



Jackfruit is a profitable fruit crop in Jammu subtropics

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Jackfruit (*Artocarpus heterophyllus*), belong to family moraceae is a common and popular fruit crop of the low land tropics of eastern and southern parts of India. It is indigenous to India, commonly grown in Sri Lanka, Malaysia, Brazil, Jamaica, Mynamar, Singapore. In India; it grows in Assam, West Bengal, Tripura, Bihar, Uttar Pradesh, Madhya Pradesh Western Ghats and some parts of the Jammu and Kashmir. Due to shifting of the human population from one part to another part of the country now a day the demand of jack fruit is increasing day by day for vegetable purpose. Hence the orchards of jackfruit will be profitable for farming community of Jammu, Samba and Kathua districts for uplifting the livelihood security.

It is a medium-size evergreen tree typically reaching 8–15 m in height that is easily recognized by its fruit, the largest among cultivated plants. The succulent, aromatic, and flavorful fruit is eaten fresh or preserved in myriad ways. The nutritious seeds are boiled or roasted and eaten like chestnuts, added to flour for baking, or cooked in dishes. It is also known for its remarkable, durable timber, which ages to an orange or red-brown colour. The leaves and fruit waste provide valuable fodder for cattle, pigs, and goats.



Many parts of the plant including the bark, roots, leaves, and fruit are attributed with medicinal properties. The tree can provide many environmental services. It is highly wind tolerant and therefore makes a good component in a windbreak or border planting. Growing in pastures, it can provide fallen fruit for livestock, shade, and long-term timber. The fruit contains minerals, Ca, Mg, vitamins A and C. Some people believe that it causes digestive

ailments.

Varieties :

- Khaza
- Katahari
- Local

Propagation : Jack fruit is propagated by two methods are seed and vegetative *i.e.* by seed and vegetative propagation.

By seed : Seed should be shown immediately after extraction since they viability in storage prior to sowing. Seed are soaked in water for 48 hours or with 25 ppm NAA or 500 ppm GA₃ for about 48 hours to improve the seed germination.

By vegetative: One year old seedlings are suitable for planting or grafting. It can also be successfully propagated by air layering (2500 ppm IBA treatment) and patch, flute and chip budding. The suitable time for vegetative propagation is second fortnight of June to ending July.

Planting : Jack fruit plant is cultivated and level land, the pits are dug one cubic meter at a distance of 8 x 8 m for rainfed condition and 10 x 10 m for irrigated conditions. Each pit must be filled 30 kg farmyard manure + 500 g superphosphate is mixed with soil and planted during rainy season. In irrigated are planting may be done in the month of February also.

Climate : Jackfruit is grown from well under humid and warm climate of hill slopes, arid warmer plains of north and south India. It is grown up to elevation 1500m from main sea level and sensitive to frost and drought. Jack fruit can be tolerate cold weather but chilling cold while as prolongs for longer time is proved for detrimental.

Soils : Jackfruit is found grown on a wide range of soils but it is best in well-drained, rich, deep and moderate fertility of soil is good for its cultivation. Soil of this area is including shallow limestone, sand, and rocky substrates. The tree does not tolerate water stagnation or poor drainage. If the roots touch stagnant water, the tree fails to bear fruit, or it may die. Soil texture of these areas can be successful grown in light- and medium-texture soils (sandy loams, loams, and sandy clay loams). The tree tolerates moderately acid to neutral soils (pH 5.0–7.5). A special soil tolerance Jackfruit tolerates shallow, slightly

saline, and infertile soils. It also tolerates high pH limestone soils, rocky, and laterite soils. The water table rise or poor aeration of soil is unfavorable to crop. Though yield is less, but it is suitable to grow on wasteland, rainfed, dryland and *kandi* areas.

Manure and fertilizers : One year old plants of Jackfruit requires in 10 kg farmyard manure + 500 g ammonium sulphate + 2 kg bone meal + 5 kg wood ash per year in the month of November- December. The dose should be increase up to ten years and remain constant thereafter. In addition that the one per cent foliar spray of borax should be applied in years in the month of March-April at the time of fruit setting and development of the fruit for getting better yield.

Irrigation : Young plant should be required irrigation in weekly during summer season for better survival and establishment. It is required for 3-4 irrigations in dry period. It is well to irrigation during flowering and fruiting time. Dry period and absence of irrigations may lead to immature fruit drop. Therefore the proper moisture is helpful for fruit crops.

Intercropping : During short duration of vegetables crop, leguminous crops like cowpea, horse gram, black gram etc. may be grown between the rows is increase for soil fertility. In full grown orchards turmeric or Zinger may be grown for utilizing the inter row spacing. It provides the additional income to the farmers.

Flowering stage : Trees start bearing flower after 7-8 years. Flowering starts in the tree for the month of december and continuous upto March. It is monoecious plant with spike type of inflorescence. The male and female flower develops on the same tree. The flowers are cross pollinated and pollination takes place by honey bees. The poor pollination may lead to the drop of female flowers. The fruit take about 90-110 days after appearance of the spike, mature in June, July in the northern parts of the country. However, fruits are available throughout the year in southern parts of country.

Harvesting : Unripe fruits are harvested for vegetable purpose. Ripe fruits are available from June and July. Fruits are harvested by cutting the fruit stalk of individual fruit.

Yield : Yield of jackfruit varies due to the age, climatic conditions, soil types, cultivar and management practices etc. however, a well grown up tree gives 100-400 kg per tree.

Insect and disease management :

The following insect and their management

Stem borer (*Margaronia caecalis*) is a serious problem in humid areas. It borers into the tender shoots and buds



resulted shoot may be dry.

Management:

- Remove all affected parts and destroy them.
- Spray carbaryl (Sevin 50) at the rate of 4 g per litre of water during flowering season may be helpful for management of stem borer.

Mealy bug borer (*Planococcus pacificus*): They suck sap from shoot and the affected parts.

Control:

- Spray lime sulphur wash
- Dust sulphur

The following disease and their management

Leaf spot (*Botryodiplodia theobomae*, *Coletotrichum Lagenarium*, *Cercospora mehra*) is a light to grayish-brown or brown spots coloured appear on leaves.

Control: Spray bordeaux mixture (08:08:100) or copper oxchloride 3g in 1 litre water or mancozeb in 2.5 g in 1 litre water at 10-15 days interval for two times.

Blossom and fruit blight (*Botrytis cineria*) flowers are affected blighted appearance; fruit may also be affected causing premature fall of young fruits.

- Spray carbendazim 5 g in 10 litre water as appear of the disease. Repeat at 10-15 days interval.

Soft rot (*Rhizopus atrocarpi*) is the grayish growths with abundant mycelium appear which gradually become denser and black in colour or entire inflorescence rots and falls off.

- Spray bordeaux mixture (08:08:100) or carbendazim 5 g in 10 litre water