

WATERMELON



Deogarh, a picturesque district in the state of Odisha, is renowned for its agriculture, especially for producing several distinct fruits. The agroclimatic condition of the district is suitable for horticulture development. The district is famous for fruits like, Mango, Orange, watermelon, and litchi.

Watermelon, with its refreshing and hydrating properties, is a popular fruit, especially during the summer months. In Deogarh, watermelon is grown in the fertile plains and agricultural land where the climate supports its cultivation.

Economic Significance: Watermelon cultivation has come up as a viable enterprise in the tribal dominated villages of Barkote and adjacent blocks of **hilly deogarh district** of Odisha. Farmers have adopted this enterprise commercially and made it a viable, prestigious, self-employed agro-based profession by selling the produce in local areas of the district. The horizontal and vertical growth of this commercial crop has opened a new dimension of profitable farming in the plateau eco-system of Odisha. The fruit's demand peaks in the warmer months, particularly in the summer, when it provides natural hydration. It offers substantial income to local farmers, who can harvest it in large quantities for both domestic markets and exports. Watermelon farming also provides employment opportunities in rural areas, contributing to the local economy.

Farmers of different categories have started adopting this crop in their cropping system and production as well as productivity in watermelon farming has also increased. with the help of **National Horticulture Mission (NHM)**, watermelon farmer's socio-economic impact has witnessed a change.

Watermelon is one of the unique sources having readily available *cis*-isomeric **lycopene**. The distinctive aroma of watermelon is imparted by medium- and short-chain fatty acids along with geranial, β -ionone and neral. Its consumption has been escalated owing to **rich nutritional profile and allied health benefits**. It is effective in reducing the extent of cancer insurgence, cardiovascular disorders, diabetes, and macular diseases. The structural characteristics, physiochemical properties and therapeutic effects of lycopene are the limelight of the manuscript.

ORANGES



If Nagpur is Orange City of the country, Deogarh is Orange District of the State. Orange is cultivated in 50 hectares of land in the district in Kundeigola, Khaliposhi, Koradaposhi villages in Kundeigola panchayat; Chadeimora, Saghaposhi, Jharaberini, Khilaberini, Kanjiaama and Nuapatna in Chadeimora panchayat; Budhapal, Dalaka, Chalaka, Thianala and Sendha in Budhapal panchayat besides Para and Aunli in Para panchayat of Reamal block. The fruit is also grown in Thianala and Saruaali in Barkote block.

Being a two-season crop with a high profit margin; orange farming has even enticed several educated youths to take up it as a profession. Orange trees are grown in topical and sub-tropical climates. Located near River Tikira, the geographical location, soil, and climate of this region are suitable for orange farming.

Economic Significance: Orange farming plays an important role in Deogarh's agricultural economy. The fruit's commercial value has boosted the livelihoods of farmers, especially in the areas where it is widely cultivated. Oranges grown here are not only sold as fresh produce but also processed into juices and other products, creating additional avenues for income generation.

Nutrition Orange flesh is 87% water, 12% carbohydrates, 1% protein, and contains negligible fat (see table). As a 100-gram reference amount, orange flesh provides 47 calories, and is a rich source of vitamin C, providing 64% of the Daily Value. No other micronutrients are present in significant amounts.

Phytochemicals Oranges contain diverse phytochemicals, including carotenoids (beta-carotene, lutein and beta-cryptoxanthin), flavonoids (e.g. naringenin) and numerous volatile organic compounds producing orange aroma, including aldehydes, esters, terpenes, alcohols, and ketones. Orange juice contains only about one-fifth the citric acid of lime or lemon juice (which contain about 47 g/L).

LITCHI



Litchi, a tropical fruit known for its sweet and fragrant taste, is also grown in Deogarh. This fruit requires a hot and humid climate to thrive, which makes Deogarh an excellent location for its cultivation. Many traders from Calcutta visit Kuchinda and Deogarh every year to buy litchis. Besides, these two centres also meet the requirements of the local market.

Climatic Conditions: Litchi being a non-climacteric fruit requires to be harvested after attaining full maturity on the tree. Red colour of the fruit is a good indicator of maturity along with fruit size (minimum of 25 mm in diameter). Harvesting of litchi fruits is primarily done much before the attainment of full maturity due to huge demand in distant market, better shelf life of early harvested produce and availability of labour and transporter.

Litchi is the most important sub-tropical evergreen tree and most renowned edible fruits of soapberry family, *Sapindaceae*. It is botanically designated as *Litchi chinensis Sonn.* (*Nephelium litchi cambess*) and is widely known as litchi and regionally as lichi, lichee, laichi, leech or lychee. It is known as queen of the fruit due to its attractive deep pink/red colours, deliciously flavoured sweet and juicy aril. It has high nutritive value and suitable for geotropic weak person.

Nutrition Litchi is a delicious fruit of excellent quality. The fruit has high sugar content varies from 10.00 to 22.00 per cent due to cultivar and climatic conditions. Besides, it is of about 65.00 per cent juice, 8.00 per cent pulp, 19.00 per cent seed and 13.00 per cent rind. It contains 0.7 per cent protein, 0.3 per cent fat, 0.7 per cent minerals (particularly calcium and phosphorus) and vitamin C (64 mg/100gm pulp), vitamin A1B1 & B2 also present in considerable amount.

Economic Significance: Litchi is a high-value fruit with a strong market presence, particularly during the off-season for other fruits. It is often exported, and the district's litchis are well-regarded for their high-quality and distinct flavor. As a result, litchi farming not only improves the income of local farmers but also opens opportunities for value-added products such as litchi juice, dried litchis, and litchi-based jams.