

RESEARCH PAPER

A study on imported fruits available in market of Bengaluru city

■ Azizul Rahman Ragashtai and Swati Naik

Received : 04.08.2018; Revised : 15.09.2018; Accepted : 28.09.2018

ABSTRACT

Today the consumption of imported fruits is gaining importance particularly in urban areas. This study conducted in Bengaluru city attempted to document types of imported fruits and brands available in the market in Bengaluru city. A sample of 60 respondents were selected for study. The secondary data regarding the types of imported fruits and brands available in the market in Bengaluru city was collected from different sources like Directorate General of Foreign Trade, Directorate General of Commercial Intelligence and Statistic (DGCIS) and Indian Trade Portal. The study has revealed that China is the number one destination for import of fruits and vegetables to India during 2016-17. India has imported nearly Rs. 1070 crores worth of fruits and vegetables from China. Imported and domestic fruits which are available throughout the year (January to December) are Apples, Orange, Apricots, Bananas, Cranberries, Kiwano, Lemons and Papayas. The world major fruits producing countries are China, India, Brazil, USA, Italy, Spain, Mexico, Iran, Philippines and France. Among all the three seasons, consumers consume more imported fruits in the summer season (mean score of 55.13) this is mainly due to availability of different varieties of imported fruits during summer.

KEY WORDS : Imported fruits, Source and types, Garrett ranking, Season-wise consumption, Domestic fruits

How to cite this paper : Ragashtai, Azizul Rahman and Naik, Swati (2018). A study on imported fruits available in market of Bengaluru city. *Internat. J. Com. & Bus. Manage.*, 11(2) : 159-163, DOI: 10.15740/HAS/IJCBM/11.2/159-163. Copyright@2018: Hind Agri-Horticultural Society.

History records that fruits are used by human beings from the nomadic age to the present day civilized life. The majority of species of fruits that are grown and consumed in the modern world have been domesticated by the late Neolithic and Bronze Ages

between 6000 and 3000 BC. In addition, a number of fruits that have been extensively collected from the wild by the native people were domesticated during the early part of 20th century. In general, among so many species of flowering plants with so much anatomical diversity, only a relatively small group of species and fruit types are common in the human diet.

India is importing different types of fruits from different parts of the world. The demand for imported fruits in the country is increasing due to accelerated urbanization, liberalization of trade policy, rising disposable income, changes in lifestyle. At present India is mainly importing fruits from United States of America, Côte d'Ivoire, Tanzania, Afghanistan, Guinea-Bissau, Iran,

MEMBERS OF THE RESEARCH FORUM**Correspondence to:**

Swati Naik, Department of Agricultural Marketing, Cooperation and Business Management, University of Agricultural Sciences, GKVK Campus, Bengaluru (Karnataka) India
E-mail: naik.swati328@gmail.com

Authors' affiliations:

Azizul Rahman Ragashtai, Department of Agricultural Marketing, Cooperation and Business Management, University of Agricultural Sciences, GKVK Campus, Bengaluru (Karnataka) India

Australia, China, Benin and Pakistan. As far as the import of fruits is concerned the United States of America is the top destination. For example, during the year 2017 India imported \$ 774462 worth of fruits from the United States of America. The next important source for import of fruits is Côte d'Ivoire with \$ 301682 value during 2017. The other important countries for import of fruits are as Tanzania \$ 301381 followed by Afghanistan \$ 256540, Guinea-Bissau \$ 254492, Iran \$ 152156, Australia \$ 133841, China \$ 128533, Benin \$ 121272 and Pakistan \$ 119902.

Despite increased imports, domestic fresh-market production has maintained its level in the aggregate and even shown an upward trend in most of the five leading imported fresh fruits (even though production varies substantially from year to year). It appears that imports have grown mostly to satisfy increased consumption rather than to replace domestic production.

METHODOLOGY

The present study was conducted in randomly selected consumers of imported fruits in Bengaluru city of Karnataka state. The analysis was based on primary and secondary data that the primary data collected from 60 respondent consumers and secondary data collected from different sources like Directorate General of foreign trade, Directorate General of Commercial Intelligence and Statistic (DGCIS), Indian Trade Portal and Horticultural statistics at a glance 2017 (Government of India Ministry of Agriculture and Farmers Welfare). The primary data were analysed by applying Garrett's ranking technique and the details are mentioned below.

Garrett's ranking technique :

The Garrett's ranking was used as a technique to analyze the factors like some reasons for choosing a brand on the basis of certain attributes. Garrett's ranking is useful to rank a set of factors or items as supposed by the respondents from sample based on certain criteria. The methodology for ranking is described below. The order of value assigned by the respondents was changed into scores using the formula given by Garrett and Woodworth (1969).

$$\text{Per cent position} = \frac{100(R_{ij} - 0.5)}{N_j}$$

where,

R_{ij} = Rank given for the i^{th} factor by j^{th} respondent

and

N_j = Number of factors ranked by the j^{th} respondent.

By referring to Garrett's table, the percent position estimated was converted into a score. Then, for every reason, the scores of various respondents were added and the mean score was calculated. The reason with the maximum mean score was considered to be the most important factor.

ANALYSIS AND DISCUSSION

The findings of the present study as well as relevant discussion have been summarized under the following heads :

Import of fresh fruits and vegetables to India :

The import of fresh fruits and vegetables to India is presented in Table 1. It is clear from the table that China is the number one destination for import of fruits and vegetables to India. During 2016-17, India has imported nearly Rs. 1070 crores worth of fruits and vegetables from China. India is importing fruits like Apples, Kiwis, Peaches, Pomegranates, Thai Guavas, Grapefruits, Grapes, Pear and orange from China. Next to China Pakistan is emerging as an important destination for import of fruits and vegetables to the country. From Pakistan the important fruits imported to India are Mangos, Apricot, and Thai Guava. India has imported nearly Rs. 849 crores worth of fruits and vegetables from Pakistan. Next to China and Pakistan India is also importing fruits and vegetables from Afghanistan. From

Table 1 : Quantity of fresh fruits and vegetables imported to India

Sr. No.	Country	2016-17	
		Qty in MT	Rs. in crores
1.	China	1,99,549	1070
2.	Pakistan	1,65,544	849
3.	Afghanistan	26,476	806
4.	United States	76,732	748
5.	Iraq	1,46,922	392
6.	Chile	35,770	270
7.	Sri Lanka	13,684	244
8.	New Zealand	20,567	197
9.	Egypt	49,661	184
10.	Iran	42,833	177
11.	Others	1,26,845	961
Total		9,04,583	5898

Source : Horticultural statistics at a glance 2017, Government of India Ministry of Agriculture and Farmers Welfare

Afghanistan India has imported nearly Rs. 806 crores worth of fruits and vegetables. From Afghanistan the important fruits imported to India are pomegranates, apples, pears, apricots, grapes and guavas. It's clear from the table that the three major importing countries are basically neighbouring countries of India. India is also importing fruits and vegetables from United States to the tune of nearly Rs. 748 crores. The important fruits imported from United States to India are apples, grapefruits, pears and oranges. The other important destinations for importing fruits to India are Iraq (Rs. 392 crores), followed by Chile (Rs. 270 crores), Sri Lanka (Rs. 244 crores), New Zealand (Rs. 197 crores), Egypt (Rs. 184 crores), Iran (Rs. 177 crores) and others countries (Rs. 961 crores).

Season wise availability of imported and domestic fresh fruits in Bengaluru city :

The season wise availability of imported and domestic fresh fruits in Bengaluru city is furnished in Table 2. The main objective of the study was to document fresh fruits which are available in all seasons in India and also those fruits which are existing in the market throughout the year. As a result the below table reveals the data related to season wise availability of imported and domestic fresh fruits in Bengaluru city.

Imported and domestic fruits which were available throughout rainy season (June to September) are Asian pear, barbados cherries, cactus pear, cape gooseberries, crab apples, cranberries, feijoa, grapes, guava, huckleberries, jujube, key limes, kumquats, muscadine grapes, mushrooms, passion fruit, pear, persimmons,

pineapple, pomegranate, quince, sapote, sharon fruit and sugar apple.

Fruits which were available in winter season (October to January) are apple, custard apple, strawberries, sweet lime, fig, grapes, guava, papaya, pomegranate, pineapple, passion fruit, chikoo, musk melon, banana, tangelo, ugli fruit, rhubarb, clementine, cranberry, kumquat, lemon, passion fruit, pear, persimmon, cactus pear, cherimoya, dates, grapefruit, kiwifruit, oranges, persimmons, pomelo, banana, red currants, sharon fruit and tangerines. These fruits were available throughout winter season. The taste of these fruits was found to be different compared to other season fruits.

The summer season which starts from February to May have different types of imported and domestic fruits. Summer season have many types of fruits than any other season but similar to winter season and these are fruits which are available in the summer season are apricots, Asian pear, barbados cherries, black currants, blackberries, blueberries, boysenberries, breadfruit, cantaloupe, casaba melon, champagne grapes, cherries, cherries (Sour), crenshaw melon, durian, elderberries, figs, grapefruit, grapes, honeydew melons, jackfruit, key limes, limes, loganberries, longan, loquat, lychee, mulberries, nectarines, olallieberries, passion fruit, peaches, persian melon, plums, raspberries, sapodillas, sapote, strawberries, sugar apple, bitter melon, cherimoya, mango, oranges, pineapple and watermelon. These fruits are tasty and sweat. As a result, consumers have many kinds of fruits from every season throughout the year which have its own special taste and quality.

Table 2 : Season wise availability of imported and domestic fresh fruits in Bengaluru city		
Seasons	Months	Fruits
Rainy season	June, July August and September	Asian pear, barbados cherries, cactus pear, cape gooseberries, crab apples, cranberries, feijoa, grapes, guava, huckleberries, jujube, key limes, kumquats, muscadine grapes, mushrooms, passion fruit, pear, persimmons, pineapple, pomegranate, quince, sapote, sharon fruit and sugar apple
Winter season	October, November, December and January	Apple, custard apple, strawberries, sweet lime, fig, grapes, guava, papaya, pomegranate, pineapple, passion fruit, chikoo, musk melon, banana, tangelo, ugli fruit, rhubarb, clementine, cranberry, kumquat, lemon, passion fruit, pear, persimmon, cactus pear, cherimoya, dates, grapefruit, kiwifruit, oranges, persimmons, pomelo, banana, red currants, sharon fruit and tangerines
Summer season	February, March, April and May	Apricots, Asian pear, barbados cherries, black currants, blackberries, blueberries, boysen berries, breadfruit, cantaloupe, casaba melon, champagne grapes, cherries, cherries (Sour), crenshaw melon, durian, elderberries, figs, grapefruit, grapes, honeydew melons, jackfruit, key limes, limes, loganberries, longan, loquat, lychee, mulberries, nectarines, olallieberries, passion fruit, peaches, persian melon, plums, raspberries, sapodillas, sapote, strawberries, sugar apple, bitter melon, cherimoya, mango, oranges, pineapple and watermelon
Throughout the Year	January to December	Apples, orange, apricots, bananas, cranberries, kiwano, lemons and papayas

Source:<http://www.nourishinteractive.com/healthy-living/free-nutrition-articles/104-fruits-by-season> (2012)

Imported and domestic fruits which were available throughout the year from January to December are apples, orange, apricots, bananas, cranberries, kiwano, lemons and papayas. As these fruits are available throughout the year having many types, the consumers have the option to choose. Further these fruits are available in the market with many varieties. These fruits are so healthy and have a good taste with storage value.

Major countries producing fruits and their varieties:

The major countries producing fruits and their varieties is furnished in Table 3. The table indicates that apple have varieties like red delicious, gala, guji, granny smith, honeycrisp, cripps pink and golden delicious. The major producing countries are China, United States, Poland, Turkey, India, Iran, New Zealand and Australia.

Pomegranate is second major fruit with varieties like punicaprotopunica, punica granatum, alandi or vedki, dholka, kandhari, kabul, muskati red, paper shelled, spanish ruby. The major producing countries are India,

Iran, Turkey, Spain, Tunisia, Morocco, Afghanistan, China, Greece and Japan. Further fig is another major imported fruit with its varieties like black mission, brown turkey, sierra, calimyrna, king, kadota. Fig major producing countries are like Turkey, Egypt, Algeria, Iran and Morocco.

Grapes is another major fruit with its varieties likecabernet sauvignon, merlot, airen, tempranillo, chardonnay, syrah, garnachatinta, sauvignon blanc, trebbianotoscano, pinot noir. The major producing countries are China, United States, Italy, France, Spain, Turkey, Chile, Argentina, Iran, Africa, Turkey, Argentina, India, Sudan and Ghana.

Kiwi fruit is another major fruit with two types sore and sweat that sore kiwi's varieties are fuzzy kiwifruit, kiwi berries and sweet kiwi's varieties are golden kiwifruit. The major producing countries are China, Italy, New Zealand, Iran, Chile and Greece.

Orange is another major fruit with varieties likesweet oranges, mandarins, grapefruit, pomelo, lemons, limes and kumquat. The major producing countries are Brazil, China, India, United States, Spain and Egypt.

Table 3 : Major producing countries of fruits and their varieties

Fruit	Common varieties	Major producing countries
Apple	Red Delicious, Gala, Fuji, Granny Smith, Honeycrisp, Cripps Pink, Golden Delicious	China, USA, Poland, Turkey, India, Iran, New Zealand and Australia
Pomegranate	Punicaprotopunica, Punicagranatum, Alandi or Vedki, Dholka, Kandhari, Kabul, Muskati Red and Paper Shelled	India, Iran, Turkey, Spain, Tunisia, Morocco, Afghanistan, China and Greece
Grapes	Cabernet Sauvignon, Merlot, Airen, Tempranillo, Chardonnay, Syrah, GarnachaTinta, Sauvignon Blanc, TrebbianoToscano, Pinot Noir.	China, USA, Italy, France, Spain, Turkey, Chile, Argentina, Iran, Africa, Turkey, Argentina and India
Kiwi fruit	Sore (Fuzzy kiwifruit , Kiwi berries), Sweet (Golden kiwifruit)	China, Italy, New Zealand, Iran, Chile and Greece
Orange	Sweet oranges, Mandarins, Grapefruit, Pomelo, Lemons, Limes and Kumquat.	Brazil, China, India, United States, Spain and Egypt
Pear	Anjou Pears (red and Green), Asian Pears, Bartlett Pears, Bosc Pears, Comice Pears, French Butter Pears, Seckel Pears.	China, Argentina, United States, Italy and Turkey
Strawberry	Honeoye, Earliglow, Allstar, Ozark Beauty, Chandler, Jewel, Seascape, Sparkle, Surecrop, Fort Laramie	USA, Turkey, Spain, Egypt, Mexico, Russia, Japan, South Korea, Poland and Germany
Fig fruit	Black Mission, Brown Turkey, Sierra, Calimyrna, King, Kadota	Turkey, Egypt, Algeria, Iran and Morocco
Dragon fruit	Stenocereus (yellow) sour, Hylocereus (white and red) sweet.	United States, Asia, Africa and Australia
Grapefruit	Oro Blanco, Ruby Red, Pink, Rio Star, Thompson, White Marsh, Flame, Star Ruby, Duncan, and Pummelo HB	China, United States, Mexico, Thailand, Africa, Israel, Turkey, Argentina and India
Thai Guava	Apple guava, Yellow guava, Strawberry guava, Thai maroon guava	India, China, Thailand, Pakistan, Mexico, Indonesia, Brazil and Bangladesh
Apricot	Chinese Apricot, Gold Cot, Tilton, Wenatchee, Goldbar, Gold Kist and Tomcot	Uzbekistan, Turkey, Iran, Italy, Algeria and France
Cherry	Bright Red Sour, Bing, Dark Hudson, Rainier, Yellow	Russia, Turkey, Ukraine, USA, Iran, Poland and Spain
Peach	Nectarines, Peacherines, Flat peaches	China, Spain, Italy, United States and Greece
Plum	Damson, Greengage, Mirabelle, Satsuma plum, Victoria, golden plum	China, Romania, Serbia, United States, Turkey, Iran, India, Spain and Italy

Source: https://en.wikipedia.org/wiki/List_of_largest_producing_countries_of_agricultural_commodities. 2015- 16

Pear is the next major fruit with varieties like Anjou Pears (red and Green), Asian Pears, Bartlett Pears, Bosc Pears, Comice Pears, Forelle Pears, French Butter Pears, Seckel Pears. The major producing countries are China, Argentina, United States, Italy and Turkey. Followed by other fruits like strawberry, fig, dragon fruit, grapefruit, Thai guava, apricot, cherry, peach and plum.

Seasons wise consumption of imported fruits by consumers in Bengaluru city:

The seasonal wise consumption of imported fruits by consumers in Bengaluru city is presented in Table 4 (Beveraland, 2001). The table reveals that among all the three seasons, consumers consume more imported fruits in the summer season (mean score of 55.13) this is mainly due to availability of more varieties of imported fruits. The second season was rainy season with a (mean score of 51.13). The winter season ranked third for consuming of imported fruits by consumers in Bengaluru city (mean score of 41.33). However, the variations between the three seasons is not very high. As a result there is a good demand for imported fruits in all the three seasons (Beveraland, 2001; Jin *et al.*, 2005; Pearson *et al.*, 2003 and Veena, 1996).

Table 4 : Seasons wise consumption of imported fruits by consumers in Bengaluru city

Sr. No.	Seasons	Mean score	Garrett's ranks
1.	Summer season	55.13	I
2.	Rainy season	51.13	II
3.	Winter season	41.33	III

REFERENCES

Beveraland, M. (2001). Creating value through brands: The ZESPRITM Kiwi fruit case. *British Food J.*, **103** (6): 383-399.

Garret, H.E. and Woodworth, R.S. (1969). *Statistics in psychology and education*. Vakils, Feffer and Simons Pvt. Ltd., Bombay. pp. 329.

Jin, Y., Zilberman, D. and Heiman, A. (2005). Choosing brands, fresh produce versus other products, *American Agric. Econ. Assoc.*, **90** (2): 463-475.

Pearson, D., Malcolm, B. and Wright, V. (2003). Australia fresh fruits and vegetables, why do so many of them remain unbranded? *Agribusiness Review, Australasian Agribusiness Rev.*, **11** (1): 1-6.

Veena, V. M. (1996). Growth dimensions of horticulture in Karnataka-An econometric analysis, Ph.D. Thesis, University of Agricultural Sciences, Dharwad (India).

