Fruits : Botanical name , family and uses of Apple, Mango, and Guava

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History

Fruits are an integral part of human diet and are prized as source of refreshment for their delightful flavour and aroma. They are important part of food of pre-historic nomads. Many fruits find reference in the ancient literature .The records date back to7000 B.C . **Date palm** is perhaps the first fruit cultivated by man. **Pomegranate** was grown as early as 3500 B.C. Reference of peach and almond are found in Egyptian manuscript written around 1300 B.C. Mention of some fruits like amla , mulberry, bael, phalsa, figs, grapes , lemon, mango, orange, banana , pomegranate in early medical works in Sanskrit **Chakra Samhita and Sushrita Samhita** . **Vrishka Ayurveda** written in 1392 deals with culture and propogation including graftage.

Early man used wild fruits as food. But with the advancement of the civilisation he started cultivation of some fruit plants. Now fruit is a very profitable enterprise.

Pomology a separate branch of horticulture that deals with the cultivation of the fruits.

Fruits are absolutely essential for maintainance of health.They are rich source of **carbohydrates, minerals and vitamins** and are integral part of the balanced diet. They are rich source of digestible carbohydrates in the form of sugars and starch .Indigestible carbohydrates like **cellulose** and **pectic** provide roughage very important for the digestive system.

Classification of Fruits

Botanically the fruit is a ripened ovary. Generally ovary alone grows into a fruit but at times the other parts like calyx, thalamus etc are also involved in false fruit of apple ,pear etc.
Fruits have been classified in following ways:

1) Number of ovaries involved in fruit formation. On this basis fruits have been classified as:

a) **Simple fruits**: These fruits develop from single ovary. They may be dry or fleshy and dehiscent or indehiscent.

b**) Aggregate fruits**: Fruits That develop from several ovaries of the same flower .Individual ovaries develop into achene or drupe.

c) **Multiple or composite fruits**: These fruits develop from a whole inflorescence.

2) On The basis of climatic adaptability , Fruits are classified as under:

a)**Temperate fruits**: Fruits that grow in cold climatic conditions and plants are generally deciduous e.g apple , pear , peach.

b**) Tropical fruits**: fruits that grow under tropical climatic conditionsi.e hot conditions and are very sensitive to the cold or low temperatures.Plants are evergreen e. g mango, pineapple, custard apple.

c) **Subtropical fruits** : These fruits grow in subtropical climate and can also withstand low temperatures, may be deciduous or evergreen .e. g grapes, loquat, pomegranate etc.

India has a variety of agro-climatic condition, where all types of fruits can be grown tropical, subtropical and temperal. Many fruits like **mango, citrus** and **banana** are **indigenous** to India .While others have been introduced .In Himalayas temperate fruits can be grown very successfully from Kashmir to Himachal Pradesh to Uttrakhand to Hills of Uttar Pradesh. **Kashmir valley** Particularly known as **Fruits Bowl** due to large number of fruits growing there.

Botanical name : *Pyrus malus*

Family : Rosaceae

Vernacular name : Seb(Hindi)

History: Apple, a Premier fruit of the world has originated in the Caucasus mountains of Western Asia where vast forests of wild apples exist even today.It has been under cultivation since time immemorial .Fruits and seeds of apple have been found inthe ruin of prehistoric lake dewellings in Switzerland.Apple was carried to Israel,Turkey and Europe about 5000 years ago.From there it spreaded to all other parts of the world.

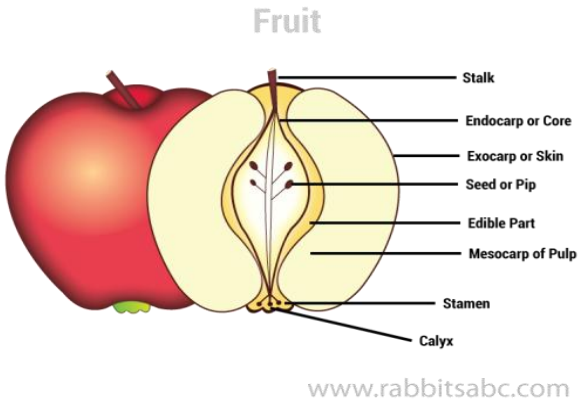
It is a temperate fruit grown essentially in cold climatic conditions . It require well-drained medium loam soil. Plants can be propagated by budding or grafting.

Varieties :

Thousands of varieties of apple are grown in the whole world which differ in their size, colour, Flavour and the time of maturation. However varieties like Ambri, Red Delicious, Golden Delicious ,King of Pippins, Newton Wonder, Lady Sudeley , Beauty of Bath, Early Shanbury,Baldwin, Granny Smith,Rome Beauty and Glengyle Ren are some of the important species of cultivated in India.

Structure of Fruit:

An apple, is not a real fruit, but a false one, since a flower tube takes part in its formation. The main **edible** part of an **apple** is actually juicy receptacle of a flower i.e., thalamus.



Chemical composition :

On an average ripe fruits contain 84.1 % of water, 1.0 % fibre and small quantities of Proteins, fats, minerals and fruit acids like malic acids .The characteristic flavour and aroma of the fruit is due to the presence of esters and essential oils.

Uses:

Nearly half of the production of apple is consumed as fresh fruit. The fruit is also consumed as cooked and dried and made into Jam , jelly, marmalade and apple butter .It is also a rich source of pectin .A considerable quantity is used for apple juice, apple syrup and cidar . Dehydrated apple and apple flour are two other important commercial products. Hard cidar is distilled to produce an excellent brandy called **Calvados** or apple **jack.**

Medicinal use

- Apples are used to control Fever, dysentery, diarrhea or constipation
- used for the softening, passage, and collection of gallstones.
- They are also used to prevent cancer especially lung cancer.
- Other uses include treating diabetes
- Useful in heart problems

- warts and a vitamin C-deficiency condition called scurvy.

Apple Tree,Fruit on Tree, flowers and varieties of apples

Botanical name : *Mangifera indica* L

Family : Anacardaceae

Vernacular name : Aam (Hindi) ,Amri (Guj), Abba (Mar), Manga (Tam) ,Mamidi (Tel) , Amram(Mal)

History:

Mango grows in tropical -subtropical climatic conditions. It is native of South East Asia. Perhaps grown for 4000 to 6000 years. Reference of mango found in **Ramayana and Mahabharat**a .It has enjoyed pre-eminence even in **vedic period** as it finds mention in the **Satapatha Brahmana .**

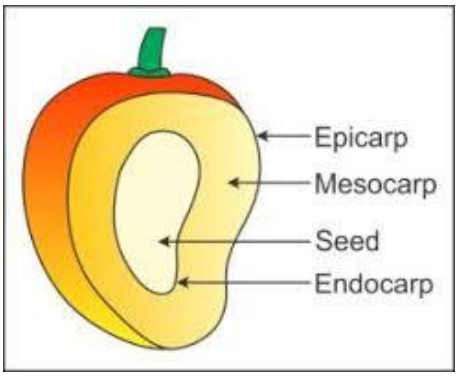
It grows in wide range of soil and climatic conditions upto a height of 1220 m. It can easily be propagated by grafting, budding, inarching and marcotting.

Varieties:

A large number of varieties of mangoes are grown in India. The important ones are **Dasheri , Langra , Chausa** , Bombai , Bombay green, Samarbehish , Gulab Khas , Himsagar , Fazli , Subul , Bombai Bhutto **, Alphanso** , Pairi, Farnandin , Bangalora , Rumani , Mulgoba and Suvarnarehka.

Structure of fruit:

Mango fruit is a **drupe** (or stone **fruit**) is an indehiscent **fruit** in which an outer fleshy part (exocarp, or skin; and mesocarp, or flesh) surrounds a single shell (the pit, stone, or pyrene) of hardened endocarp with a seed (kernel) inside.



Structure of fruit

Chemical composition :

Ripe mango fruit pulp isred, yellow and has a rich ,luscious, aromatic flavor with a perfect blend of sweetness and acidity. It contain 84% of water, 10-20 % sugar and small amounts of fruit acids, minerals, fats and proteins .It is rich source of carotenes and some varieties contain fairly good amount of vitamin is a low-calorie **fruit** that is high in fibre, and is a great source of vitamins A and C. It also contains folate, B6, iron and a little calcium, zinc .

Uses :

Mango is the choicest fruit of the world. The unripe fruits are pickled and are used for chutney, preparation of amchur and culinary preparations . The ripe fruits are mostly eaten fresh as a dessert fruit and are made into jams , Jellies , squash , Preserves and are also canned. Mango-shakes are refreshing drinks is made of mixing mango flesh with milk and sugar. Cotyledons of mango seeds used as food and feed in times of scarcity.

Medicinal use

Helps in digestion. Mangoes could help facilitate healthy digestionas Fruits are laxative and diuretic.

- Boosts Immunity
- Promotes eye health
- Lowers Cholesterol
- Clears the Skin
- Even Diabetics Could Enjoy it but in recommended values
- Aids Weight Loss.

Mango tree,Fruit on tree, flowers and varieties of mangos in India

Botanical name : *Psidium guajava*

Family : Myrtaceae

Vernacular name : Amrud (Hindi), Jamrud (Guj.), Goaachhi (Beng.), Koyya (Tam.), Ettajama (Tel.), Pera (Mal.).

Varieties :

Allahabad Safeda, Chittidar, Lucknow 49, Hafsi Dolkha, Nasik, Harija and Dharwar are some important varieties grown in India.

History:

It is native to tropical America.It is now grown in most of the Tropical countries.It came to India before the 17th century.Utter Pradesh and Bihar are the cheif guava producing states of India.

It grows in a wide range of soil and climatic conditions from lowland tropics up to 15oom. It is a hardy crop, which can grow in poorly drained and alkaline soils.

Structure of Fruit:

The **fruits** are many-seeded berries. Edible part is seeds, mesocarp and exocarp.

Structure of fruit

Chemical composition :

Guava consists of Moisture - 76.1%, Proteins-1.5% ,Carbohydrates-14.5 %, Minerals-0.8%.Fruit is having fine balance between the content of acid,sugar and pectin. Besides guava is amazingly rich source of Vitamin C containing 240 mg per 100 g also in Vitamin A &B , ascorbic acid , antioxidants, potassium and fibres.

Uses:

Fruits are very aromatic, sweet ,juicy, highly flavoured ,eaten raw, canned, preserved and spiced or made into Jam, butter, marmalade, pies, ketchups and chutneys.

Medicinal uses

- They are tonic and cooling and Boost Heart Health
- Help relieve painful symptoms of menstruation

- Benefit digestive system-.good in case of colic acting as laxative and good for
- Bleeding gums and also in diarrhea
- Lower blood sugar levels and high chlestrol value
- Have an anticancer Effect
- Help boost your immunity
- Good for your Skin.
- Good in cough
- Aid weight loss
- Help in case of cataract

Guava tree,Fruit on tree, flowers and varieties of Guava