

STATUS OF GUAVA

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ABSTRACT

Guava production was vital for the over all growth of Horticulture as it contributed to nearly 4 per cent of the total fruit production. Each part of the Guava tree possessed much of economic value. Being rich in folic acid, dietary fiber, potassium and in dietary minerals, Guavas had often been included among the various super fruits. Even though India had been the leading producer of Guava in the world, the productivity of Guava in India had been the lowest among the Guava producing countries. The study area namely the Dindigul district had been very famous for the Guava Cultivation. More especially the Blocks around the Dindigul District had been contributing the maximum quantity of Guava to the Dindigul Market. Aayakudi village had been famous in Tamil Nadu for the Guava production. Considering the vital role that Guava had in the economy of India, there was a need to analyse the area, yield and production of Guava in India, Tamil Nadu and Dindigul district.

Key Words: Productivity Trend of Guava

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1. Introduction

The Horticultural sub-sector, comprising of fruits, vegetables, flowers, medicinal and aromatic crops, plantation crops, spices, coconut and cashew had emerged as a key prime mover of growth for the Agricultural Sector and for the Indian economy over the last two decades. The sector's potential for enhancing agricultural production, employment generation and value addition had been well recognized. Horticultural crops had been the important sources for earning Foreign Exchange for the country.

A large variety of fruits are grown in India, and among them mango, banana, citrus, Guava, grape, pineapple and apple had been the major ones. The emphasis on Horticulture was a recognition of the need for attaining nutritional security and for earning a sustainable income. Healthier diets improved the learning capacity of the children and the working capacity of the adults, leading to higher incomes and a reduction in poverty levels. According to Professor Chacha and others, the number of calories available in 100 grams of fruits, of dates had been numbered as 281; in avocado pear as 190; in banana as 95; mango as 70, apple as 56, grapes as 45, orange as 53, and Guava as 66.

2. Statement of the Problem

Even though India had been the leading producer of Guava in the world, the productivity of Guava in India had been the lowest among the Guava producing countries. The study area namely the Dindigul district had been very famous for the Guava Cultivation. More especially the Blocks around the Dindigul District had been contributing the maximum quantity of Guava to the Dindigul Market. Aayakudi village had been famous in Tamil Nadu for the Guava production. Considering the vital role that Guava had in the economy of India, there was a need to analyse the area, yield and production of Guava in India, Tamil Nadu and Dindigul district.

3. Review of Literature

A Review of the research studies carried out in the past related to the present study had been presented in this section. Studies conducted on Guava had been very few in their numbers as it was one of the minor fruit crops. Therefore the studies on an economic analysis of the other fruit crops had also been included in the review.

Shivanand in his study entitled, "Performance of Banana Plantation in North Karnataka-An Economic Analysis", had highlighted the growth rates in Area, Production and Productivity of Banana in North Karnataka. The Growth rates in Area (6.69%) in the Karnataka State between 1980 and 2000 had been found to be substantially greater than all the other major banana growing States as also that of the all India average.

Chinnappa in his study on "Marketing of Guava in Karnataka: An Analysis of Problems and Costs", had analysed the information obtained from 60 producers in the Devanhalli and the Bangalore *taluks* (30 from each *taluk*) in the Bangalore District, Karnataka, India. The Total Marketing Costs incurred by producers was ` 168 per Metric ton of which the commission charges had accounted for 45 per cent. It had been concluded that the present marketing system had not been efficient as evidenced by the high marketing costs and the many problems faced by the growers. Market regulations and the minimum price support mechanism were thus needed to safeguard the interests of the growers.

4. Objectives of the study

- to know the status of guava in World
- to know the status of guava in India
- to know the status of guava in Tamil Nadu

5. Sampling Design

The overall objective of the study had been to understand the Production and the Marketing of Guava and hence the selection of the area had been made around the major production and the marketing centres of Guava. From the Horticultural stand point of view, the Dindigul District had numerous special features, of which, the first and the foremost one was the prevalence of three distinct climates, namely, the Temperate, the Subtropical and the Tropical climates. No other Districts in the Tamil Nadu State had such unique agro climatic zones within the same District. Accordingly, the Dindigul District had been selected as it stood First in the cultivation of Guava with an area of 1229 Hectares during the year 2009-2010 in Tamil Nadu. The Dindigul District comprised of 7 taluks. Guava was mainly cultivated in the Ottanchathiram and the Natham taluks while in Kodaikanal, Nilakottai and the Dindigul Taluks Guava was cultivated here and there and in negligible proportions. In the Vedasandhur and the Palani taluks

Guava was not at all grown. Hence the selection of the sample villages had been restricted to the 2 taluks only.

6. Methodology

The study is primarily based on secondary data. The data were collected from various journals, books and Guava statistics published by the National Horticulture Board, Directorate of Horticulture, Chennai, the Indian institute of horticultural Research, Bangalore and Agricultural University in Tamil Nadu and also from websites

7. Analysis of the study

The study aims to analyse the status of guava in World, India and in Tamil Nadu and in particular Dindigul District, the study area.

Guava, the “poor man’s fruit” or “apple of the tropics” was a popular tree fruit of the tropical and subtropical climates and was native to the Tropical America stretching from Mexico to Peru. It had been adopted in India so well that it appeared to be an almost Indian fruit. The Guava was considered as one of the exquisite, nutritionally valuable and a remunerative crop among the various fruit crops. Guava fruits were used for both, fresh consumption as also for processing. Besides its high nutritive value, it yielded a heavy crop every year and gave good economic returns involving very little inputs.

A study by the National Institute of Nutrition in Hyderabad had revealed that fruits like Guava and apple were found to be rich in anti-oxidants, which were intimately involved in the prevention of cellular damage which was the common reason for cancer, ageing and for a variety of degenerative diseases. The study had added that its findings would be an eye-opener for the people, as it was generally believed that only expensive fruits were the richest sources of nutrition. The anti-oxidants available in the different fruits had been presented in the Table 1.

TABLE 1

Fruits of Life

<i>Fruit</i>	<i>Anti-oxidants (Mg/100grams)</i>	<i>Fruit</i>	<i>Anti-oxidants (Mg/100grams)</i>
Guava	496	Chiku (sapodilla)	55
Plum	330	Papaya	50
Custard Apple	202	Banana	30
Mango	170	Sweet lemon	26
Pomegranate	135	Orange	24

Apple	123	Watermelon	23
Grapes	85	Pineapple	22

Source: National Institute of Nutrition, Hyderabad.

As would be evident from the Table 2.1 Guava had the highest level of 496 mg/100 gram of the anti-oxidant property which had prompted several farmers to take up to Guava Cultivation on a commercial scale..

THE NATIONAL SCENARIO

Planned plantation in Guava had begun in 1991, with the adoption of the New Economic Policy. A paradigm shift had been witnessed with the setting up of the Database which was coincident with the setting up of the NHB. Formerly, before Independence nearly 27 Thousand Hectares of land were under Guava Cultivation. It went up to 42 Thousand Hectares in the year 1950-51. Subsequently, the area under Guava Cultivation had gone up to 94 Thousand Hectares in the year 1991. At present, approximately 219.70 Thousand Hectares of land was under Guava Cultivation. The Guava Production and Productivity had also changed in conformity with the change in the area under Cultivation. A considerable change had taken place in respect of Guava Production and Productivity since the year 1991.

In 1991-92 the Guava Production was found to be approximately 10.95 Lakh Tonnes, which was about 3.8 per cent of the total quantity of fruit production. The Production of Guava went up to 16.32 Lakhs Tonnes in 2000-01; to 19.7 Lakh Tonnes in 2007-08 and further to 25.71 Lakh Tonnes in 2009-10. In 1991-92 the Productivity was 11.7 Tonnes per Hectare which got reduced to 10.4 Tonnes per Hectare in 2006-07, but it again rose to the level of 11.7 Tonnes per Hectare in the year 2009-10.

Uttar Pradesh had stood First in regard to the area under Guava Production. Maharashtra had occupied the Second position and Bihar the Third position. In Production, Uttar Pradesh had stood First. Maharashtra and Madhya Pradesh had occupied the Second and the Third positions. But in respect of Productivity Madhya Pradesh and Punjab were in the First and the Second positions, Whereas Karnataka had become the Third. The overall Productivity had been less than its potential.

In India, the Guava had well adapted itself to the various climatic conditions and is grown in almost all the states. The major producing areas were Uttar Pradesh (which is the highest producer) and Allahabad, Kausambi, Farrukhabad, Kanpur, Unnao, Aligarh, Badaun, Varanasi, Fatehpur, Faizabad and Lucknow. In Bihar, it was grown in Rohtas, East Champaran, West Champaran, Muzzapherpur, Vaishali and Arania. In Jharkhand, it was grown mainly in Ranchi, Lohardagga, Hazaribargh, Giridih, Gumla and Palamu. In Andhra Pradesh, it was grown in East and West Godawari, Guntur, Krishna, Ananthapur, Medak and in the Khemmam Districts. In Madhya Pradesh, the concentrated production of Guava was around in Raipur, Durg and Jabalpur. In Rajasthan, it was grown mainly in Udaipur Jhalwara, Khetari and Banwara. In Gujarat, it was most concentrated in and around Bhavnagar and Ahmedabad. In Maharashtra, Ahmed Nagar, Satara, Beed, Pune, Aurangabad and Amravati were the principal Guava producing areas. In Karnataka, it was mainly grown in Bangalore, Kolar, Dharwad and Shimoga. Though it had been successfully grown all over the country, the most important Guava-growing States, as expressed in the Table 2.2 were Uttar Pradesh, Bihar, Maharashtra, West-Bengal and Orissa. Uttar Pradesh was by far the most important Guava producing state in India and Allahabad had the reputation of growing the best Guava in the country as well as in the whole world. In Tamil Nadu, the major concentration of production had been around Madurai, Dindigul and Salem. In Tamil Nadu the Area under Guava in 2009-10 had been around 10 Thousand Hectares with a Total Production of about 92.5 Thousand Tonnes.

THE INTERNATIONAL STATUS OF THE GUAVA

At present, Guava had got well-established Markets in more than 60 countries of the world. It is cultivated in India, Mexico, Brazil, Thailand, Spain, Portugal, Southern France, Israel, Panama, Costa Rica, Nicaragua, Bolivia, Malaysia, Kenya, USA (Hawaii, California and Florida), New Zealand, Philippines, China, Indonesia, Cuba, Java, Venizuela, Pakistan, Australia and in some of the African Countries. The major products of Guava were produced in India, Brazil and Mexico. The other leading countries which had produced products made from Guava were South Africa, Jamaica, Kenya, Cuba and the USA (Mainly Florida and Hawaii), Egypt, Thailand, Columbia, Pakistan and the Philippines. The International Trade was virtually limited to the processed products and include exports to the USA, Japan and Europe. The Guava fruit

was best to eat when it had perfectly riped and was freshly plucked from the trees. It emitted a sweet aroma and was pleasantly sweet and refreshingly acidic in its flavour. It is wholly edible along with its skin which is thin like paper which had almost merged with its pulp. Ninety five per cent of the Guava fruits were consumed either as fresh or as processed fruits. Only 0.05 per cent of the Produce was being exported to the Foreign Countries.

THE IMPORTANCE AND THE USES OF THE GUAVA

Guava was a rich source of Vitamin C, Vitamin A, Vitamin B₂, (riboflavin) and Minerals like Calcium, Phosphorus and Iron. The Vitamin C contents of the Guava fruit was four to five times higher than those of the citrus fruits. There were other fruits also which contained Vitamin C, notably amla, citrus, mango and the like. Except Guava no other fruit became available throughout the year. Guava Fruit is best when it became perfectly ripe and was plucked from the trees afresh. It emitted a sweet aroma and was pleasantly sweet and refreshingly acidic in its flavour. It was wholly edible along with its skin which paper was thin like and had almost merged with the pulp. Guava was considered as one of the most delicious and luscious fruits.

Guavas were often included in the category of super fruits, being rich in its dietary Fibre, Vitamin A, Folic Acid and the Dietary Minerals of Potassium, Copper and Manganese. However, the nutrient content had varied among the various Guava varieties. Thai Maroon Guavas, a Red Coloured Apple Guava was rich in carotenoids and polyphenols—the major classes of antioxidant pigments—giving them relatively a very high potential antioxidant value among the various plant foods—Green apple Guavas were less rich in their pigment antioxidants. According to Bhagya and others many herbal remedies, indirectly or in combination with different formulations such as leaf powder, pastes, decoctions and infusions, pills and the like had been recommended in various medical treatises against Diabetes. They had recommended the intake of the fresh juice of Guava leaves to reduce the level of blood sugar.

THE COMMON GUAVA, PER 165 Grams OF ITS INDIVIDUAL FRUIT PORTION

Calories	112
Moisture	133 Grams
Dietary Fiber	8.9 Grams (36%)
Protein	4.2 Grams (8%)
Fat	1.6 Grams (2%)
Ash	2.3 grams
Carbohydrates	23.6 Grams (8%)
Calcium	30 Milligrams (3%)
Phosphorus	66 Milligrams (7%)
Iron	0.4 Milligrams (2%)
Potassium	688 Grams (20%)
Copper	0.4 Milligrams (19%)
Beta – Carotene (Vitamin	1030 IU (21%)
Ascorbic acid (Vitamin C)	377 Milligrams
Thiamin (Vitamin B ₁)	0.1 Milligrams (7%)
Riboflavin (Vitamin B ₂)	0.1 Milligrams (4%)
Niacin (Vitamin B ₃)	1.8 Milligrams (9%)
Folic acid	81 Milligrams (20%)
% Daily value in parentheses Nutrient data	

Source : US Department of Agriculture National Nutrient Database from Nutrition data.com

THE HEALTH BENEFITS OF GUAVA

Guava was a good source of fibres, minerals, antioxidants and Vitamins. It is effective in reducing the cholesterol and the blood-sugar levels because of its potassium content and it combating cancer by strengthening the prostate gland. It is effective in treating gastrointestinal problems and Diarrhea. The Guava contained astringents that hardened the loose bowels. The astringents had disinfectants and anti-bacterial properties. It strengthened the digestive system. It

was also a suitable fruit for curing cough and cold. It helped to fight gingivitis, a gum disease, because of its rich concentration of folate. It helped to treat the swollen gums, alleviated the tooth ache and prevented the oral cancer. The skin contained high amounts of Vitamin C, and increased the immunity levels. Guava, the poor man's apple had much greater health benefits than even apple. Since human body was not capable of storing Vitamin C, in a small quantity, the Guava should be taken daily for maintaining a proper health. The daily requirement of Vitamin C for an adult was 50–70 Milligram which could be met by including one or two Guava fruits in the daily diet of a person.

Guavas that were pink in colour had a more pigment content as polyphone, carotenoid and pro-vitamin A, than the white pulped variant. In India the pink Guava was primarily cultivated in Karnataka, Maharashtra and Uttar Pradesh. This Super Fruit was greatly recommended to deal with health problems such as high blood pressure and cholesterol, in the treatment of constipation and in treating, congested lungs. It was also believed to strengthen the heart and improve the blood circulation.

7. Conclusion

The position of Dindigul, the study area, shows a favourable position in production, productivity and area under cultivation. The Tamil Nadu government should maintain and improve the same also.

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