

Different Varieties and Sources of Apples Marketed in Bangalore City

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ABSTRACT

Fruits are essential components of the human diet. India is engaged in the importation of various kinds of fruits sourced from diverse regions throughout the globe. The purpose of this research was to record the sources and various kinds of imported fruits that are accessible in the market. Additionally, the study aimed to analyse consumer preferences for imported fruits and examines the variables that influence the consumption of these fruits. The research was carried out in the city of Bengaluru, with a sample size of 60 participants. The survey revealed that China emerged as the primary recipient of fruit imports to India in the fiscal year 2016-17. The apple had the greatest level of customer preference, with a mean score of 82.33, while the pomegranate trailed closely behind with a mean score of 69. Approximately 41.67% of customers exhibit a preference for purchasing from established and reputable brands, while 36.67% express a willingness to consider any brand. A majority of customers (58.33%) opted to buy imported fruits via contemporary retail formats, although wholesalers accounted for a significant proportion (30%) of such purchases. The results of the survey indicate that a significant majority (81.67%) of customers in Bengaluru city have expressed that aspects such as health, flavor, and quality play a crucial role in their decision to buy imported fruits. The state Agricultural universities, together with Horticultural universities and Horticulture departments, should prioritize efforts to enhance the quality, taste, color, and shelf life of local fruits. This is necessary to effectively compete with imported fruits and decrease reliance on them.

Keywords: Imported Apple Varieties, Domestic Apple Varieties, Bengaluru, Percentage Analysis

INTRODUCTION

India produces the fifth-most apples, averaging 2.3 million metric tonnes during the last decade. Jammu & Kashmir and Himachal Pradesh produce 60% and 40% of apples. Red Delicious, imported to Himachal Pradesh from the US in the early 1900s, is the primary cultivar. India's Chamber of Commerce and Industry reports that apples play a major part in the two states' agriculture, which employs over 60% of the population (Jahangir, 2018).

Domestic apples move from the chilly mountain states to wholesale markets where controlled environment storage is scarce but temperatures may reach 90 Fahrenheit in over packed wooden or cardboard boxes on unrefrigerated vehicles. Retailers get them after unloading, sorting, and repackaging (Lin, 2008). About 70% of apple crop is initially shipped to southern Himachal Pradesh and Chandigarh, which has controlled environment facilities, before being redistributed to other areas, including Delhi. Unlike fresh apples, imported apples are

monitored from harvest to port departure. Many importers offer controlled conditions as apples travel from the port of arrival to wholesale markets to retail stores, but the chain frequently breaks.

Red Delicious accounts for 90% of imports, although other types are growing. The number of controlled environment facilities is rising. Trade drives the bright future of apples in India. As apple popularity rises, fresh fruit sales reached \$60 billion in 2016. Apples are a diet staple owing to year-round availability, younger generations' willingness to spend more on health and nutrition, and demand increasing outside metropolitan cities. While imports have increased, local fruit handling, storage, and quality have improved. Indian apple production is rising, offering prospects for local and international farmers (Rupali & Gyan, 2010)

Major Varieties of Apple Imported to India

Red Delicious

Its brilliant, sometimes striped skin is crisp and moderately sweet. This apple debuted in 1874. This apple is from Peru, Iowa. Available August–July. This apple is great for salad.

Gala

Beautiful golden apple with crisp, sweet flavour. Mostly salads, pies, and sauces. Its popularity is rising worldwide. It debuted in 1965. From August to July, this New Zealand apple is accessible.

Fuji

The apple is crisp, sweet, and flavorful. It may be eaten as a snack, in pies, sauces, and bakings. This apple debuted in 1962. This variety is Japanese. Available August–July.

Golden Delicious

The Golden Delicious is ideal for any dish. This crisp, sweet, mellow apple has soft golden skin and keeps white after slicing longer than other apples. It was introduced to the market in the year 1914. The origin of this variety is Clay County, West Virginia. It is available from August to July.

MATERIALS AND METHODS

Study Area

Bangalore's retail sector is booming. Retail shops are organized across the city. Several supermarkets and malls have opened recently. One is Bangalore's biggest mall, Mantri Square in Malleshwaram. Other options include Sunday-Monday's Fab mall and the new Family Mart. The current trend is hypermarkets—Big Bazaar is open. Metro Cash & Carry, a B2B retailer, with stores in Yeshwantpur and Kanakpura Road in Bangalore. Keeping this in mind Bangalore city was purposefully selected for the study.

Samples Collection

Bangalore was chosen for the research because it has numerous organized retail outlets, multi-store, hypermarkets, and shopping malls. All organized retailers also sell food. Bangalore's organized retailers offer imported fruits. Due to rising apple demand, several imported fruit wholesalers/dealers have established their businesses in Bangalore for two to three decades. Additionally, a few tiny exclusive fruit dealers sell domestic and imported apples and other local fruits. Survey respondents were chosen using convenience sampling. Pretested organized schedules were used to gather primary data from 130 respondents in various places. Primary

data from sample respondents focused on attitude and variables affecting imported fruit intake. The kind of imported fruits sold, business volume, customer tastes, and preferences were also examined using source data from 10 merchants.

Statistical Analysis

Descriptive statistics

These terms were used to delineate the fundamental characteristics of data collected from diverse sources. The research used several measurements, such as averages, ratios, and percentages, to produce concise summaries on the sample and subsequent findings.

Analysis of Percentages

A % is a means of expressing a quantity, specifically a ratio, as a fraction of 100. The representation of percentages is often denoted by the symbol % or the acronyms pct. Percentages are used as a means to demonstrate the magnitude or insignificance of one item in relation to another quantity. The primary quantity often denotes a fraction or a transformation of the second quantity, which must possess a magnitude greater than zero.

RESULTS

Socio-economic profile of consumers in Bangalore city

The socio-economic profile of consumers in Bangalore city is presented in the Table 1. The socio-economic profile includes education level, occupation, earning members in the family and family income. With regard to literacy level, 33.08 per cent of the consumers were having doctorate degree which shows that consumers were well educated and aware of what is good for health, followed by Post-graduates (30.00%) and 21.54 per cent of the consumers studied up to Graduate level. In relation to occupation of the respondent consumers, the table shows that 50.77 per cent were employees, 19.23 per cent were businessmen, followed by professional people (10.77%). Further, 9.23 per cent were home maker and the remaining (10.00%) were from other categories. With reference to earning members in the family, majority (46.15%) of families had one earning member, followed by 34.62 per cent of families had two earning members and 19.23 per cent of families had more than two earning members indicating that those consumers who have own business and high income are purchasing more fruits. With regarding to the family income, 43.07 per cent of the families were in the range of middle low income which is Rs. 10,000 to 50,000 per month. Further 24.62 per cent of respondent consumers were in the range of middle income which is Rs. 50,000 to one lakh, and 18.46 per cent of the families were in the range of Rich which is more than Rs. one lakh per month. Only 13.84 were in the range of low income which is Rs 5,000 -10000 per month.

Availability of domestic apple varieties in Bangalore city

Table 2 shows that apple dealers in Bangalore traded eight indigenous apple cultivars. The data shows that 23.33 percent of Bangalore dealers chose Kashmiri variety as the most traded among the eight native types. Next to Kashmiri variety, 18.33% chose Himachal Pradesh's Shimla variety as a traded variety. Nearly 15% said the Delicious Kashmiri type is popular and sold in Bangalore. Messary (13.33%), Hazratbali (10%), and Golden Delicious (8.35%) were Bangalore's fourth, fifth, and sixth most traded apple types. Gala (6.66%) and Red Delicious (5%) from Himachal Pradesh were unusual in Bangalore's apple selection.

Table 1: Socio-economic profile of consumers in Bangalore city

Sl. No.	Characteristics	Category	Number	Percentage
1.	Education level	High School	20	15.38
		Graduate	28	21.54
		Post-graduate	39	30.00
		Doctorate Degree	43	33.08
Total			130	100.00
2.	Occupation	Employees	66	50.77
		Business	25	19.23
		Professionals	14	10.77
		Home maker	12	9.23
		Others	13	10.00
Total			1390	100.00
3.	Earning members in the family	One	60	46.15
		Two	45	34.62
		More than two	25	19.23
Total			1910	100.00
4.	Family income (Rs./month)	Low Income	18	13.84
		Middle low Income	56	43.07
		Middle Income	32	24.62
		Rich	24	18.46
Total			130	100.00

Table 2. Availability of domestic apple varieties in Bangalore city

Sl. No	Variety	Origin	Respondent	Percentage
1.	Kashmiri	Kashmir	14	23.33
2.	Shimla	Himachal Pradesh	11	18.33
3.	Delicious	Kashmir	9	15.00
4.	Messary	Kashmir	8	13.33
5.	Hazratbali	Kashmir	6	10.00
6.	Golden Delicious	Himachal Pradesh	5	8.35
7.	Gala	Himachal Pradesh	4	6.66
8.	Red Delicious	Himachal Pradesh	3	5.00
Total			60	100.00

Availability of imported apple varieties in Bangalore city

Table 3 lists imported apple cultivars. The table shows that Bangalore fruit market traded eleven imported apple kinds. Twenty-five percent of Bangalore dealers traded Washington grade (A and B) apples from the US. The second most traded and imported apple cultivar was New Zealand Royal Gala (18.33%). 15 percent of Bangalore residents picked the Japanese Fuji variety as an important traded variety among the 10 imported types. Also, sold and popular were green apple cultivars from China (13.33%), France (10%), Chili (6.69%), Italian (5%) and Golden Delicious (3.33%) from USA. The survey also found that Pink Lady Grad (A and B) from Australia (1.66%) and Red Delicious Grad (A, B, and C) from USA (1.66%) were the least traded and important imported Apple types in Bangalore.

Table 3: Availability of Imported Apple varieties in Bangalore city

Sl. No	Variety	Origin	Respondent	Percentage
1.	Washington grade (A and B)	USA	15	25
2.	Royal Gala	New Zealand	11	18.33
3.	Fuji	Japan	9	15.00
4.	Green	China	8	13.33
5.	France	France	6	10.00
6.	Chili	Chili	4	6.69
7.	Italian	Italy	3	5
8.	Golden Delicious	USA	2	3.33
9.	Pink Lady Grade (A and B)	Australia	1	1.66
10.	Red Delicious Grade (A, B and C)	USA	1	1.66
Total			60	100.00

DISCUSSION

India is a growing market for apples, sustained by economic growth and improved per capita incomes. Strong economic growth was expected to lead to a continued expansion of demand for apples from India (Deodhar et al., 2006), and that was a correct view. In India, Apple crop is most prominent fruit and occupies a significance position in the agriculture sector. Various fruits are grown in India and exported to different countries of the world and production of apple is one of them (Bhat and Choure, 2014). Jammu and Kashmir (J&K), Himachal Pradesh, Uttarakhand and Arunachal Pradesh are the major apple producing states of India. The two important states namely J&K and Himachal Pradesh accounts for 92 per cent of the total production and about 85 per cent of the total area under apple cultivation in India. In terms of productivity, J&K has achieved the highest productivity (13 t/ha) followed by Himachal Pradesh (5-6 t/ha) and Uttarakhand (2.16 t/ha) (NHB, 2017) Around 5-6 lakh families comprising about 30 lakh people are directly or indirectly associated with apple cultivation and generating an income of Rs. 8000 crores annually for the state (Government of Jammu & Kashmir, 2018).

Domestic apples are trucked from the chilly mountain states to wholesale markets where safe storage is limited but temperatures may approach 90 degrees in over packed wooden or cardboard crates. Retailers get them after unloading, sorting, and repackaging. Approximately 70% of output is initially moved south to Chandigarh, which has controlled environment facilities, before being redistributed to other cities, including Delhi. Unlike fresh apples, imported apples are monitored from harvest to port departure. Many importers manage apple transport from the port of arrival to wholesale markets to retail outlets, although the chain often breaks. Red Delicious accounts for 90% of imports, although other types are growing. The number of controlled environment facilities is rising.

Trade drives the bright future of apples in India. As apple sales soar, fresh fruit sales reached \$60 billion in 2016 (Tariq and Tapan, 2014). Apples have been a prevalent component of diets due to their consistent availability throughout the year, the inclination of younger generations to allocate more resources towards health and nutrition, and the growing demand for apples in non-urban areas. As imports rise, local fruit handling,

storage, and quality improve. Indian apple production is rising, offering prospects for local and international farmers.

Following the extensive analysis of apple production, consumption, and marketing in India, notably Bangalore, the following recommendations are made to strengthen the apple industry. Therefore, an interesting case develops to teach about commercial decisions and the need for intense and deep research on business movements. A metaphor makes it easier to understand this situation: a calm sea with few waves does not mean that there is no underwater current. These currents must be discovered, as this information is necessary to make good business decisions. Public decisions that protect local economies also need this information for the development of efficient policies.

CONCLUSION

This research was done in Bangalore. The research uses primary and secondary data. The main data on 130 respondents' apple preferences was acquired using a pre-tested structured routine. Respondents were chosen via easy sampling. Primary data was acquired from 130 Bangalore residents from various neighborhoods. Primary data from sample respondents focused on apple eating attitudes and determinants. Primary data from 30 vendors was also obtained to assess apple marketing restrictions. The data obtained for the research was subjected to analysis utilizing several statistical methods, including descriptive statistics, percentage analysis, Garrett's ranking methodology, and factor analysis technique.

Future studies should examine how advertising, packaging, and branding affect Apple's buying habits. It's also important to examine how age, money, and culture affect apple intake. Regional preferences and perceptions of domestic versus imported apples can illuminate consumer behavior. Further research might examine apple production's environmental and economic implications, as well as customer acceptance of sustainable approaches. Growers, marketers, and policymakers can use these findings to boost apple sector growth and sustainability.

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