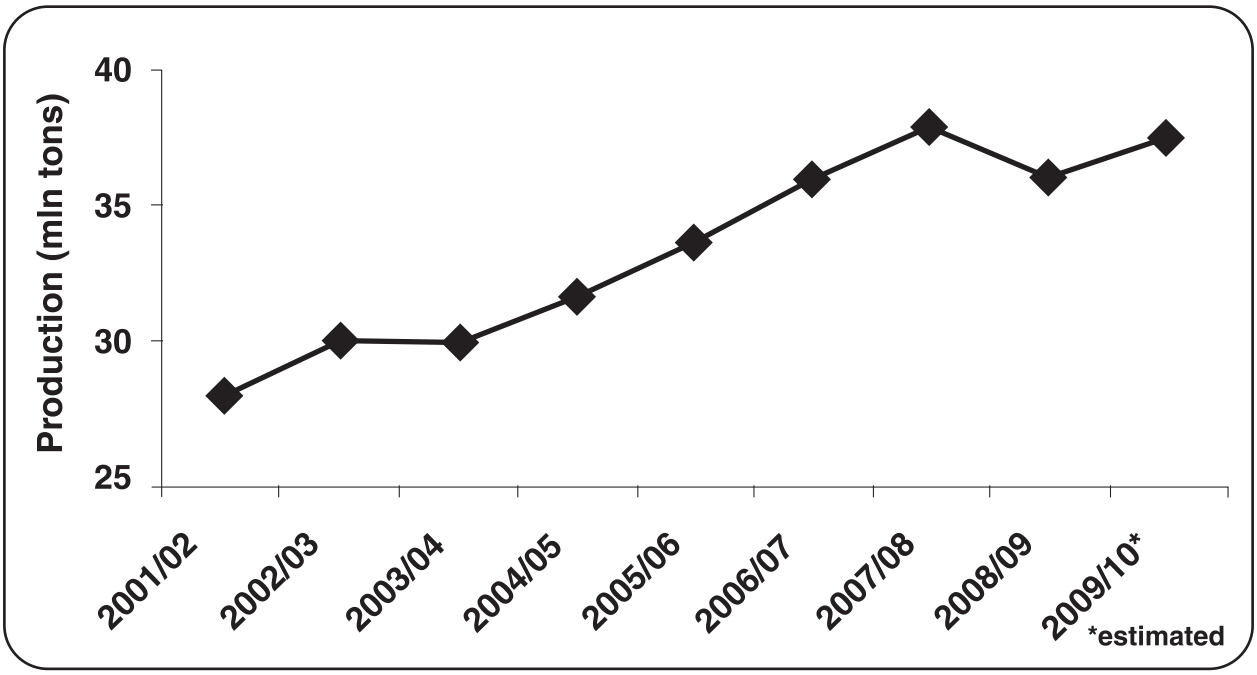
Source : USDA

Chart 6 : Major Soyabean oil exporting Countries from 2005-06 till 2009-10



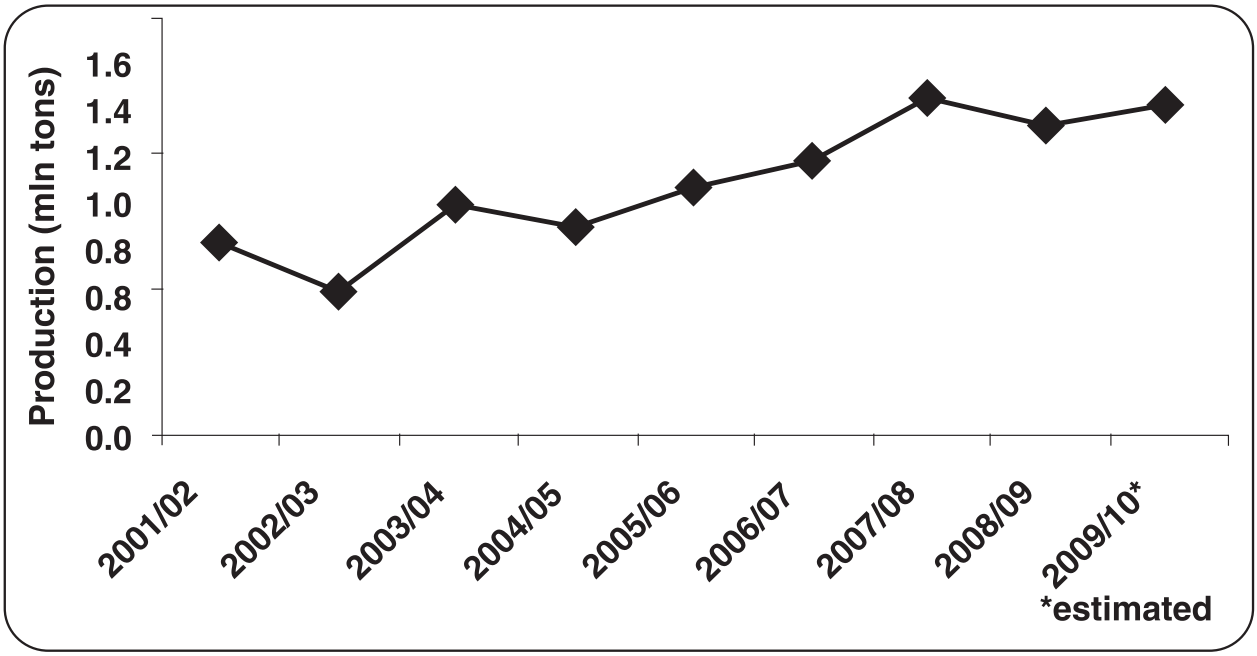
Source : USDA

Chart 7 : Global Soyabean oil consumption



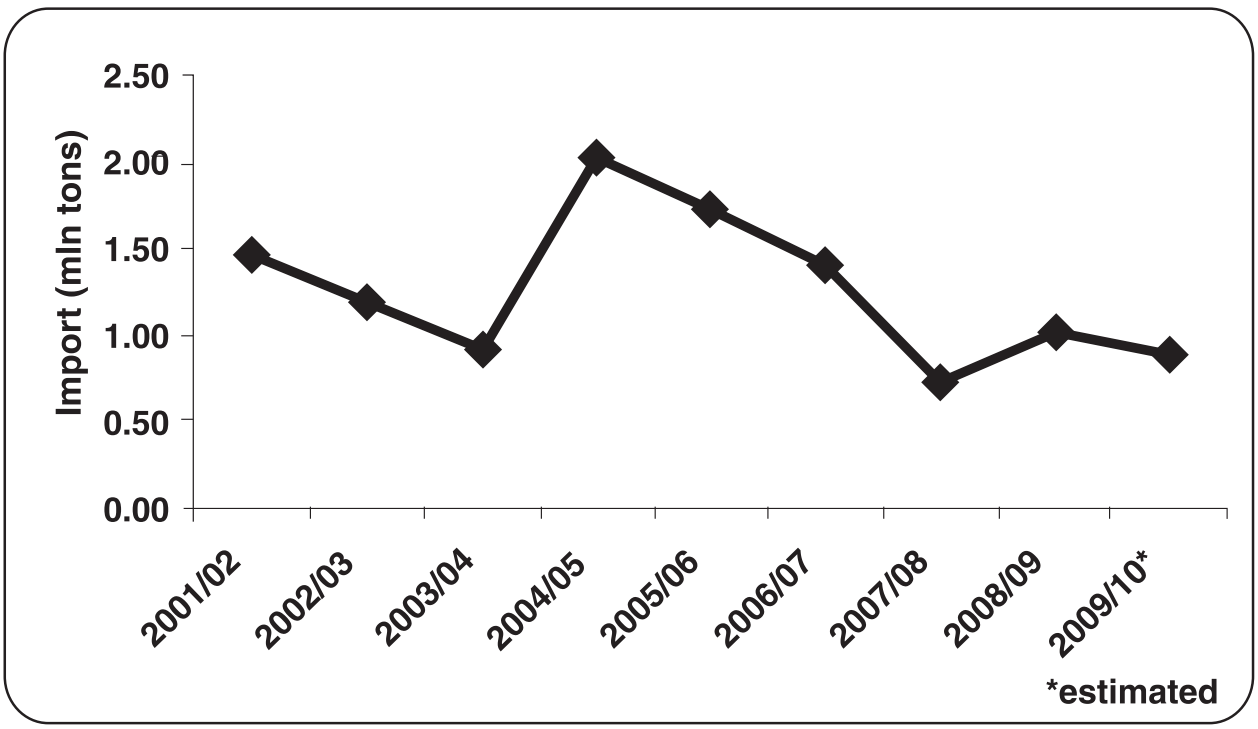
Source : USDA

Chart 8 : Indian Soyabean oil production



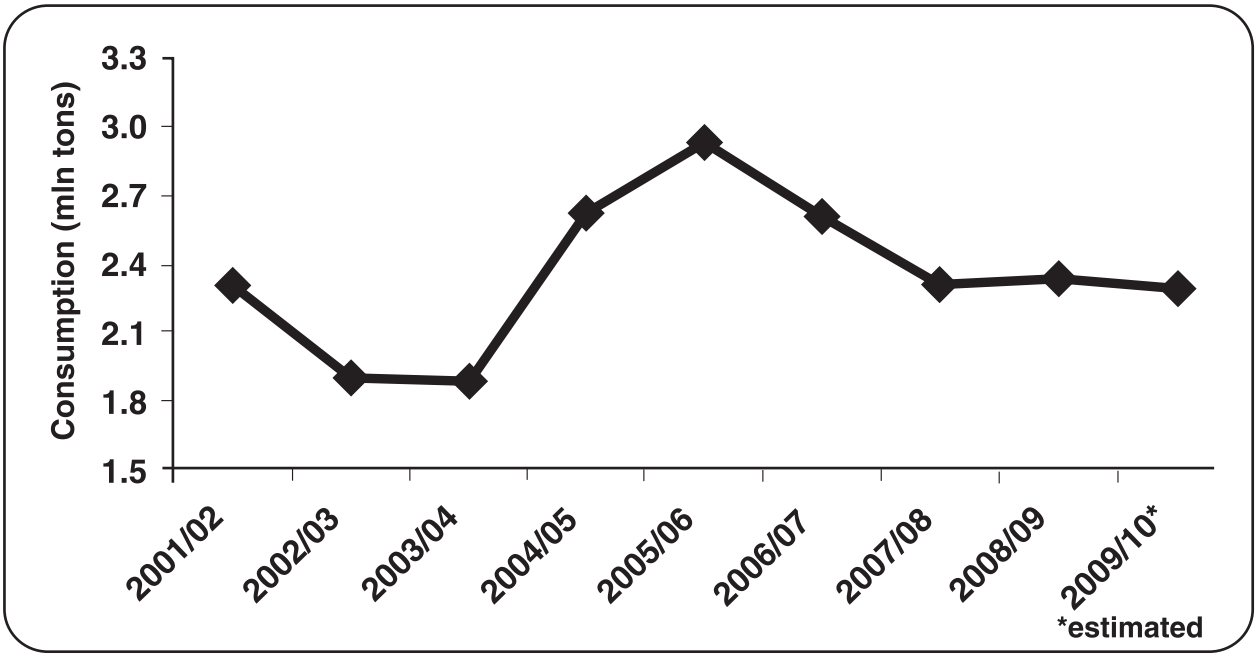
Source : USDA

Chart 9 : Indian Soyabean oil Import



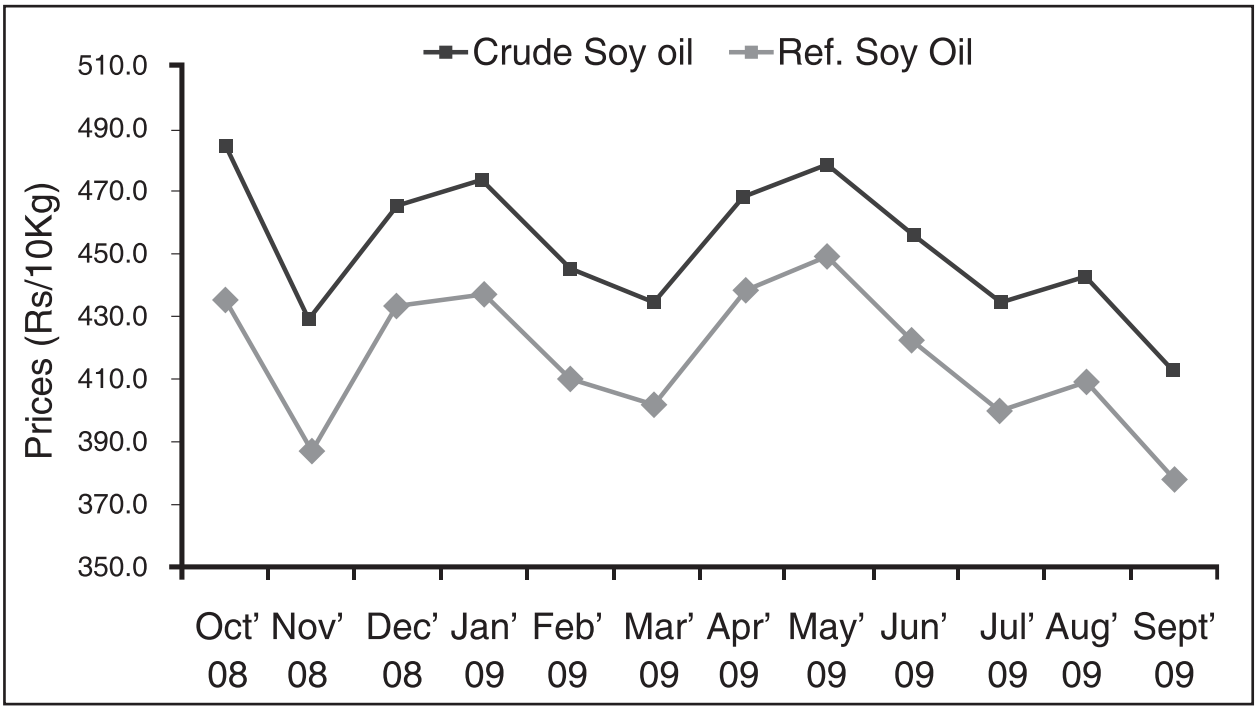
Source : USDA

Chart 10 : Indian Soyabean oil consumption



Source : USDA

Chart 11 : Monthly Avg Price Trend for Soy Oil In India (Oct' 08 - Sept' 09)



Source : SOPA

Health Tips

Study links heightened diabetes risk to modern oils

A long term research study published by a team of researchers from the Madras Diabetes Research Foundation, in The international Journal of Food Science and Nutrition, confirms that non traditional methods of cooking are significantly contributing to the rise in diabetes among Indians. The report data has been compiled over 20 years and took into account of interviews with 1,875 men and women.

It is found that modern variety of edible oil used by Indians, such as palm and sunflower oil, were found to increase the risk for patient to develop insulin resistance and elevated glucose levels than traditional sesame and groundnut oil.

The author of the study stressed that the research was a cross-sectional study of data. And more studies and clinical trials are needed among the same population group to confirm the results.

The study shows that those who eat food prepared with groundnut or sesame oil have relatively lower risk of high blood pressure, diabetes & central obesity than the other research groups.

An estimated 62.4 million people have diabetes in India & further 77.2 million have been diagnosed with pre diabetes.

PHOSPHOLIPIDS : PUTTING MORE FUNCTION INTO FUNCTIONAL FOODS

Now a days consumers have a fast-growing appetite for foods, drinks and dietary supplements with active ingredients such as omega-3, CoQ10 and vitamin E.

There's complex interplay among the good substances functional foods may contain. This enables some to do a better job than others of getting vitamins, proteins, enzymes and beneficial fatty acids where they can do the most good in the human body.

A growing body of research indicates that different types of phospholipids have a lot to do with that difference. Phospholipids are similar in structure to fats, or triglycerides, but have a phosphate functional group substituted for one of the three fatty acids on a glycerol backbone. Derived from soy, canola, sunflower or egg, these natural lipids are essential to healthy cell function. And, cells' natural affinity for certain lipids make them ideal "carriers" of healthy active ingredients.

PC (phosphatidylcholine) is a critical component of the outer layer of all cell membranes. The unsaturated lipids PC contains (primarily omega-3 and omega-6 fatty acids) make it a great functional food ingredient. PC has been associated with lower cholesterol and healthy cardiovascular lipid levels, membrane fluidity and healthy mucous membranes in the digestive system and lungs.

PS (phosphatidylserine) is found in the inner layers of cell membranes and is also essential to healthy cell function. PS is associated with improved exercise capacity, increased neurotransmitter release in the brain, reversed age- associated nerve cell dendrite loss and higher brain glucose levels.

GPC (glycerophosphocholine) has been linked with mental cognition and memory. Comprised of extremely small molecules that contain no fatty acids, GPC easily passes directly from the blood to brain cells.

Boosting bioavailability

In a study sponsored by the Lipoid Group of Ludwigshafen, Germany, two groups of men and women were given equal amounts of CoQ10 and vitamin E. Group one took them in a hard gel cap. Group two in a hard gel cap, complexed with a soy-based liquid phospholipid emulsion containing PC. CoQ10 & vitamin E levels in the subjects' bloodstreams were measured before dosing and at one-hour intervals over the next 14-hours (both groups had fasted overnight and received the same meals and snacks during the test).

In group one, CoQ10 levels peaked at six hours and returned to near baseline levels by the end of the test. In group two, CoQ10 peaked twice (at three and six hours) and remained significantly higher throughout the test (indicating an overall fourfold increase). For vitamin E, the data indicated an overall 10-fold increase in bioavailability in group two.

Results like these (and initial findings in current research with omega-3) hint at tremendous potential ahead to make functional foods more effective. They point up how phospholipids' lipophilic (fat-loving) properties can enhance uptake of fat-soluble compounds. Hydrophilic (water-loving) properties have also proved effective in liposomal forms of the antioxidant glutathione, vitamin C, resveratrol and other actives. Nutraceuticals designed to increase their bioavailability are instant sell-outs.

Chocolate and Alzheimer's

Flavanols are found in cocoa, red wine, grapes, apples & tea.

The researchers asked 90 elderly adults to drink flavanol beverages of varying concentrations for eight weeks, while the rest of their diet was controlled, to reduce their consumption of flavanols from other sources. Tests taken at the start and end of the eight-week period measured the participants' short- and long-term memories, as well as other aspects of general function.

Every year, 6 percent of those beyond age 70 develop mild cognitive impairment, the researchers noted. The condition can be a precursor to dementia or Alzheimer's disease, so reducing mild cognitive impairment also might decrease the percentage of people with these diseases, the researchers suggested, though more research would be needed to show this.

Other experts disagreed with the study's conclusion.

The data showed that "the study participants showed improvements in terms of processing information and thinking faster, but there was no effect on overall cognition," said Dr. Marc L. Gordon, chief of neurology at Zucker Hillside Hospital in Glen Oaks, N.Y., who researches Alzheimer's disease. And although the results are intriguing, they cannot be applied to people who do not have mild cognitive impairment because the study looked at such a specific population, he added.

The results showed that flavanols may improve brain speed, which may or may not affect the development of Alzheimer's disease, and more research is needed to understand the connection.

American Heart Association spokeswoman said it's well known that flavanols lower blood pressure, but the positive effect this may have in the brain is a relatively new finding. While the relationship should be studied further, that there is no harm in adding flavanols to a diet.

Foods with flavanols are "generally healthy foods that fit in well with a heart-healthy diet," she said. It's important to note that flavanols are found in chocolate with high cocoa content, so dark chocolate is the best for health, Johnson said.

Source: My Health News Daily, Aug 13, 2012

Walnut-The Antioxidant Chest

According to the study published in the journal Food and Function. It was found walnuts had the highest levels of antioxidants and are of highest in potency and quantity among nuts.

It was discovered that walnut rank higher than Brazil nut, pistachios, pecans, peanuts, almonds, macadamias, cashews and hazelnuts.

Nuts as such are low in saturated fats, high in unsaturated fats, high in fiber and very high in antioxidant. They provide both nutrition and bio-active antioxidant which have significant health benefits to the consumer.

The Myth about ISP

It was popular belief that isolated soy protein is helpful in reduction of blood LDL-Cholesterol. To have an opinion on health claim related to ISP, a joint application from European Natural Soy food Manufacturers Association (ENSA), the European Vegetable Protein Federation (EUVEPRO) and the Soya Protein Association (SPA) was submitted before Panel on Dietetic products, Nutrition and Allergies the Competent Authority of Belgium. The Panel observed that under similar condition four randomised controlled trials (RCTs) reported an effect of ISP on blood.

LDL/non-HDL cholesterol concentrations, whereas 14 RCTs did not report such an effect, and another RCT showed no consistent effects. The Panel also took into account that most of these RCTs were at high risk of bias, that differences in the results obtained between trials appear unrelated to the dose of ISP used, to sample size or to study duration, and that the evidence provided in support of a possible mechanism was not convincing. A cause and effect relationship has not been established between the consumption of ISP (as defined by the applicant) and a reduction in blood LDL-cholesterol concentrations.

Omega-3 fatty acid : Treatment of leukemia

For successful treatment of cancer, targeting cancer stem cell is of utmost importance.

Recently, it was identified that cyclooxygenase-derived cyclopentenone prostaglandins (CyPGs) as likely agents to target malignant stem cells. it was seen that Δ12-PGJ3, a novel and naturally produced CyPG from the dietary fish-oil ω-3 polyunsaturated fatty acid eicosapentaenoic acid (EPA; 20:5) alleviates the development of leukemia in 2 well-studied murine models of leukemia. IP administration of Δ12-PGJ3 to mice infected with Friend erythroleukemia virus or those expressing the chronic myelogenous leukemia oncoprotein BCR-ABL in the hematopoietic stem cell pool completely restored normal hematologic parameters, splenic histology, and enhanced survival. More importantly, Δ12-PGJ3 selectively targeted leukemia stem cells (LSCs) for apoptosis in the spleen and BM. This treatment completely eradicated LSCs in vivo, as demonstrated by the inability of donor cells from treated mice to cause leukemia in secondary transplantations. Given the potency of ω-3 polyunsaturated fatty acid–derived CyPGs and the well-known refractoriness of LSCs to currently used clinical agents, Δ12-PGJ3 may represent a new chemotherapeutic for leukemia that targets LSCs.

Natural Trans fat- Cholesterol safe

Artificial Trans fats are generated during processing of oils and fats. These artificial Trans fats are passed to the processes food and have deleterious effect on cholesterol levels.

But same is not true with naturally occurring trans fatty acids. During study on 61 healthy women, who followed diet with a hefty dose of naturally occurring trans fats for four weeks. It was found that there is no change in the 'LDL' (bad cholesterol) and only small change in HDL (good Cholesterol) in some participants.

Trans fats are widely used in bakery products and other processed food to meet certain taste characteristics in food items. But these trans fats tends to reduce HDL (good cholesterol) while at the same time increase the LDL (bad cholesterol)

Researcher also indicate that elderly people with diets high in trans fats are more likely to experience a certain type of brain shrinkage associated with Alzheimer's disease. The diet high in vitamins B, C, D and E as well as omega-3 fatty acids provided certain positive effects for the brain.

Passion Fruit Seed Oil

The passion fruit is native to the Amazon and other tropical regions of North and South America. Passion fruit is also grown in Nilgiris in the South, North- East and various parts of northern India. The yellow form was unknown in India until just a few decades ago when it was introduced from Ceylon and proved well adapted to low elevations around Madras and Kerala.

Commercial processing of the yellow passion fruit yields 36% juice, 51% rinds, and 11% seeds. The ripe fruit contains as many as 250 small, hard, dark-brown or black, pitted seeds. The seeds yield 23% oil which is similar to sunflower and soybean oil and accordingly has edible as well as industrial uses.

The composition of the air-dried seeds is reported as: moisture, 5.4%; fat, 23.8%; crude fiber, 53.7%; protein, 11.1%; N-free extract, 5.1%; total ash, 1.84%; ash insoluble in HC1, 0.35%; calcium, 80 mg; iron, 18 mg; phosphorus, 640 mg per 100 g.

The seed oil contains 8.90% saturated fatty acids; 84.09% unsaturated fatty acids. The fatty acids consist of: palmitic, 6.78%; stearic, 1.76%; arachidic, 0.34%; oleic, 19.0%; linoleic, 59.9%; linolenic, 5.4%.

Passion fruit seed oil is suitable for cosmetics and body care products. It has soothing effect on skin and does not leave a sticky, greasy film on the body. It is increasingly being used in aroma therapy also.

Cosmetic benefits

Passion fruit seed oil (passiflora edulis), also known as Passion fruit oil or Maracujá oil, is a superior emollient rich in vitamin C, calcium and phosphorus. The high content of essential fatty acids and light texture of Passion fruit seed Oil makes it suitable for a no. of personal care products intended to nourish the skin and treat dry skin conditions.

It is also recommended in scalp and hair care products to encourage healthy hair growth and increased vitality.

Because of calming and sedating effect and is suitable for bath care products and products intended to promote relaxation. Its anti-inflammatory, anti-spasmodic and sedative properties make it the oil of choice for use in massage applications and formulations intended to ease muscular aches and swelling.

It has healing and antibacterial properties which may be useful for stretch mark, dry, itchy skin and scalp.

This Oil instantly provides freshness and vitality. It contains anti-oxidants and can be used to improve skin elasticity. It can also be used in hair softening products and treating dry flaky scalp. It is high in vitamins A, C and essential fatty acids.

Medicinal benefits

Passion fruit seed oil is also a rich source of antioxidants. Antioxidants present in this fruit acts as an antihistamine. It is capable of reducing symptoms of asthma by reducing allergy and respiratory tract inflammations. Passion fruit oil can also cure coughs, whooping coughs and help to alleviate brochitis.

In Brazilian traditional medicine, Passion fruit oil is also used to treat depression, panic attack, insomnia, muscle tension, headaches, anxiety disorders, mild urinary infections and increasing libido. It is also used as a sedative in nervous disorders (including gastrointestinal complaints of nervous origin), difficulties in sleeping, and anxiety or restlessness.

In studies conducted since the 1930's, its mode of action has been found to be different than that of most sedative drugs (sleeping pills), thus making it a non-addictive ingredient to promote relaxation.

Passion Fruit Seed oil has a fresh, pleasant citric fragrance, with a bright translucid yellow color.

It can be used as a daily moisturizer. After shower, with skin still damp, spread generous amount over entire body, concentrating in the driest areas, rinsing away excess to leave skin dewy soft and smooth. Or massage the oils into the skin for a therapeutic massage experience. When used daily your body will respond to the refreshing and invigorating benefits of Passion Seed Oil.

It can be used in bathing oils, lotions, creams, soaps, hair conditioner, hair masks and shampoos.

In India, the passion fruit seed oil can be produced on small scale. In India the use and demand of passion fruit seed oil is increasing in cosmetics and aromatherapy.

(Compiled by : C. S. Joshi)

Why did the chicken cross the road

Richard Feynman : It didn't cross the road to the other side. It actually came back to where it started but was momentarily moving backward in time.

Nicolaus Copernicus : Despite the evidence of you senses I can show that it is mathematically simpler to describe it as the road passing under the chicken.

Archimedes

A1 : To actualize its potential.

A2 : She was buoyant and excited at the thought of new adventures.

A3 : Eureka!

Andre Ampere : To keep up with current events.

Alexander Graham Bell : To get to the nearest phone.

Werner Heisenberg :

A1 : We are not sure which side of the road the chicken was on, but it was moving very fast.

A2 : It was uncertain if it could make it, but wanted to try on general principles.

A3 : Because the chicken is moving very fast, you can either observe the chicken or you can measure the chicken, but you cannot do both.

A4 : We could tell you how it crossed the road, but we couldn't tell you where.

Robert Boyle : She had been under too much pressure at home.

Marie Curie : She was radiating with enthusiasm as she crossed the road.

Albert Camus : It doesn't matter; the chicken's actions have no meaning except to him.

C. J. Doppler : For its effect on passer-bys.

Thomas Edison : She thought it would be an illuminating experience.

Karl Gauss : Because of the magnetic personality of the rooster on the other side.

Hawking :

A1 : The first seconds made the universe in such a way that chickens cross the road.

A2 : There exist numerous parallel universes in which the same chicken is in differing stages of crossing the road. Only when one of the chickens has completed crossing the road do their ave functions coallesce.

Albert Einstein : Whether the chicken crossed the road or the road moved beneath the chicken depends upon your point of view. The chicken did not cross the road - it transcended it.

Gustav Hertz : Lately, its been crossing with greater frequency.

Galileo : To get a better look at the stars.

Johannes Kepler : He crossed in an arc, not a straight line.

Lemaître : He crossed with a big bang.

Newton

1) Chickens at rest tend to stay at rest. Chickens in motion tend to cross the road.

2) It was pushed on the road.

3) It was pushed on the road by another chicken, which went away from the road.

4) It was attracted to a chicken on the other side of the road.

Ohm : There was more resistance on this side of the road.

Pascal : It was pressured to cross the road.

Wolfgang Pauli : There already was a chicken on this side of the road.

James Watt : It thought it would be a good way to let off steam.

Zeno of Elea : To prove it could never reach the other side.

Stephen Jay Gould : It is possible that there is a sociobiological explanation for it, but we have been deluged in recent years with sociobiological stories despite the fact that we have little direct evidence about the genetics of behaviour, and we do not know how to obtain it for the specific behaviours that figure most prominently in sociobiological speculation.

Aristotle :

A1 : It is the nature of chickens to cross the road.

A2: The other side of the road was its natural place.

A3: To actualize its potential.

Immanuel Kant : The chicken, being an autonomous being, chose to cross the road of his own free will.

Jean-Paul Sartre : In order to act in good faith and be true to itself, the chicken found it necessary to cross the road.

Jean Foucault : It didn't. The rotation of the earth made it appear to cross.

Nietzsche : Because if you gaze too long across the Road, the Road gazes also across you.

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EXTRAORDINARY USES

Making your own furniture polish : Restore the lost lustre of your wooden furniture by whipping up some serious homemade furniture polish that's just as good as any of the commercial brands. Combine 2 parts olive oil and 1 part lemon juice or white vinegar in a clean recycled spray bottle, shake it up and spray on. Leave on the mixture for a minute or two, then wipe off with a clean terry cloth or paper towel. In a hurry? Get fast results by applying olive oil straight from the bottle onto a paper towel. Wipe off the excess with another paper towel or an absorbent cloth.

Recondition an old sports glove : If your ageing leader sports glove is showing signs of wear and tear - cracking and hardening of the leather - you can give it a second lease on life with and occasional olive-oil rubdown. Just work the oil into the dry areas of your glove with a soft cloth, leave it for 30 minutes, then wipe off any excess. Your game may not improve, but at least it won't be your glove's fault.

Clear up acne : Okay, the notion of applying oil to your face to treat acne does sound a bit crazy. Still, many people swear this works : make a paste by mixing 4 table-spoons salt with 3 table spoons olive oil. Pour the mixture onto your hands and work it around your face with your fingers. Leave it on for a minute or two, then rinse it off with warm, soapy water. Apply daily for one week, then cut back to two or three times weekly. You should see a noticeable improvement in your condition. (The principle is that salt cleanses the pores by exfoliation, while the olive oil restores the skin's natural moisture.)

Substitute for shaving cream : If you run out of shaving cream, don't waste our time trying to make do with soap - it could be rough on your skin. Olive oil, on the other hand, is an ideal substitute for shaving cream. It not only makes it easier for the blade to glide over your face or legs, but it will moisturise your skin as well. In fact, after trying this, you may wear off shaving cream altogether.

Clean your greasy hands : To remove car grease or paint from your hands, pour 1 teaspoon olive oil and 1 teaspoon salt or sugar into your palms. Vigorously rub the mixture into your hands and between your fingers for several minutes; then wash it of with soap and water. Not only will your hands be cleaner, they'll be softer as well.

Remove paint from hair : Did you get almost as much paint in your hair as you did on the walls in our last paint job? You can easily remove that undesirable tint by moistening a cotton wool ball with some olive oil and gently rubbing it into your hair. The same approach is also effective for removing mascara - just be sure to wipe your eyes with a tissue when you've finished.

Use as hair conditioner : Is your hair dry and brittle? Put the moisture back into it by heating 1/2 cup olive oil (don't boil) and then liberally applying it to your hair. Cover your hair with a plastic grocery bag, then wrap it in a towel. Leave it for 45 minutes, then shampoo and thoroughly rinse.

Compiled by - Hemant Chopra

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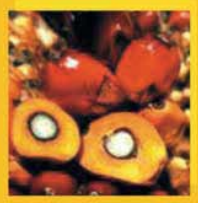

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