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## Utilization of some common summer seasonal fruits in rural areas of Madurai district, Tamil Nadu, India

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### Abstract

Nature has given us all the possible amenities to keep ourselves healthy. Interestingly, our body responds according to the change in season say summer, spring, monsoon, autumn and winter depending on particular weather patterns and daylight hours. It is important for us to know the seasonal fruits and vegetables to get accustomed to the climate. The current research revealed that utilization of some common summer seasonal fruits in rural areas of Madurai district. Summer seasonal fruits have shown fleshy and watery which act a thirst quencher and it prevents water loss from the body.

**Keywords:** summer seasonal fruits, fleshy and watery, Madurai district

### 1. Introduction

During summer it is common to lose our appetite which makes us stay away from the heavy foods. Our body tends to maintain temperature by perspiring heavily, thus we need more amount of water to keep our body well hydrated. Seasonal food has the naturally cooling effect on the body so we can rely completely on them such as watermelon, tomatoes, Cantaloupe, Plums, peaches, raspberries, grapefruits, mangoes, kiwi, mushrooms, eggplant, corn, cucumbers, bell peppers, green peas, Pumpkin, bottle guard, celery, bitter guard, apricots, bananas, zucchini, asparagus, artichokes, lettuce etc. From a food system perspective, stability and functionality of phytochemical compounds in the human body varies, depending on the amount, the species, the linkage of the molecules, the location in food matrix, and the presence of other bioactive compounds in fruits and vegetables <sup>[1]</sup>. In fruits and vegetables, phytochemicals can be bound in the plant cell membranes or exist as free compounds. Food processing, such as heating or freezing can disrupt the cell membrane leading to the release of membrane-bound phytochemicals, which implies higher bioaccessibility <sup>[2]</sup>. Moreover, the amount of phytochemicals retained in fruits and vegetables depends on their stability during food preparation and processing before consumption, which is mostly related to their sensitivity towards oxidation, and the environmental conditions. Consumer choice and preference of fruits and vegetables are majorly influenced by factors, such as convenience, culture, price, appearance, taste, and not considerably by the nutrient value <sup>[3-4]</sup>. Nowadays consumers have access to various fruits and vegetables outside of their season coming from around the world due to international trade. Compared to imported fruits and vegetables, local seasonal fruits and vegetables are cheaper, fresher but available only for a short period. Therefore, to prolong the shelf life seasonal fruits and vegetables must be processed. The present investigation indicates that summer seasonal fruits of rural areas which has been used by rural people to avoid unhealthy and water loss from the body.

### 2. Experimental Methods

#### 2.1 Details of the Study Sites

Madurai is located at 9.93°N 78.12°E. It has an average elevation of 101 meters. The Azhagar Malai is a densely forested area, rich in biodiversity. In the forest are found rare trees of economic importance and also valuable medicinal plants. Some of these rare medicinal herbs have been used by the siddhars to cure diseases since ancient times. Madurai lies southeast of the Western Ghats, and the surrounding region occupies the plains of South India and contains several mountain spurs. The soil type in central Madurai is predominantly clay, loam while red loam and black cotton types are widely prevalent in the outer fringes of the city.

#### 2.2 Interview with Informants

An extensive survey was carried out rural areas which is located foot hills in Azhagar hills of

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Madurai district from January 2016 to March 2016. A standard method was followed to collect the valuable information on summer seasonal fruits. The informants interviewed numbered 15 (10 Male and 5 Female) which include Villagers, Traditional healer and Households who had strong links with traditional activities.

### 2.4 Botanical Identification of Plants

All the medicinal plants recorded during the field visits were botanically identified by referring Flora of Tamil Nadu Carnatic [5] and An Excursion Flora of Central Tamil Nadu, India [6].

### 3. Results and Discussion

The Details of collected plants are enumerated with their scientific name, family, local name and uses were presented

#### 1. Botanical Name: *Cocos nucifera* L.

**Family:** Arecaceae

**Local Name:** Thennai

**Uses:** Coconut water is used as thirst quencher, Tender fruit of coconut is edible.

#### 2. Botanical Name: *Borassus flabellifer* L.

**Family:** Arecaceae

**Local Name:** Panai

**Uses:** Palm fruit is edible and it is used as anticancer property.

#### 3. Botanical Name: *Psidium guajava* L.

**Family:** Myrtaceae

**Local Name:** Koyya

**Uses:** Fruit is used for diabetes, Hypertension and diarrhea

#### 4. Botanical Name: *Mangifera indica* L.

**Family:** Anacardiaceae

**Local Name:** Maampalam

**Uses:** Fruit is mainly used for Hypertension, dysentery, diarrhea and Piles.

#### 5. Botanical Name: *Syzygium cumini* (L.)

**Family:** Myrtaceae

**Local Name:** Naval

**Uses:** It is used for thirst, dysentery and Ulcer. It is a good blood purifier

#### 6. Botanical Name: *Coccinia grandis* (L.) voight

**Family:** Cucurbitaceae

**Local Name:** Kovaippalam

**Uses:** Raw fruit is used for high blood pressure

#### 7. Botanical Name: *Citrus Limon* (L.) osbeck

**Family:** Rutaceae

**Local Name:** Elumichai

**Uses:** Fruit juice is used for Dehydration and Kidney stone

#### 8. Botanical Name: *Cucumis sativus* L.

**Family:** Cucurbitaceae

**Local Name:** Vellarikka

**Uses:** Fruit is used as diuretic and Purgative

#### 9. Botanical Name: *Zizyphus jujuba* Mill.

**Family:** Rhamnaceae

**Local Name:** Elanthai

**Uses:** Fruit is used for constipation, High blood pressure and anaemia.

#### 10. Botanical Name: *Citrullus lanatus* Thumb.

**Family:** Cucurbitaceae

**Local Name:** Dharboosani

**Uses:** Fruit is used for curing diuretic, kidney stone and diabetic

#### 11. Botanical Name: *Musa paradisiaca* L.

**Family:** Musaceae

**Local Name:** Vaalai

**Uses:** Fruit is used for digestion and lower level of hypertension

#### 12. Botanical Name: *Artocarpus heterophyllus* Lam.

**Family:** Moraceae

**Local Name:** Pala

**Uses:** Fruit is used for anaemia, Hypertension and healthy digestion

#### 13. Botanical Name: *Phyllanthus emblica* L.

**Family:** Phyllanthaceae

**Local name:** Nelli

**Uses:** Fruit is used for Hepatoprotective, jaundice and inflammation.

#### 14. Botanical Name: *Ficus religiosa* L.

**Family:** Moraceae

**Local Name:** Athi

**Uses:** Fruit is used for heart disease, inflammation and cancer

#### 15. Botanical Name: *Lycopersicon esculentum* Mill.

**Family:** Solanaceae

**Local Name:** Thakkali

**Uses:** Fruit is used for Cancer, Hypertension and Common cold

#### 16. Botanical Name: *Manilkara zapota* (L.) P. Royen

**Family:** Sapotaceae

**Local Name:** Sapota

**Uses:** Fruit is used for constipation and anti-inflammatory activity

#### 17. Botanical Name: *Carica papaya* L.

**Family:** Caricaceae

**Local Name:** Pappali

**Uses:** Fruit is used for improving digestion and Liver health

#### 18. Botanical Name: *Cucumis pepo* (L.) Dumort.

**Family:** Cucurbitaceae

**Local Name:** Parangi

**Uses:** Fruit is used for Urinary disorder and diabetes.

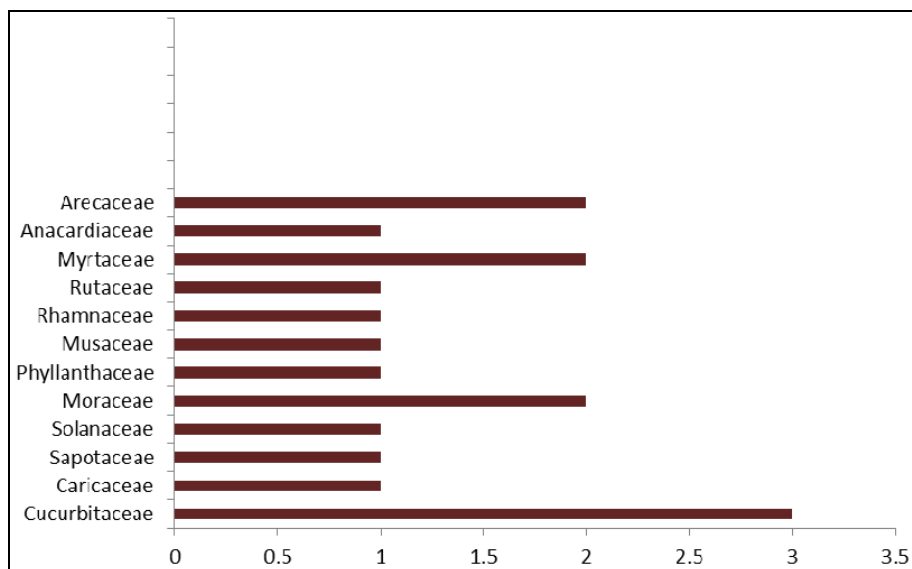


Fig 1: Families of Seasonal fruits in rural areas of Madurai district

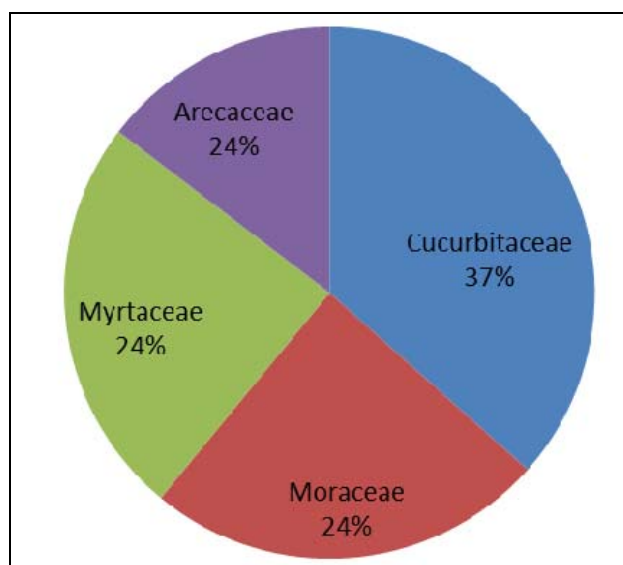


Fig 2: Dominant Families of Seasonal fruits in rural areas of Madurai district

The findings of present investigation revealed that the predominantly useful part of the plant was fruit. The main aim of using seasonal fruits by rural people in rural areas to avoid diseases, maintain good health and prevent water loss from the body. The fruits were fleshy and watery which is used for thirst quencher. The dominant families of seasonal fruits were mostly Cucurbitaceae, Moraceae, Myrtaceae and Arecaceae. The studies carried out by some more researchers also indicated that Seasonal patterns of food intake in Rural Bangladesh [7], Seasonal variation in Fruit and Vegetable consumption in agricultural community [8], the use of wild fruits in Zimbabwe [9] also supports present study [10].

#### 4. Conclusion

Seasonal fruit is generally fresher and often taste better than fruit grown out of season. The people who residing in rural areas depend on seasonal fruits in available time. Fruits and vegetables are highly perishable and hence have a short shelf life. It can be concluded that local people of Madurai district

who have rich traditional knowledge and documentation of knowledge has provided information from the area. They still depend on the plants for medicinal purposes and are very much concerned about their degradation in wild as they now have to travel even more far to collect these plants.

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