

## International Seminar on Consumer Trends and Export of Tropical and Subtropical Fruits

International Seminar  
on Consumer Trends and Export of  
Tropical and Subtropical Fruit  
14-16 July 2008, Century Park Hotel, Bangkok



*The Deputy Permanent Secretary, Mr. Chakarn Saengruksawong who represented the Honourable Minister of Agriculture and Cooperative, Thailand delivering his opening speech at the International Seminar On Consumer Trends and Export of Tropical and Subtropical Fruits in Bangkok on 14th July 2008.*

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TFNet together with co-organizers, Agricultural and Food Marketing Association for Asia and the Pacific (AFMA), Department of Agriculture, Thailand (DOA) and Department of Agricultural Extension, Thailand (DAE) successfully organized the “International Seminar on Consumer Trends and Export of Tropical and Subtropical Fruits” at Century Park Hotel, Bangkok on 14-16 July 2008. The official opening of the seminar was formalised by the Deputy Permanent Secretary, Mr. Chakarn Saengruksawong who represented the Honourable Minister of Agriculture and Cooperative, Thailand. A total of one hundred and twenty-two participants from government agencies, institutions, international and regional organizations and private sector and students mainly from Thailand and Malaysia with others from Japan, India, Vietnam, United Kingdom, Belgium, New Zealand and Indonesia attended the seminar.

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## Editor's Note...

The international seminar on consumer trends and export of tropical and subtropical fruits, a major event for TFNet this year, was held in Bangkok on 14 – 16 July 2008. This was followed by the TFNet board of trustees meeting which was held on 17 July 2008, at the same venue. The other activities of TFNet in the first half of 2008 included a study tour on agricultural marketing, quality assurance and food safety for Indonesian participants to Thailand, jointly organised seminars and workshops with other international organizations, universities and government agencies, and completion of projects that were initiated in 2007. During this time, TFNet received membership applications from the Syrian Arab Republic as a country member, the ICUC, Sri Lanka (International Centre for Underutilized Crops) and GFTF, United Kingdom (Global Food Traceability Forum), both as associate members. There were 9 applications for ordinary membership from Nigeria, Cameroon, Cote d'Ivoire, Burkina Faso, Tanzania, Senegal and Guinea.

The list of fruit types in the TFNet webportal is currently being expanded and updated with additional information. A new feature, 'fruit blog' has recently been added, to get participation from stakeholders in the tropical fruit industry, be it researchers, producers, exporters, extension agents and others, to interact and share information or experiences related to the specific fields. A dedicated 'fruit blog' on the greening disease or Huang Long Bin disease of citrus has recently been created for the same purpose. A new feature on registration and listing of resource persons or experts is currently being built on the webportal. Another feature for trade information and promotion will be added before the end of this year.

## Welcome New Members

TFNet welcomes the following members :

### Country Members

- Syrian Arab Republic

### Associate Members

- International Centre for Underutilized Crops (ICUC), Sri Lanka
- Global Food Traceability Forum (GFTF), United Kingdom

### Ordinary Members

- Nortey Michael Papafio, Ghana
- Dr. Babasola Ayodele Adelaja, Nigeria
- Dr. Bella Manga, Cameroon
- Djaha Akadie Jean-Baptiste, Cote d'Ivoire
- Some Salimata Traore, Burkina Faso
- Atamana Dabire, Burkina Faso
- Remen Swai, Tanzania
- Dr. Massaer Nguere, Senegal
- Barry Abdoulaye, Guinea

### Note:

For those interested to contribute and participate in TFNet's activities, the membership application form is on page 19 of this newsletter.

## Benefits as TFNet Members

- Sharing information, expertise and technologies;
- Participation in conferences and seminars;
- Market development and trade promotion;
- Participation in collaborative projects or studies;
- Assistance in implementation and harmonisation of international regulations; and
- Participation in human resource development programmes

## TFNet Editorial Members

**TROPICAL FRUIT NET** is published half yearly by the International Tropical Fruits Network (TFNet)

### Advisor

Dr. Izham Ahmad

### Editor

Dr. Osman Hashim

### Co-Editor

Mr. Yacob Ahmad

### Concept/Design

Mr. Rudy Adnas

### Contributors

Dr. David Hughes, Imperial College, England

Prof. Fransiska Zakaria, Bogor Agricultural University

Dr. Rokiah Mohd Yusof, Universiti Putra Malaysia

S. K. Mitra and P.K. Pathak, Bidhan Chandra Krishi

Viswavidyalaya, Nadia, West Bengal, India.

**Any enquiries, suggestion or articles for this newsletter? Contact us at :**

**INTERNATIONAL TROPICAL FRUITS NETWORK (TFNet)**

Box 334, UPM Post Office, 43400 Serdang, Selangor, Malaysia

Tel : (603) 8941 6589 / 8941 5876 | Fax : (603) 8941 6591

E-mail : [info@itfnet.org](mailto:info@itfnet.org) | Website : <http://www.itfnet.org>



## TFNet Secretariat

### Chief Executive Officer

Dr. Izham Ahmad – [ceo@itfnet.org](mailto:ceo@itfnet.org)

### Technical Officer

Mr. Yacob Ahmad – [yacob@itfnet.org](mailto:yacob@itfnet.org)/[yacob@pc.jaring.my](mailto:yacob@pc.jaring.my)

### Information Officer

Dr. Osman Hashim – [drosman@itfnet.org](mailto:drosman@itfnet.org)

### Project Officer

Mr. Chua Piak Chwee – [chuapc@itfnet.org](mailto:chuapc@itfnet.org)

### Administrative Officer

Ms. Hariyatul Asni Abd Rani – [hariyatul@itfnet.org](mailto:hariyatul@itfnet.org)

### IT Officer

Mr. Mohd Khairul Najmi Abdullah – [khairul@itfnet.org](mailto:khairul@itfnet.org)

### Secretary

Ms. Azrina Abdul Aziz – [azrina@itfnet.org](mailto:azrina@itfnet.org)



### TFNet UPCOMING EVENTS

#### SEMINAR ON PITAYA PRODUCTION, MARKET AND EXPORT - ISSUES AND CHALLENGES

**Event Date: 20 October 2008**

**Venue: Palm Garden Hotel, IOI Resort, Putrajaya, Malaysia**

Since introduced commercially in Malaysia in early 2000, the area grown with pitaya has increased substantially from 30 hectares to 1000 hectares in 2007. Presently, in Malaysia, the red flesh is more dominant and popular than the white flesh variety. Both are cultivated by smallholders and commercial growers. As a result of rapid development of pitaya cultivation in Malaysia there are various shortcomings faced by the growers lately. There have been reports of low inconsistent yields, bacterial infection, pests, lack of processed products, market access and exports.

Therefore, the purpose of this seminar is to address some of these issues faced by growers, processors, exporters and others who are involved in pitaya production, and at the same time to discuss the challenges and prospects that lay ahead for this relatively 'new' crop.

### OTHER RELATED EVENTS

#### 4th INTERNATIONAL SYMPOSIUM ON TROPICAL AND SUBTROPICAL FRUITS

**Event date: 3 – 7 November 2008**

**Venue: IBP International Convention Center, Bogor Agricultural University, Bogor, Indonesia**

The Symposium will review current progress and explore potential application in the various research on tropical and subtropical fruits. The aims of the symposium are to facilitate discussion and exchange of technical and scientific information and to promote international cooperation amongst stakeholders who are involved in the development of the tropical and subtropical fruit industry.

The symposium is organised by International Society for Horticultural Sciences, Ministry of Agriculture Republic of Indonesia, Bogor Agricultural University, Ministry of Research and Technology Republic of Indonesia and the Indonesian Horticulture Society.

For further information, please contact:

Roedhy Poerwanto  
Center For Tropical Fruit Studies  
Bogor Agricultural University  
Kampus IPB Baranangsiang  
JL Pajajaran, Bogor, Indonesia 16143  
Tel: +62-251-326881/382201  
Mobile phone: +62811-111518  
Fax: +62-251-326881  
Email: roedhy8@yahoo.co.id

#### 2nd INTERNATIONAL SYMPOSIUM FOR PAPAYA with the theme "Papaya for Nutritional Security"

**Event date: 9 – 12 December 2008**

**Venue: Pandiyan Hotel, Madurai, Tamil Nadu, India.**

The symposium is organized by the International Society for Horticultural Science in collaboration with the Tamil Nadu Agricultural University, Columbatore, India.

Symposium topics include:

1. International trade and marketing
2. Breeding and genetics
3. Biotechnology
4. Cultural practices and cropping systems
5. Pest and disease management
6. Post harvest handling and storage
7. Product development and processing

For further information, please contact:

Dr.N.Kumar  
Professor (Horticulture)  
Tamil Nadu Agricultural University  
Columbatore -641 003 India  
E-mail: kumarhort@yahoo.com  
Phone: (O): 91- 422 - 6611310 / 6611377, (R): 91- 422 - 2436046  
Fax: 91- 422- 6611399  
Mobile :91- 936 312 1916

#### INTERNATIONAL RESEARCH CONFERENCE ON HUANGLONGBING: REACHING BEYOND BOUNDARIES

**Event Date: December 1 - 5, 2008**

**Venue: Orlando, Florida**

Mission of this conference is to assemble the greatest number possible from the international research community, plus regulatory agency representatives, and commercial industry leaders with specific expertise on HLB for the express purpose to exchange the latest information, knowledge, ideas and concepts related to HLB. It also wants to provide a venue for increased international collaboration as well to deal with a disease that does not respect the political or physical boundaries of states or countries. Invited scientists and participants will be asked to reach beyond current information, thinking, scientific disciplines, and dogma in an attempt to broaden our global knowledge, provide new researchable goals and horizons and foster progress toward new and innovative solutions to HLB.

Contact Person:

Ms. Penny McCurry

E-mail: mcurryp@doacs.state.fl.us

#### Contact Information

The Organizing Committee:

Tim Gottwald (Co-Chair) – USDA, ARS -

Tim.Gottwald@ars.usda.gov

Phil Berger (Co-Chair) – USDA, APHIS -

Philip.H.Berger@aphis.usda.gov

Wayne Dixon (Co-Chair) – FDACS, DPI -

dixonw@doacs.state.fl.us

Jim Graham – University of Florida - jhg@crec.ifas.ufl.edu

#### Research Program Committee

Michael Rogers – University of Florida

Bill Dawson - University of Florida

Mike Irey – Southern Garden Citrus, US Sugar Corp.

David Hall – USDA, ARS

Ed Stover – USDA, ARS

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Ray Prewett – Texas Citrus Mutual

Peter McClure - FCPRAC

Juliano Ayres – Fundecitrus, Brazil

Event Date: December 1 - 5, 2008

Venue: Orlando, Florida

Contact Person: Ms. Penny McCurry

E-mail: mcurryp@doacs.state.fl.us

#### MSPPC 2008: SUSTAINABLE CROP AND PLANT PRODUCTIVITY IN RELATION TO CLIMATE CHANGE

**Event Date: 18-20th November 2008**

**Venue: Copthorne Orchid Hotel, Penang, MALAYSIA**

The objectives of this conference are:

- To review the status of R&D in the field of plant physiology relating to plant productivity and climate change
- To deliberate and share information on the current research findings on agricultural and climate change; and relate their relevance for sustainability in plant production

To provide direction for an organized research in the field of plant physiology, and promote inter-disciplinary and inter-agency networking in this respect towards sustainable production systems and plant improvement

Contact Person:

Ms Dang Lelamurni Abd. Razak

E-mail: danglela@mardi.gov.my

Phone: 6(03)-8943 5075 / 6(03)-8943 5936

Fax: 6(03)-8945 6037

# Exploiting Health and Well-Being Trends: Growing Markets for Tropical and Sub-Tropical Fruits in High Income Countries\*

By Prof. Dr. David Hughes, Imperial College, London, England.

The essence of marketing is to identify what consumers want and, then, to provide them with products and/ or services that satisfy their requirements. This is often more difficult than meets the eye because:

- The further away consumers are – both geographically and culturally – the more difficult it is difficult to work out exactly what they value and are willing to pay a premium for;
- And, vitally, satisfying consumers is only worthwhile and commercially sustainable if all the participants in the value chain make a reasonable profit.

Consumers are not homogenous block – one size does not fit all – whether in specific geographic market or across diverse markets of the world. Yet, there are four discernible mega-trends (Figure 1) that have resonance in many high income markets:

- Taste – after all, once consumers have satisfied the most basic for refueling the body, food should be about good taste and enjoyment (few, if any, food products are successful that have nasty taste!);
- Convenience – in emerging countries with a household structure comprising extended family and/ or servants, product convenience in purchase, preparation, consumption and disposal may have less value, but in countries where time has accelerating value, then, convenience attributes are vitally important. Building in convenience elements to, say, fresh produce can have profound implications for the range and location of marketing participants in the chain – prepared, pre-cut mangoes are best processed in the country of harvest, but this requires a sophisticated post-harvest processing infrastructure to be in place to prepare and transport the cut mangoes to the point of final sale;
- Social aspects of food production and food products – in general, the prediction to be concerned actively about social issues relating to food (e.g environmental and sustainability factors) is linked to the ability to pay social premia for these more esoteric, credence elements in food. Nonetheless, worldwide, concerns about global warming, the impact of food production on the environment, biodiversity, etc., is having an increasingly important impact on food and drink product choice;
- Health and well-being – the world over and irrespective of income level, consumers are interested in improving their health, quality of life, and appearance through making changes to their food and drink intake.

This fourth mega-trend – health and well-being – provides, arguably, the best opportunity for the fruit and vegetable industry world-wide to capitalize on its intrinsic nutritional and taste attributes. However, the challenge will be for the producer and primary processing sectors of the fruit and vegetable industry to gain a significant share of the consumer dollar. Large scale fast-moving consumer good companies, such as Unilever, Danone and Nestle, recognize the consumer pulling power of healthy food products and have the brand power in the market place to capture consumer “mind share” and “wallet share”, with other companies in the value chain providing low cost raw materials to which the more powerful fmcg companies add substantial value. Underpinning the success of the major firms is their understanding of consumer and shopper health and well-being trends.

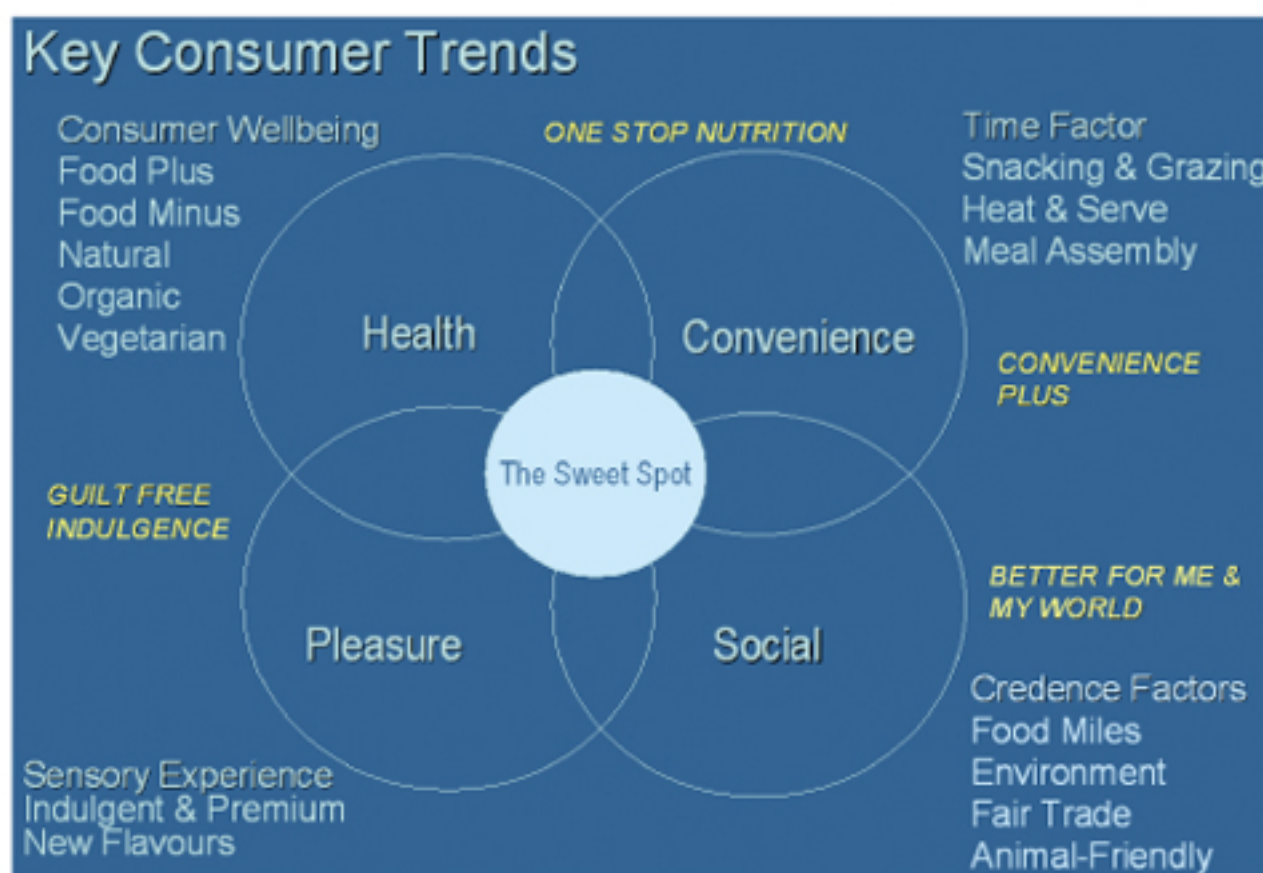


Figure 1. Mega consumer trends in high income markets.

In many high income countries, the following are influential sub-trends:

- Weight management (e.g inducing feelings of “fullness,” and/ or contributing to weight reduction);
- Digestive health – where dairy-based products with fruit ingredients proliferate);
- The emergence of “super fruit and vegetables,” such as goji and acai berries, the renaissance of pomegranates, increased awareness of antioxidant properties of blueberries, etc.
- Good health is associated with the consumption of natural ingredients;
- Foods that enhance beauty and mood;
- The re-emergence of commonsense in eating/ drinking, through returning to basics and increased consumption of natural, wholesome fresh foods;
- Healthy and reduced-guilt snacking;
- Improved nutritional products for children;
- Communicating credible health claims to consumers and coping with increasingly rigorous regulations on health and well-being claims;
- Linking the well-being consumers with the well-being of the planets, as environmental considerations in production and transport become increasingly important to “greener” consumers.

Meeting the health and well-being requirements of consumers in far distanced countries through the provision of fruit and vegetable products has its plusses for farmers and other food chain participants in emerging countries, not least because these targets consumers are relatively high income and may well have greater ability to pay premium prices than local consumers. However, gaining access to high value market is, often, through modern sector supermarket chains that have rigorous requirements in terms of, inter alia, level and consistency of quality and quantity, HACCP and social standards relating to the environment, treatment of suppliers, etc. In most cases, suppliers from emerging countries must channel their products through an intermediary – a “category captain” – and identifying an appropriate supply partner can be difficult and risky. Like building any partnership, whether it be personal or commercial, this requires an investment in time and resources which may or may not pay off.

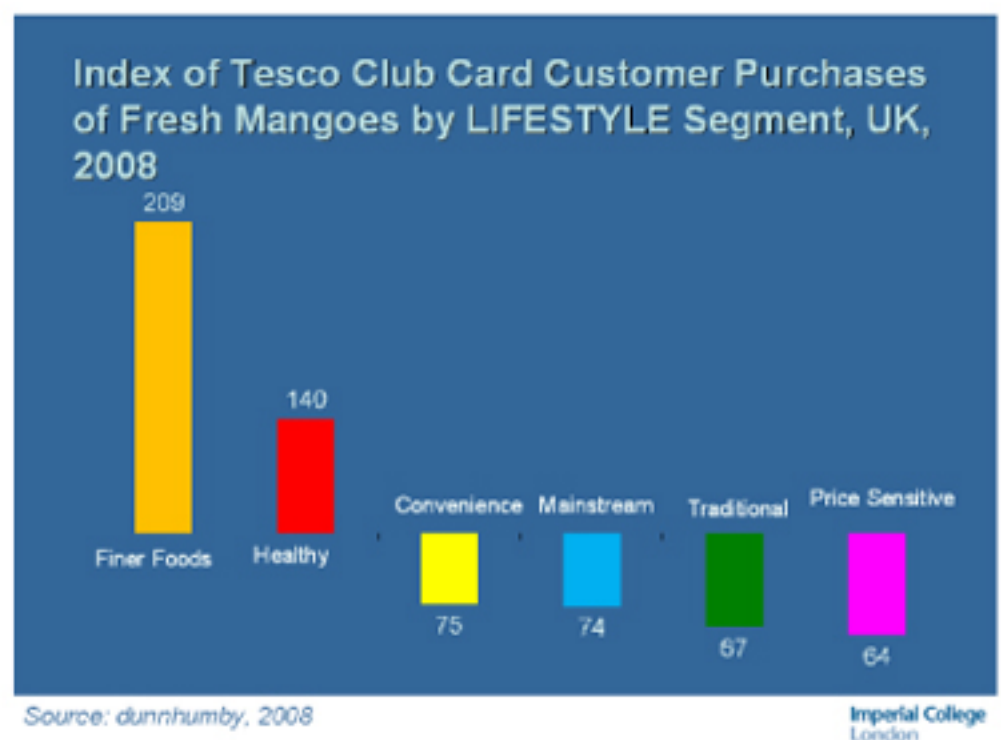


Figure 2. Customer purchases of fresh mangoes by lifestyle segment in United Kingdom.

Whilst the market climate may be propitious for expanding sales of tropical and sub-tropical fruits to high income countries, there are substantial challenges in the medium term. Food price inflation is strong across the globe and, when household budgets are squeezed, consumers seek opportunities to save on grocery purchases through – increasing spend on budget brands, cutting back on treats, shopping around for offers, even cutting back on ethical buying. This does not mean consumers will automatically reduce purchases of relatively high priced tropical products, but it does mean that greater effort will be required for vendors to communicate with shoppers about why it is worth them paying more and more! – i.e more flavour, more healthier, more consonant with their lifestyles, etc. (Figure 2).

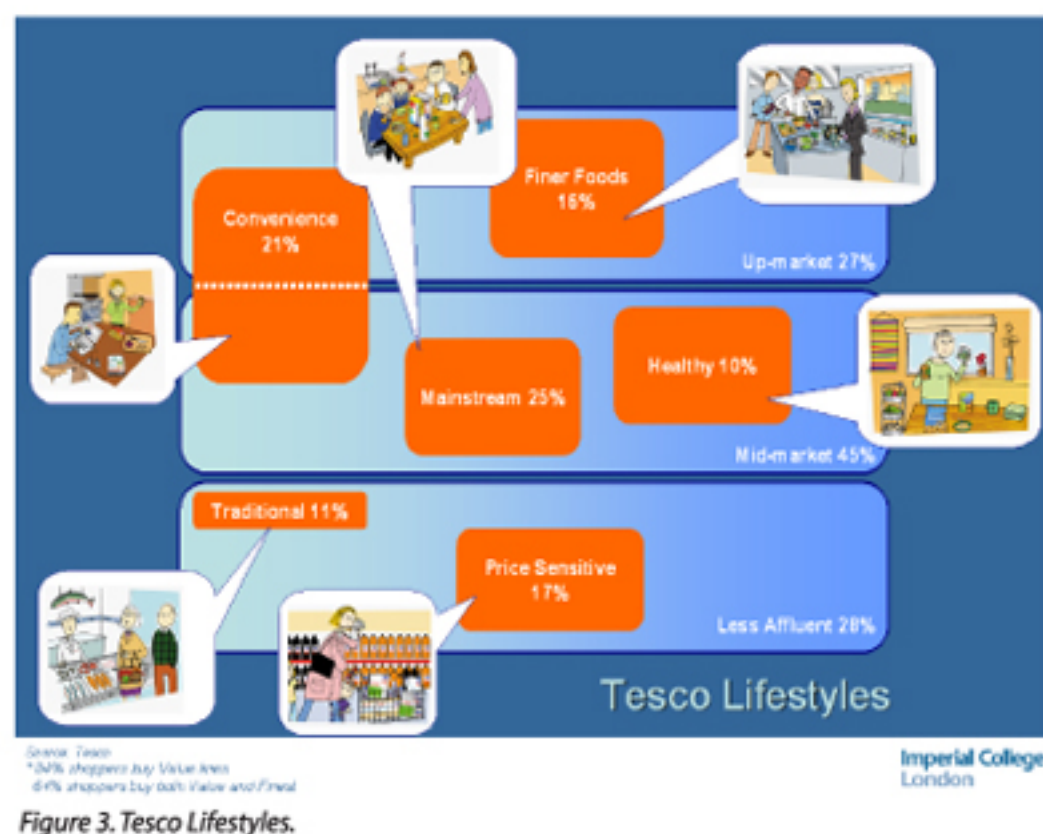


Figure 3. Tesco Lifestyles.

In remorselessly competitive market, requirement for success in the food chain will be no different than in other industries, viz.: profound knowledge of customer/ shopper wants; pushing costs down and productivity up; a culture and practice of commercial creativity and innovation; an ability to identify and work with strong partners in high values supply chains; and speed-to-market to keep ahead of larger, better-resourced competitors. (Figure 3).

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\* Presented at the International Seminar on Consumer Trends and Export of Tropical and Subtropical Fruits, Bangkok 14 - 16 July 2008.

# Organic Tropical and Subtropical Fruits Production – Prospects and Challenges\*

S. K. Mitra and P.K. Pathak  
 Faculty of Horticulture  
 Bidhan Chaandra Krishi Viswavidyalaya  
 Mohanpur 741252, Nadia, West Bengal, India.

During the last decade, organic agriculture (figure 1) has gained international recognition as a valid alternative to conventional food production. The growing consciousness of health hazards due to contamination of farm produce from the use of chemical fertilizers and pesticides has given a momentum to this form of farming. The consumers are willing to pay a premium for environmentally responsive safe products. The current world organic market is estimated at over US\$ 30 billion cultivated on a total area of around 25 million hectares world-wide with the production hovering around 28 million MT. It may be noted that organic farming (Figure 2) is still a 'niche' category on global agriculture, indeed world organic agriculture accounts for a share below 1 per cent of the conventional agriculture production and consumption. The market of organic products will continue to grow in the coming years. The projections for organic market size in 2010 is estimated to grow multifold in the key markets and will be approximately US\$ 46 billion in the EU, US\$ 45 billion in USA, and US\$ 10 billion in Japan, totaling a large figure of US\$ 100 billion.

## Definition of Organic Farming



- Products labeled as **"Organic"** are those certified as having been produced through clearly defined organic production methods.
- In other words **"Organic"** is a claim on the production process rather than a claim on the product itself.

Figure 2. Definition of organic farming.

By and large all tropical and subtropical fruits are produced in the developing countries of Asia, Latin America and Africa. These fruits are likely to see strong growth in organic exports to the US, EU and Japan markets. Tropical and subtropical fruits like mango, litchi, pineapple, banana, papaya and carambola in both fresh and processed occupy about 20% of the organic market segments. Reasons for purchasing organic are similar across countries. In Europe and the United States, taste, freshness and quality rank among the top reasons for organic tropical and subtropical fruits purchases. The perception the organic fruits are healthier is widespread among buyers. Food safety is the top reason driving the Japanese interest in organic fruits. Secondary factors for Japanese consumers are healthfulness (nutrition) and taste. Lack of harmonization of organic certification is a common issue across the organic industry worldwide. Though in recent years quite some progress has been made on this front, there is a need to do something significantly, to facilitate international trade.

## Situation of Organic Farming in different Countries

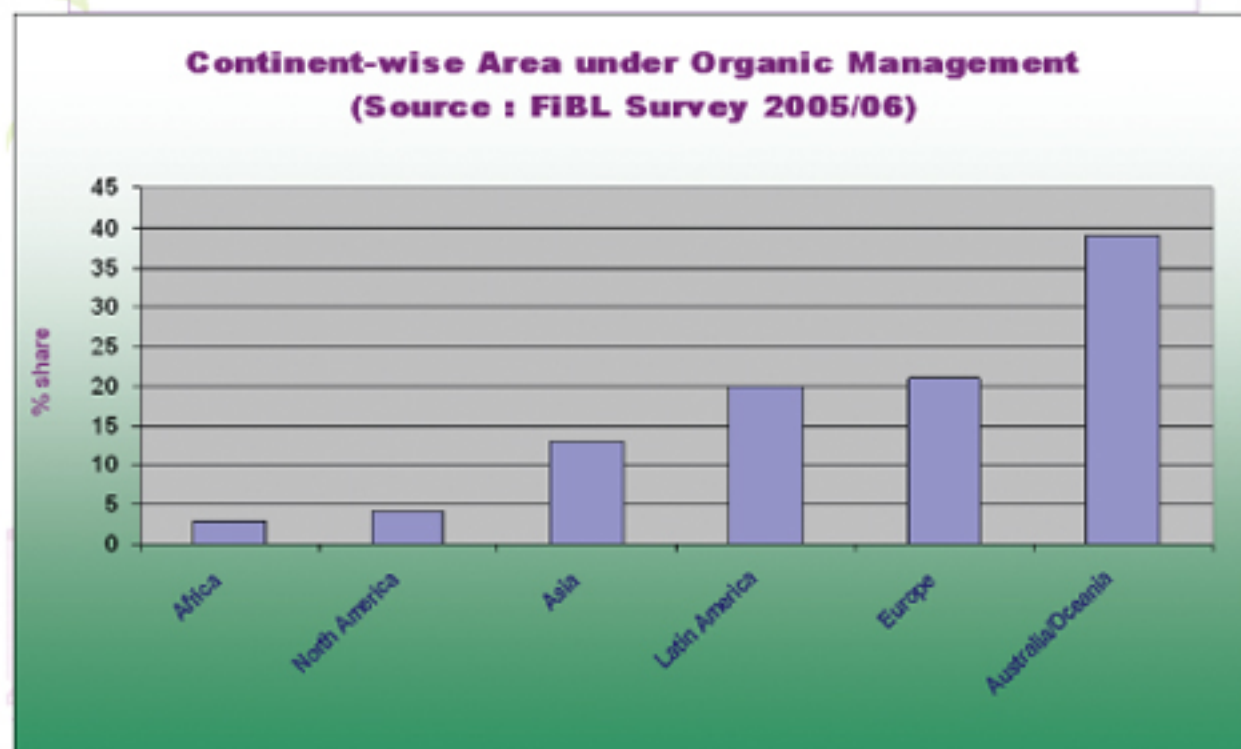


Figure 1. Organic farming by regions.

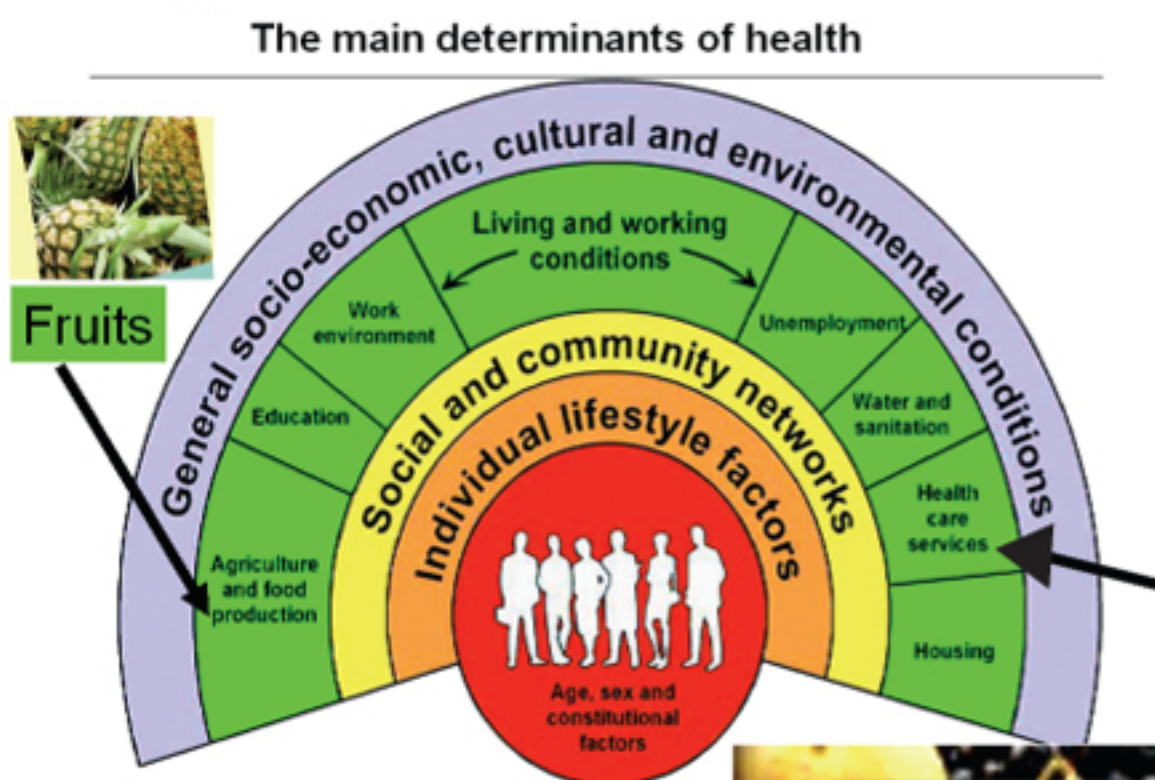
\* Presented at the International Seminar on Consumer Trends and Export of Tropical and Subtropical Fruits, Bangkok 14 - 16 July 2008.

# Recent Advances in the Nutrition and Functional Aspects of Tropical Fruits\*

Fransiska Rungkat-Zakaria

Department of Food Science and Technology, Bogor Agricultural University

The roles of fruits in diseases prevention have been widely documented. Recently, their roles in cancer and other degenerative diseases prevention, together with other plants foods, were reconfirmed by the world cancer research institutions. For these diseases prevention, consumption of fruit and vegetables was recommended to be 600 grams daily. Fruits contribute substantial role in health (Figure 1) due to the numerous compound constituents they carry, including compounds belonging to the essential nutrient groups of vitamins, minerals, and essential fatty acids, and fiber and bioactive phytochemicals.



Source: Dahlgren and Whitehead, 1991

Figure 1. Determinants of health.

Vitamin C, abundantly present in fruits, is essential for many physiological processes such as collagen maturation and various enzyme activities. Like other vitamins, this vitamin has been shown to slow down cancer cell metastasis and to improve immune responses. The various essential minerals they carry are cofactors of numerous enzyme activities, holding key roles in normal body metabolism. Fibers, the intestine cleansing agent, can simultaneously serve as prebiotics that stimulate the growth of probiotics, the good bacteria, also related to cancer prevention and immunity stimulator.

Phytochemicals, including phenolic acids, polyphenols and flavonoid compounds present varyingly in fruits have been demonstrated through numerous researches to be important as biological antioxidant, anti inflammation, anti cancer as well as anti other degenerative diseases. For maximum benefit of fruits, it is suggested to diversify the type of fruits to consume consistently by daily basis. (Figure 2).

The bulkiness and fresh taste of fruits enable them important weight control agent that is now considered essential in lean body mass and health maintenance. Some of the phytochemicals are visible and displayed as rich colors in many tropical fruits.

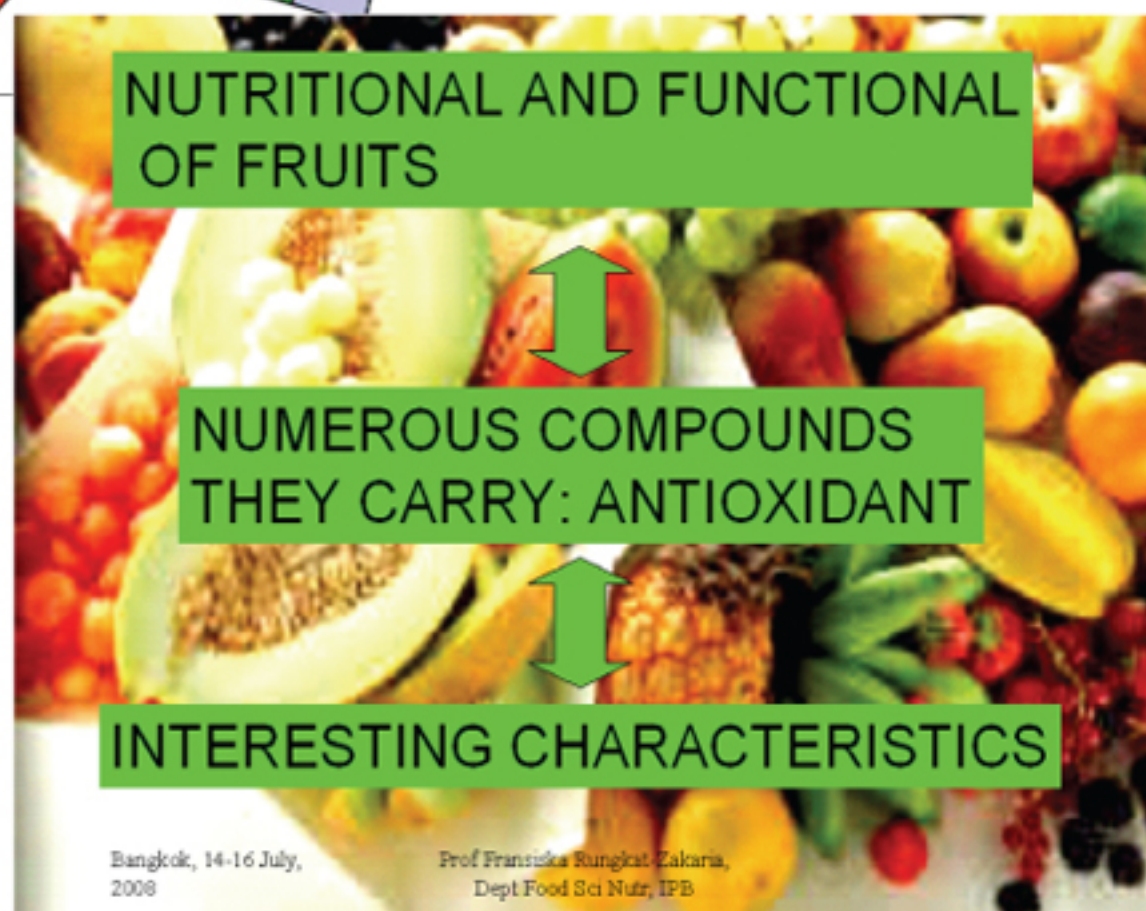


Figure 2. Fruits contribute substantial role in health.

\* Presented at the International Seminar on Consumer Trends and Export of Tropical and Subtropical Fruits, Bangkok 14 - 16 July 2008.

# The Nutrition and Health Benefits of Tropical Fruits with Special Reference to Red Pitaya\*

By Rokiah Mohd Yusof, Fazila Hakim, Ching Kow Man, and Mohd Al-Saufreen Akhiruddin  
 Department of Nutrition and Dietetics, Faculty of Medicine and Health Sciences  
 Universiti Putra Malaysia  
 43400 UPM, Serdang, Selangor, Malaysia

Fruits and vegetables are rich sources of a variety of nutrients including vitamins, trace minerals, dietary fiber and many other classes of biologically active compounds. World Health Organization suggested that intakes of at least 400g/day of fruits and vegetables may protect against chronic diseases.

### *Hylocereus spp.*

The fruits of *Hylocereus cacti*, known as red pitaya or pitahaya, have recently drawn much attention of growers worldwide, not only because of their red-purple colour and economic value as food products, but also for their antioxidative activity from the betacyanin contents (Wybraniec & Mizrahi, 2002). The *Hylocereus* genus consists of climbing or epiphytic tropical American cacti with angular stems and mostly white, fragrant, night-blooming flowers. The pitaya, the fruit of some strains of this cactus family, which is native to the tropical forest regions of Mexico and Central and South America (Mizrahi *et al.*, 1997). Some Asian people called it "dragon fruit" and this fruits are also known as a popular Aztec fruit in historical documents (Wu *et al.*, 2006). There are three species of dragon fruit in the genus *Hylocereus* and one species in the genus *Selenicereus*. The fruit comes in three types, all with leathery, slightly leafy skin, which are *Hylocereus undatus* with oval shape, white flesh and pink skin, *Hylocereus polyrhizus* (Picture) with round shape, red flesh and pink skin, and finally, *Selenicereus megalanthus* with white flesh yellow skin. This yellow pitaya are also known as vine cacti (Mizrahi *et al.*, 2002).

### Nutritional Value of Red Pitaya Fruit

Nutrient (in 100 grams)	Amount (unit)
Moisture	87.3±0.02 (g)
Ash	0.7±0.03 (g)
Protein	0.16±0.02 (g)
Fat	0.23±0.03 (g)
Carbohydrate	1.48±0.15 (g)
Crude fiber	10.1±0.25 (g)
Calcium	5.7±0.08 (mg)
Phosphorus	23±0.04 (mg)
Magnesium	28.3±0.97 (mg)
Sodium	50.15±0.1 (mg)
Potassium	56.96±0.02 (mg)
Iron	3.4±0.25 (mg)
Zinc	13.87±0.65 (mg)
Copper	0.031±0.004 (mg)
Thiamin	48.9±1.56 (µg)
Riboflavin	40.75±3.47 (µg)
Niacin	513.78±6.53 (µg)
Pyridoxine	20.57±2.23 (µg)
Cobalamin	15.61±1.89 (µg)
Ascorbic acid	525.32±3.09 to 540.27 (mg)
Vitamin A	120.13± (µg)
Vitamin E	105.67± (µg)
Lycopene	14.35± (mg)

Sources: (a) Mohd Azim K.R.(2006), (b) Norhayati A.H. (2006)



Picture 1: *Hylocereus polyrhizus*

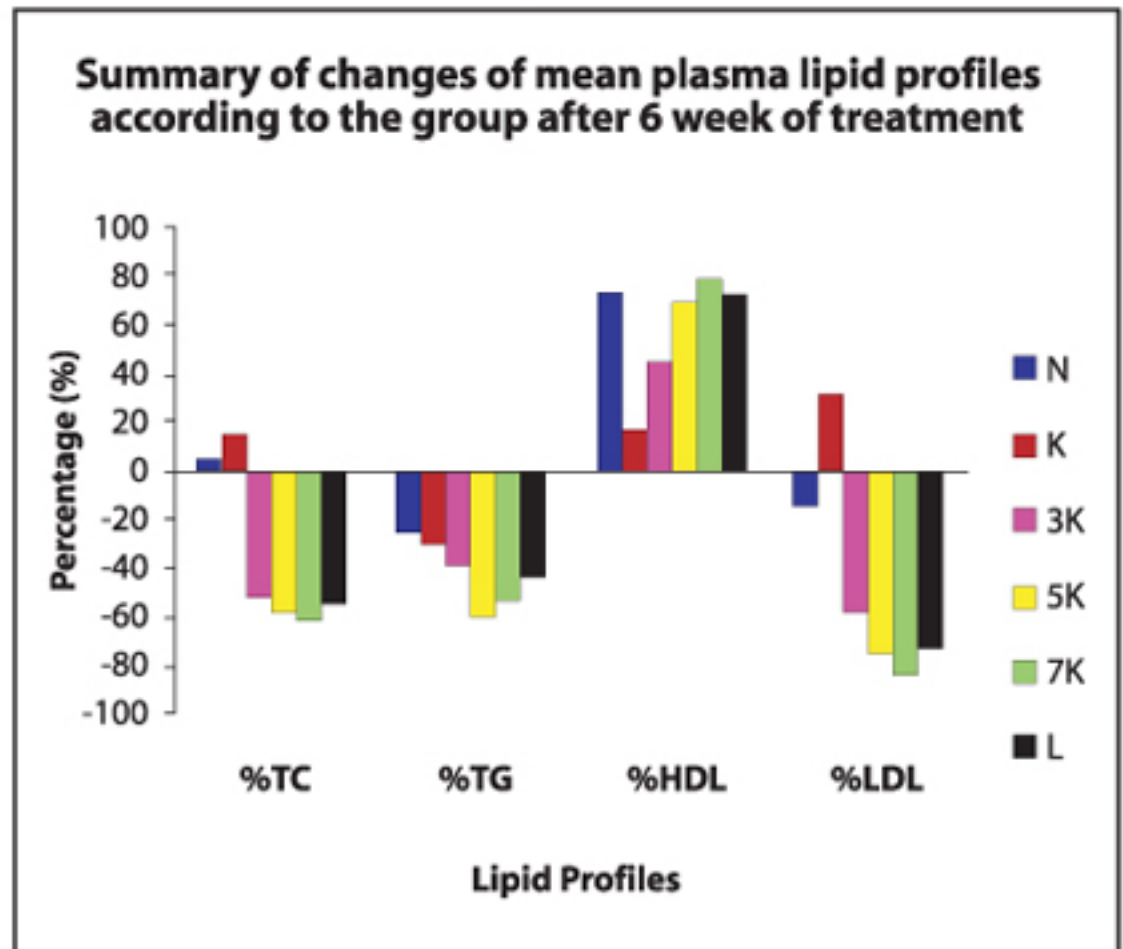
### Important of Fruit and Vegetable Consumption

According to Dianne, 2001 reported that there was a 4% lower risk of coronary artery disease for each 1 serving per day increase in fruit and vegetable intake in a combined study of Nurses' Health study and men in the Health Professionals' Follow-Up study.

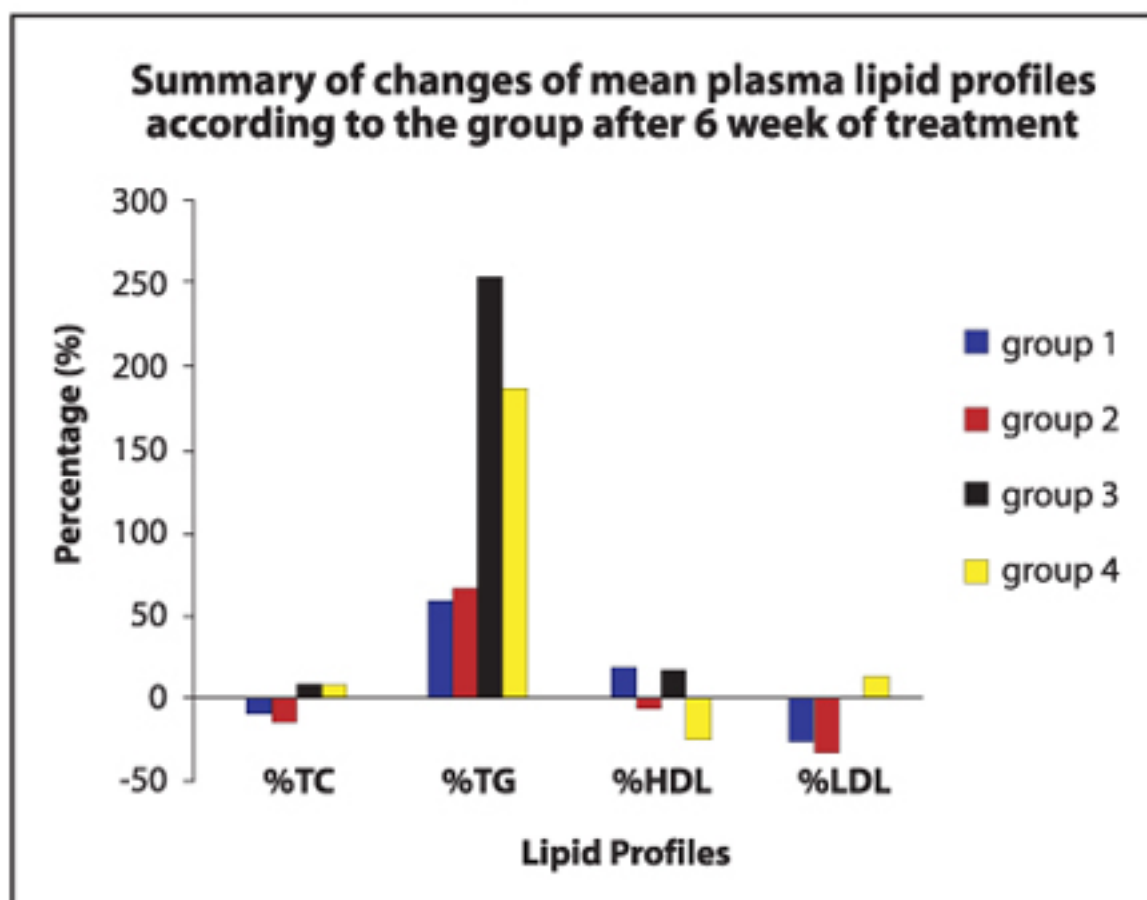
Sixty *Sprague Dawley* male rats were used in this study and were divided into six groups (n=10 for each group). The duration of the study consisted of two weeks for adaptation, four weeks for inducing hypercholesterolemia and six weeks for treatment.

For group 1 (N =Normal)) and group 2 (K=Hypercholesterolemic) were negative and positive control groups. Meanwhile, for group 3 (K), 5 (K), 7 (K) and L were given treatment whereby, group 3 (K) were supplemented with equivalent to human consumption of 300g Pitaya fruit, group 5 (K) with 500g Pitaya fruit, group 7 (K) with 700g Pitaya fruit and group L with 0.083mg Lovastatin drug. For both of the treatment groups (3K, 5K, 7K, and Lovastatin), it's showed a reduction in the mean Total Cholesterol (TC), Triglyceride (TG) and LDL-C but increase in HDL-C starting from week 2 and continues until the end of the treatment weeks but untreated hypercholesterolemic group showed an increased in TC, HDL-C and LDL-C plasma at the end of final weeks but reduced in TG.

### Results of Animal Study



### Results of Human Study



Subjects were divided into two groups which were Intervention group and Control group. Intervention group consisted of 2 groups; there were group 1 that consumed 600g and group 2 that consumed 400g of fresh red pitaya fruit. Control group-consisted of 2 groups; group 3 and 4 which did not consumed fresh red pitaya fruit. Group 3 was positive control consisted of hypercholesterolemia subjects and group 4 was negative control consisted of normal subjects. For the groups that consumed fresh red pitaya fruit showed a decreased in TC, and LDL-C but increased in TG and HDL-C. Meanwhile, for the hypercholesterolemia and normal subjects showed an increased in TC, TG and LDL-C but reduced in HDL-C except for hypercholesterolemia subjects.

### Conclusion

This study indicates that hypocholesterolemic effect of tropical fruits as shown in-vivo and clinical trial, therefore potential of reducing the risk factor for Coronary Heart Disease (CHD). These findings support current dietary recommendations to increase the intake of fruits and vegetables as primary preventive measure against CHD where decreased 1% of total cholesterol can reduce 2% risk of CHD. Epidemiological studies have shown that high dietary fiber intake have shown a strong influenced on the incidence of chronic diseases (Fraser, 1994). Dietary fiber has a positive effect on the serum cholesterol level (Anderson et al., 1994).

\* Presented at the International Seminar on Consumer Trends and Export of Tropical and Subtropical Fruits, Bangkok 14 - 16 July 2008.

Participants from Batu, Indonesia visiting a banana holding near Bangkok, Thailand



Briefing to participants of the Aor Tor Kor Marketing Or



Attractively packed fruits sold at the Aor Tor Kor Market, Bangkok during the study visit by participants from Batu, East Java, Indonesia on 11 June 2008.



Fruit tasting session for study tour participants from Batu, Indonesia at the Supattra Land Fruit Agrotourism Park, Bangkok.



Hygienically attractive packed fruits for sale at the Aor Tor Kor Market.



Visit to the banana cooperative processing and packaging center by participants from Batu, Indonesia.





Participants from Batu, Indonesia on the operations of the Quality market by the officials of the Organisation for Farmers, Bangkok, Thailand.



TFNet Technical Officer together with the Mayor of Batu, during the presentation on marketing of agricultural produce on 3 March 2008 in Batu, East Java, Indonesia.



The Mayor of Batu, Indonesia together with administrators, farmers and entrepreneurs listening to the presentation.

Seminar participants at the Charoen Pokphand (CP) Mango and Pomelo Farm, Bangkok.



## Study tour for participants from East Java, Indonesia to commercial farms and agriculture produce markets in Thailand

TFNet organized a study tour for 40 participants from Batu, East Java to Thailand from 9 – 14 June 2008. The study visit was requested by the Mayor of Batu following a briefing by the TFNet Technical Officer on agricultural marketing to administrators, entrepreneurs and commercial farmers in Batu, East Java, Indonesia, on 3 March 2008. This was in response to a request from the Mayor's office to upgrade the agricultural wholesale and retailers market in the city. The agricultural marketing model carried out in Thailand will be used as benchmark.

The Ministry of Agriculture and Cooperatives, Thailand assisted and arranged the itinerary for the study tour. The participants included the Vice Mayor of Batu (leader), officials from the Batu City administration, commercial farmers and entrepreneurs, from the same district.

The objectives of the study tour were:

- a. To observe the system of collection, wholesale, distribution and retail of agricultural products in Thailand
- b. To observe on-farm technologies practiced in the production of quality fruits and vegetables.
- c. To understand the organizational capacity of agencies involved in the marketing of agricultural products in Thailand
- d. To look at the implementation of programs related to food safety and quality assurance, for agricultural products, in Thailand.
- e. To observe the management of some agro-tourism sites.



*Study tour participants with Official from the Ministry of Agriculture and Cooperatives, Thailand (in pink) at the Supattra Land Fruit Agrotourism Park.*

Some highlights of the visit were:

- Supattra Land Agro-tourism Fruit Farm, Rayong Province – Participants were first briefed by the Director of Provincial Agriculture and Cooperatives, before being brought around the 800 rai (128 hectares) farm to observe the collection of fruits, which includes durian, grape, rambutan, citrus and longan. The group also sampled some of the fruits that were in season.
- Organic vegetable production area, Rayong Province – This organic farm produces various herbs, vegetables and some fruits, with emphasis given to total health. The manager of the farm gave a briefing on the production and management of the farm.
- Talaad Thai wholesale market, Pathumthani Province – The management of the largest wholesale market in Asia gave the participants a presentation on the operations of the 200 hectare market, including the available facilities for local farmers, wholesalers, distributors, retailers and exporters. Participants were later brought around a section of the market.
- Marketing Organization for Farmers (MOF) and the Quality market – Participants were briefed on the role of the MOF in ensuring quality assurances and food safety of all products sold at the Aor Tor Kor Quality market. In a tour of the Quality market, participants were shown the way fresh products are packed and presented.
- Banana farm and cooperative at Ban Laad District – Participants were brought to the production area to observe the planting techniques before visiting the packing house where banana is processed for the domestic and Japanese market.
- Women entrepreneur group producing fruit chips, Petchburi Province – The visitors were shown by the group of women entrepreneur, a demonstration of small scale of pineapple and jackfruit chips production.
- Orchid farm at Phuthamonthon District, Nakhon Pathom – An area of commercial production of orchids for the export market.



*Vice Mayor of Batu, Indonesia (with cap) enquiring about the mango variety sold at the Aor Tor Kor Market, Bangkok during the study tour.*



The study tour was useful in giving the participants some insight on the importance of post-harvest, quality and food safety in the marketing of fresh produce especially fruits. The participants also gained from the observation made on the management and organization of wholesale or distribution market centers, which may be aptly applied to the situation in Batu, East Java, Indonesia.

*Fruit tasting session for study tour participants from Batu, Indonesia at the Supattra Land Fruit Agrotourism Park.*

# Course on Advance Technologies on Tropical Fruits Production and Post-harvest Techniques on 1 – 14 June 2008

TFNet, Afro-Asian Rural Development Organisation (AARDO), Department of Agriculture Malaysia and the Malaysian Ministry of Rural and Regional Development jointly organised a course on 'Advance Technologies on Tropical Fruits Production and Post-harvest Techniques' at the Agriculture Extension Training Institute, Serdang, Malaysia from 1 – 14 June 2008. The course also denoted the collaboration that exists between TFNet and AARDO, as stated in a Memorandum of Understanding between the two organizations that was signed in 2006.

The course was attended by twenty (20) participants from Bangladesh, Egypt, India, Mauritius, Jordan, Morocco, Oman, Pakistan, Sudan, Syria, Lebanon, Taiwan and Malaysia.

Objectives of the course were:

1. To exchange information and experiences on the current development on tropical fruit production and post-harvest techniques of the participating countries.
2. To introduce the participants the latest development on the production of tropical fruits and post-harvest techniques.
3. To enable the participants to prepare a plan of action by incorporating new ideas and technologies acquired, which are applicable in their countries.



Participants visiting a pineapple growing area (peat soils) in the South of Peninsula Malaysia – demonstration of planting of pineapple suckers.

The course content centered around the global scenario in the production and market for tropical fruits, good agricultural practice, pest and disease management, post harvest techniques, fruit quality, regulations on sanitary and phyto-sanitary requirements and conformance standards.

Besides lectures, participants were brought to visit an organic vegetable farm, dragon fruit farm, a pineapple farm, a fruit collection and distribution center, all in the state of Johor, and a cold chain facility in Kuala Lumpur.

During the course, the CEO of TFNet, was invited to deliver a lecture on 'World production and market trends of tropical fruits', while TFNet Information Officer delivered a lecture on 'Introduction to tropical fruit species, varieties and calendar'. Another topic on 'World Trade and regulations of tropical fruits' was delivered by the Technical Officer.



Participants and course organizers.



# Post Harvest Colloquium at Universiti Putra Malaysia (UPM) on 22 July 2008

TFNet was involved as one of the co-organizers, together with main organizer, Universiti Putra Malaysia (UPM), in a colloquium on post-harvest at UPM on 22 July 2008.

The main objective of the colloquium was to enhance knowledge and provide techniques which will enable provision of consistent, high quality supply of fresh horticultural produce to consumers and to protect the reputation of a given marketing label.

The invited speakers at the colloquium were Prof. Dr. A.U. Malik from the University of Agriculture, Pakistan and Dr. Robert E. Paull from the University of Hawaii, USA. Dr. A.U. Malik delivered the keynote address entitled 'Food safety and quality: Asia Pacific perspective', with a case study on supply chain management approach for improving mango fruit quality. Dr. R.E. Paull delivered a paper on 'Food Safety and Quality Assurance – USA perspective'.



*Dr. A.U. Malik delivering the keynote address at the Colloquium.*



*Dr. Robert Paull presenting his paper.*

The colloquium was attended by 60 participants from government agencies, private companies, research institutions and universities. In another session, the TFNet CEO, Dr. Izham Ahmad, participated in a panel discussion together with speakers from UPM, MARDI and Department of Agriculture, to discuss on the strategies to improve post-harvest handling of food crops in Malaysia.



*Participants at the Post-harvest colloquium.*

[ continued from page 1 ]

# International Seminar on Consumer Trends and Export of Tropical and Subtropical Fruits

A total of 15 papers were presented in five sessions by invited speakers and a keynote address entitled 'Exploiting Health and Well Being Trends: Growing Markets for Tropical and Sub-tropical Fruits in High Income Countries' was delivered by Prof. Dr. David Hughes from Imperial College, London.

A field visit to Charoen Pokphand (CP) Group Mango and Pomelo Farm at Panus Nikhom, Chonburi Province was organized by DOAE, Thailand on the 16th July, 2008. At the farm, the participants were briefed on the operations of a vacuum heat treatment facility (VHT) before visiting the mango and pomelo orchards within the vicinity.



Seminar participants at the Charoen Pokphand (CP) Mango and Pomelo Farm.

Participants were later brought to visit the Aor Tor Kor Standards and Quality market in Bangkok which retails packaged, clean, fresh and processed local agricultural produce.

Papers presented at the seminar were as follows:

- Exploiting Health and Well-Being Trends: Growing Markets for Tropical and Sub-Tropical Fruits in High Income Countries  
*Dr. David Hughes, Imperial College, England*
- Changing consumer trends and the global demand and supply of tropical and subtropical fruits.  
*Mr. Kaison Chang, Senior Economist, (Secretary, FAO Sub-Group on Tropical Fruits), FAO, Rome*
- Challenges to enhance exports of tropical fruit: The role of research  
*Dr. Errol Hewett, Massey University, New Zealand*
- Global Trends in the Demands for Tropical Fruits Products in the Export Trade  
*Kit Chan, K-Farm, Malaysia*
- Organic Tropical and Subtropical Fruits Production - Prospects and Challenges  
*Dr. Sisir Kumar Mitra, Bidhan Chandra Krishi Viswavidyalaya, West Bengal, India*
- Market Trend and Production Challenge of Organic Tropical and Subtropical Fruits  
*Mr. Vitoon Panyakul, Green Net, Thailand*
- Thai mango export: A slow-but-sustainable development.  
*Dr. Narong Chomchalow and Mr. Prem Na Songkhla (Thailand)*
- The importation of banana and mango into Japan - the Thailand experience  
*Mr. Kenji Masaki, President, Otento (Thailand)*
- The role of Cooperatives in ensuring quality exports of tropical fruits to Japan  
*Mr. Yoshimaru Kozama, Director, Thoto Cooperative, Japan*
- Tailoring the exports of mango from India to the Japanese market  
*Dr. H.P. Singh, ICAR, India*
- Supply of quality and safe tropical fruits through an efficient supply chain  
*Mr. Azizi Meor Ngah, Malaysian AgriFood Corporation Bhd.*
- Traceability: Key to safety, quality and productivity  
*Khairuddin Md. Tahir, FoodReg, Malaysia*
- The nutrition and functional aspects of tropical fruits  
*Prof. Fransiska Zakaria, Bogor Agricultural University*
- The nutrition and health benefits of tropical fruits with special reference to red pitaya  
*Dr. Rokiah Mohd. Yusof, University Putra Malaysia*
- Minimally process fruits: Future concept for exporting tropical fruits  
*Latifah Mohd. Noor, MARDI, Malaysia*
- Novel edible coating for tropical fruits as an alternative synthetic fungicide  
*Dr. Asgar Ali, University of Nottingham, Malaysian Branch*


  
**International Seminar**  
**on Consumer Trends and Export of**  
**Tropical and Subtropical Fruit**  
**14-16 July 2008, Century Park Hotel, Bangkok**



The organising committee and speakers.

# TFNet Board of Trustees Meeting

In conjunction with the international seminar on consumer trends and export of tropical and subtropical fruits held on 14th – 16th July 2008 at Park Royal Hotel, Bangkok the TFNet's Annual Board of Trustees (BOT) Meeting was also held at the same venue on 17th July 2008. The meeting was chaired by His Honourable Dato' Dr. Zulkifli Idris, the TFNet Chairman, who is also the Secretary General of Ministry of Agriculture and Agro-based Industry, Malaysia. This meeting was attended by 10 members of the Board from the total of 13 members.



*Board Members of International Tropical Fruit Network (TFNet).*

The Board Members present were as follows:

1. Ir. Unggul Abinowo, Director, Sentra Pengembangan Agribisnis Terpadu (SPAT), Indonesia
2. Mr. Aziz Sakiman, Managing Director, Selangor Oil Palm Industries Cooperation Sdn., Bhd., Malaysia
3. Dr. Sisir Kumar Mitra, Bidhan Chandra Krishi Viswavidyalaya, West Bengal, India
4. Dr. Errol Hewett, Massey University, New Zealand
5. Dr. Yi Ganjun, Director, Fruit Tree Research Institute, Guangdong, China
6. His Honourable Dato' Dr. Zulkifli Idris, Secretary General of Ministry of Agriculture and Agro-based Industry, Malaysia cum TFNet's BOT Chairman
7. Dr. Izham Ahmad, CEO, TFNet (Board Secretary)
8. Mr. Kaison Chang, Senior Economist, Secretary, FAO Sub-Group on Tropical Fruits, FAO, Rome
9. Mr. Chan Seng Kit, Managing Director, K-Farm Sdn. Bhd., Malaysia
10. Dr. Nguyen Minh Chau, Director, Southern Fruit Research Institute, Vietnam

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*The TFNet BOT Meeting in session.*



Durian vendors along main street in Surabaya, Indonesia.



Mangosteen vendor in Ho Chi Minh, Vietnam.



Fruits sold in at Behn Tahn market, Ho Chi Minh City, Vietnam.



## TFNET ORDER FORM

Yes, I would like to purchase the selected item(s) as below : *(Please tick ✓)*

ITEM	PRICE
<b>Proceedings</b>	
<input type="checkbox"/> International Technical & Trade Seminar on Tropical & Subtropical Fruits (1st, 2002)	USD 8
<input type="checkbox"/> International Seminar on Postharvest Handling and Processing of Tropical & Subtropical Fruits (2nd, 2005)	USD 10
<input type="checkbox"/> International Seminar on Economics and Marketing of Tropical & Subtropical Fruits (3rd, 2007)	USD 15
<b>Country Studies</b>	
<input type="checkbox"/> Elements of Strategy & Action Plan for the Development of the Tropical Fruit Industry: An Economic Analysis of the Malaysian Fruits Industry	USD 10
<input type="checkbox"/> Elements of Strategy & Action Plan for the Sustainable Development of the Tropical Fruits Industry in the Philippines	USD 10
<input type="checkbox"/> Strategy & Action Plan for the Development of the Tropical Fruit Industry in Fiji	USD 10
<input type="checkbox"/> Elements of Strategy & Action Plan for the Development of the Tropical Fruit Industry in Bangladesh	USD 10
<b>Books</b>	
<input type="checkbox"/> Tropical Fruit - Author: Desmond Tate	USD 30

**TOTAL :**

(\*price exclusive postage)

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 Malayan Banking Berhad  
 No. 231-233, Jalan 18/23, Taman Sri Serdang, 43300 Seri Kembangan, Selangor, Malaysia



## INTERNATIONAL TROPICAL FRUITS NETWORK (TFNet)

Box 334, UPM Post Office, 43400 Serdang, Selangor, Malaysia

Tel : (603) 8941 6589 / 8941 5876 Fax : (603) 8941 6591

E-mail : info@itfnet.org

Website : http://www.itfnet.org

### MEMBERSHIP APPLICATION FORM

I / We wish to apply the membership of TFNet as :

Choose Membership Category :

- Country

- Associate

- Ordinary

Name of Government / Organization / Individual \_\_\_\_\_

Correspondence Address \_\_\_\_\_

City \_\_\_\_\_ Postcode \_\_\_\_\_

State/Province \_\_\_\_\_

Country \_\_\_\_\_

Telephone \_\_\_\_\_

Fax \_\_\_\_\_

E-Mail \_\_\_\_\_

Payment Enclosed : **USD** \_\_\_\_\_

Authorised Signature : \_\_\_\_\_

Name :

Designation :

Date :

#### Membership Fees (effective from 24 August 2006)

- Country Membership dues : USD 5,000 for one calendar year (for government only);
- Associate Membership dues : USD 500 for one calendar year; and
- Ordinary Membership dues : USD 50 for one calendar year

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**A/C No. 5121-4701-0969**

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No. 231-233, Jalan 18/23, Taman Sri Serdang

43300 Seri Kembangan, Selangor, Malaysia

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## TFNet Board of Trustees Meeting

Observers at the meeting included Mr. Mawya Al Jabbar, a representative of the Government of Syria (a new country member), and members of the secretariat. The meeting commenced with welcoming address, which centered on the past activities and projects of the organization, the self financing stance that TFNet needs to work on, the task of the board members in helping TFNet to remain relevant. Further to this, the Chairman emphasized the need for TFNet to expand its membership and to carry out more projects to benefit members globally. The Chairman asserted that TFNet will continue receiving support from the Malaysian Government.

The meeting continued with a report on TFNet's projects, past year activities, which also includes past, ongoing and planned projects, and financial report for the last fiscal year and membership status by the CEO, Dr. Izham Ahmad. Following this, members of the board gave suggestions and opinions on actions that could further enhance the role of TFNet as a major information source, contributor and project executioner for activities related to the global tropical fruit scenario.

Some of the overall suggestions and recommendations proposed were:

1. That TFNet tailors its activities to assume a bigger role in the global context and to establish international linkages with other organizations
2. To involve members in consultation exercises in some of the projects undertaken by TFNet to ensure that all relevant expertise is utilized and to assist in meeting TFNet's goal
3. TFNet needs to propose and undertake 'bigger' projects that have more impact on the recipients
4. To further enhance the TFNet webportal by including trade and promotion information and a weblog where certain topics on tropical fruits could be debated and deliberated

*Representative from the Syria, Mr. Mawya Al Jabbar receiving membership appointment certificate on behalf of the Syrian Government.*



## TFNet moves to a new premise

The TFNet Secretariat Office has moved to a new premise at the Station Management Complex, MARDI, 43400 Serdang, Selangor, Malaysia. TFNet would like to thank the Malaysian Government, in particular the Director General of MARDI for providing the office building and for his continued support.

