

Role of Citrus Fruits in Health

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Abstract:

Citrus fruits belong to the family Ructaceae that are grown all over the world and have numerous therapeutic properties like anticancer, anti-tumor and anti-inflammatory. These properties are due to the phyto- vitamins and nutrients present in the citrus fruits. Citrus species also have an important role in herbal medicine .Citrus fruits are low in fats and proteins, but supply carbohydrates (sucrose, fructose, glucose) .Fresh citrus fruits act as rich source of dietary fiber. Citrus fruit are recognized as important components in human healthy life. Vitamin C, Beta -carotene, flavonoid, limonoid, folic acid and dietary fiber are important bioactive components found in these species. High consumption of citrus fruits may lead to degenerative health disorders. In this review the importance, chemical composition and land cultivation of certain citrus fruits like orange, lemon and grapefruit has been highlighted.

Key words: Citrus fruits, Anti-tumor, Phyto-vitamins, Limonoid

INTRODUCTION:

Citrus fruits are acidic, exotic fruits with juicy, bitter, fruit segments inside. Citrus fruits commonly originated in tropical and sub-tropical regions of the world. Citrus fruits have certain therapeutic properties such as antitumor, anti-inflammatory and anticancer, due to phytovitamins and nutrients present in them. Citrus fruits are cultivated all over the world in around 140 countries including Asian pacific. India ranks 6TH position in the production of citrus fruit cultivation in the world. Other major citrus producing are Spain, USA, Japan, South Africa, Israel, Brazil, turkey and Cuba. It occupies 3rd position after mango and banana in the cultivation. Citrus fruits are grown in tropical and subtropical regions of south East Asia, particularly India and china. Deep soils with pH range of 5.5 to 7.5 are considered good for cultivation of fruits. Subtropical climate is suitable for good varieties of citrus fruits.

Citrus fruits or their products are being part of the daily human intake in one or the other forms all over the world. Fresh citrus fruits act as rich source of dietary fiber and hence are recognized as important components in human healthy life .The present article throws light on some of the important citrus fruits and their importance in health.

LEMON:

This perennial citrus species is grown in red and black soils. These species also require less amount of water. In India it is cultivated along Western Ghats, UP, Assam, Arunchal Pradesh and Sikkim. (1)

Botanical description:

Tall perennial hedge throwing up dense fascicles of leaf from a short rhizome. It is a short day plant. Its inflorescence is 1m long. The flowers are 30-over 60 cm. (2)



Chemical composition:

The mineral content of lemon peel contains
Na(755.5),K(8600,Cu(8452.5), Ca
(4.95),Fe(147.65)Mg(1429.5),Zn(13.94) and
P(6696)mg/100g.(3)

Importance:

D-limonene supports the normal functioning of immune system. It gives clarity and freshness to our mind. (4)It releases us from tension and makes our mind peaceful .It also supports and refreshes our skin (5).Lemon acts as an antiseptic agent by preventing the growth of pathogenic bacteria. (6)Lemon essential oil obtained from citrus limon promotes clarity of thoughts.(7)lemon is also an important ingredient in natural cosmetics that reduces wrinkles in the face. Lemon is also useful in treating asthma,cough,biliousness,cold,heartburn,liver complaints,fever,diphtheria and rheumatism.(8)lemon helps in the production of WBC and antibodies in blood which attacks microorganism and prevent the infections. Lemon acts as an antioxidant by deactivating the free radicals and prevents diseases like stroke, cardiovascular diseases and cancer. It also lowers blood pressure and increases the level of HDL.As lemon is anticarcinogenic, it lowers the rates of colon, prostate and breast cancers.

ORANGE:

Orange species have grown across the world about 41.96 lakhs hectares with the tones of 684.75 lakhs. Brazil leads the 1st position in this cultivation and India ranks the 3rd place.(9) In India it is grown in places like Assam, Madhya Pradesh, Maharashtra, Meghalaya, Rajasthan, Mizoram and Karnataka. In this, Maharashtra yields more varieties of orange species. Orange cultivation occupies 40% of total area of the cultivation land(10). For cultivation, it requires moderate temperature of about 15.5-29°C(11)

Some varieties of this species are mandarin, sweet orange, navel orange, Valencia orange and pigmented orange.(12)

Botanical description:

The botanical name of orange species is *Citrus sinensis* and it belongs to the family *Rutaceae*. For some persons adverse reactions are seen in the immune system due to orange containing foods. This leads to allergy like breathing problem, headache, stomach pain, congestion, skin problem and swelling.



Chemical composition:

The composition of orange species contains 54.2% fat, 28.5% carbohydrate, 5.5% crude fiber, 3.1% crude proteins and 2.5% ash.

Importance:

Orange peel serves cosmetic purpose like scrubs, as it provides freshness to our skin.(13) Natural oils from orange peels are used as excellent cleaners. It can also be used in the weight control of the body.(14,15) As the orange peels are rich in vitamin A and C they fight against infections, cold and flu(16). In gardening, peels make the surrounding an effective method of getting rid of slugs.(17) It can reduce the risks of heart diseases, diabetes, asthma and osteoarthritis. These may reduce the prevention of high blood pressure or hypertension.

GRAPEFRUIT:

It is mainly found in the regions of central Australia (18) It is grown in low fertility soil like deep, clay stony loam soil. It is grown at the temperature of 13°C above (19). In India, it is commonly found in Delhi, Hyderabad, Madurai, and Salem in Tamilnadu. It also occupies 80% of total production in India. More than 20 varieties of species are grown in the US. (20)

Botanical description:

Grapefruit belongs to the family *Rutaceae* and in Spanish it is known as *Toronja*. It is believed that it is the combination

of *Citrus x paradise* and *Citrus maxima*. These fruits are oblate in shape.

Chemical composition:

The composition of grapefruit contains Nidymine, eriocitrin, hesperidin, naringin, naringenin, neoeriocitrin, neohesperidin and poncirin..(21) And finally the total mean was 26.72(22)

Importance:

Uplifts and energizes and gives nourishment to skin.(23) It supports immune system of body. Grapefruit used to support body's natural defense. It is added to foods and drink to enhance their flavor of foods. Their fragrances reduce depression from our mind and hence when inhaled, it gives freshness to our body(24,25). Grapefruit helps in reducing weight in the body. It prevents arthritis and works as an antiseptic. Grapefruit helps in cancer prevention and lowers the cholesterol level. It also treats common treatment of cold and fever.



CONCLUSION:

Citrus fruits like orange, clementines, sweet lime, lemon, grapefruit are eaten in freshly as whole fruit or by juices especially in summer days. These fruits are rich in vitamins, minerals, dietary fibers that are essential for normal growth and development of nutritional healthy life. These citrus fruits have anti-cancer, anti-septic and anti-oxidant properties. They also provide natural refreshment to the skin.

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