

## Cultivation Strategy of Arecanut

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### SUMMARY

The Arecaceae family includes the important tropical plantation crop known as arecanut (*Areca catechu* L.), which is vital to South and Southeast Asia's socioeconomic and cultural life. In India, arecanut, often referred to as supari, is historically eaten by chewing, frequently with betel leaf (*Piper betle*). The crop, which is currently extensively grown in tropical regions of Asia and parts of East Africa, is said to have originated in Malaysia or the Philippines. With more than half of the world's supply, India continues to lead the globe in the production of areca nuts (*Areca catechu* L.). The economics of this "Golden Palm" are changing as we approach 2026 due to the transition from conventional farming to High-Density Planting (HDP) and precision management. A sophisticated farming plan is now necessary for farmers who want high returns and sustainability. Arecanut is still a crucial plantation crop that supports rural livelihoods in tropical countries because to its economic significance, traditional relevance, and potential for value addition.

### INTRODUCTION

Arecanut is the fruit of *Areca catechu* L., a tall, thin palm of the Arecaceae (palm) family. In several South and Southeast Asian nations, including India, it is a significant commercial crop. Because arecanut is frequently chewed alongside the leaf of the tropical evergreen climber *Piper betle*, it is mistakenly referred to as "betel nut" in many parts of the world. Arecanut is primarily used for chewing and is referred to as supari in Hindi. A crucial component of "gutka" and "pan masala" is areca nut. It is eaten as raw or ripe nuts (adaka or kacha tamul), dried ripe nuts (chali supari), and semi-mature, chopped, and processed variations (Bateldike or Kalipak). It is widely utilized and associated with religious rituals in India. In India, areca nut cultivation is concentrated in the coastal areas within 400 kilometers (250 miles) of the shore, as well as in a few other states that are not coastal. According to data from the Food and Agriculture Organization of the United Nations (FAO) for 2017, India produces the most of it worldwide, making up 54.07% of its global output and exporting it to numerous nations.

### Soil

Arecanuts are mostly grown in red clay, gravelly laterite soils. Additionally, it can flourish in rich clay loam soils. However, it cannot be grown in sandy, calcareous, salty, alluvial, or sticky clay soils.

### Spacing:

A spacing of 2.7 × 2.7 m is recommended. To minimize sun damage, rows should be aligned North-South, deflected 35° towards the West.

### Planting Time

Planting should be done during May–June in well-drained soils. In clay soils waterlogging is common, planting should be done during August–September. In North-Eastern regions, May–June planting is preferred.

### Climate

Arecanuts are primarily grown between 28° north and south of the equator. It thrives in temperatures between 14 and 36 degrees Celsius, but not below 10 degrees. It was crucial to understand how weather factors like temperature, relative humidity, and rainfall related to areca yield. Increases in temperature, relative humidity, and rainfall had a major positive impact on nut yield, especially during the flowering stage (January to March). However, rainfall during the nut development stage (June to July) negatively impacted crop productivity, or temperatures above 40°C can harm it.

### Variety Selection:

A 60% boost in yield can be achieved by selecting the proper cultivar. Shatamangala: Due to its enormous output potential (about 3.96 kg dry kernel/palm/year), it is a favorite for 2026. Sumangala and Sreemangala are tall, high-yielding types that are suggested for Kerala and Karnataka. VTLAH-1 and 2: Contemporary hybrids with a semi-dwarf habit that facilitates pest management and harvesting.

### **Diversified Farming**

In order to increase production, sustainability, and profitability, diversified farming incorporates a variety of crops and agricultural techniques into a single farming system. It primarily encompasses functional biodiversity at various temporal or spatial scales through methods created using traditional or agroecological science knowledge.

### **Important Method of Diversified Farming of Arecanut**

#### **Intercropping**

The availability of a favorable microclimate and careful resource use are crucial for intercropping in arecanut plantations, according to earlier research published by Vishwanathan et al. (1992). There is ample evidence of the potential for intercropping in plantation crops, particularly arecanut. Growing several crops next to areca palms is the principal method of intercropping. Pepper (*Piper nigrum*), betel vine (Piper beetle), banana, cocoa (*Theobroma cacao*), and coffee are common intercrops.

#### **Agroforestry**

Trees and shrubs are included into areca nut agricultural systems through agroforestry. Long-term revenue from timber sales can be generated by planting valuable timber species like mahogany (*Swietenia macrophylla*) and teak (*Tectona grandis*) within or near arecanut plantations.

#### **Alley Cropping**

Planting rows of trees or bushes with crop lanes in between is known as alley cropping. Different annual or perennial crops can be planted in the alleys of arecanut plantations. This strategy gives farmers more revenue streams while also improving microclimates and biodiversity. Cover Cropping

#### **Cover Crops**

Instead of being cultivated for harvest, cover crops are grown mainly to cover the land (Baggs, 2000). Arecanut plantations frequently employ leguminous cover crops including green gram, cowpea, and sun hemp (*Crotalaria juncea*). By fixing nitrogen, these plants increase soil fertility, stop soil erosion, and improve the soil's structure and health by adding organic matter.

#### **Newly Released Varieties:**

Hybrid Assam Supari : A healthy and fast-growing betel nut variety native to Assam, India, known for its strong stem, glossy green leaves, and high adaptability to tropical weather conditions.

#### **The Economic Outlook:**

The areca nut market is projected to reach USD 1.20 billion in 2026. Beyond traditional consumption, the rising demand for eco-friendly products like biodegradable betel leaf plates and natural dyes is providing farmers with diversified income streams.

#### **Harvesting**

Arecanut is usually harvested once a year. After harvesting, the nuts are dried and dehusked. The nuts should be sun-dried for about 45 days. They must be spread in a single layer and turned once a week to avoid fungal infection.

#### **CONCLUSION:**

Cultivating arecanuts represents the difficulties and opportunities that farmers face. Climate vulnerabilities that negatively impact crop productivity, such as temperature swings and high rainfall, are among the main problems found. These issues are made worse by pest infestations and declining soil fertility. Farmers are unable to maximize productivity and profitability due to their reliance on conventional practices and limited access to current agricultural techniques and market information. A risky economic situation is created by the erratic market prices of arecanuts, which also lead to financial instability among farmers. On the other hand, arecanut farming has promising possibilities. Adopting diverse farming techniques, such integrated farming systems and intercropping, can greatly increase sustainability and productivity. Compatible crops like pepper, banana, and cocoa can be incorporated into arecanut plantations to maximize resource utilization, enhance soil health, and generate extra revenue.

#### **REFERENCE**

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