BETEL NUT
Areca catechu

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Betel nut is a medium-sized palm tree widely known for its fruit, the areca nut. It thrives best in low altitudes and its life span ranges from 60-100 years. In the Pacific Islands, there are two known varieties: red (ugam) and white (changnga). On Guam, the white variety is harvested immature and soft while the red variety is preferred fully mature and hard. Betel nuts are commonly sold in village stores and chewed by combining it with betel vine leaf (*Piper betle*), lime, tobacco, or other ingredients.

Other Common Names: Adakka, Adike, Angiro, Arec cachou, Areca, Areca-nut, Areca palm, Areca nut palm, Arequier, Betel palm, Betelnusspalme, Bu, Bua, Buai, Buei, Bunga, Indian palm, Jambe, Kamuhu, Pan, Pinang palm, Poc, Pu, Puak, Puga, Pugua, Puwak, Supari, Vua
Synonyms: *Areca cathecu, Areca faufel, Areca hortensis, Areca himalayana, Areca nigra*

Family Name: Arecaceae

Plant Appearance

Distinctive feature: Betel nut is distinguished by its single-slender trunk with leaf scars and red-orange fruits when ripe. It is often confused with Manila palm (*Veitchia merrillii*), which has dense clusters of bright red fruits.

Leaf

Shape: Narrow, oval-shape tapering to a point at the end (lanceolate)

Arrangement: Even-pinnate

Type: Compound, spirally arranged at the top of the stem

Flower

Size: 0.5-0.8 in. long

Color: Creamy white

Shape: Triangular, cone

Arrangement: Flowers are found in each terminal branch below the leaves. Each terminal branch consists of female and male flowers. The female flowers are bigger and found at the tip of the base while the male flowers are smaller and grows on the lower part up to the branch tip.

Beetle nut flowers[a].

Flowering period: Begins to flower after 4-6 years, year-round

Habit

Typical height: 33-66 ft., can reach up to 100 ft.

Fruit

Type: Drupe

Size: 2-4 x 1.2-2 in.

Color: Green and turns yellow to orange or red when ripe

Number of seeds: 1

Edible: Yes

Betel nut leaves[a].

Growing your own

Form: Seed

Seed collection: Select seeds from mature and healthy fruits. The whole fruit with the husk can either be planted immediately after harvesting or dried under the sun (1-2 days) or shade (3-7 days) before planting.

Seed treatment: None

Germination time: 90 days

Planting depth: No deeper than twice the size of the seed

Pre-planting: Germinated seeds usually take 12-24 months before transplanting to the nursery. Seedlings should have at least five (5) leaves within four (4) years and ensure that there is a ball of earth around the roots during final transplant from the nursery to the field.

Special hints: Early weed management is critical.

Betel nut fruit[a].

Production conditions

pH value: 5.0 – 8.0 (mildly acidic to weakly alkaline)

Water: Thorough drainage

Salt tolerance: Low

Wind tolerance: Low

Soil characteristics: Loam and sandy clay loam

Light: Seedlings initially require shade

Space requirement: If sown in groups: 1 in. apart; if sown in rows: 6-9 in. apart. If seedlings are transplanted into the field, the hole should be at least 18 in. deep and 18 in. wide. Desired spacing is 10-12 in. apart.

Growth rate: About 1.66 ft. per year

Growth direction: Upward

Fertilizer: Mulch with leaves and fertilize with organic matter, compost, animal manure, or wood ashes.

Pruning: Does self-pruning when new fronds emerge. However, if the terminal bud is cut off, the palm dies.

Betel nut seed[a].

Risks

Near surface roots: None

Limb breakage: Falling fronds may damage anything below the canopy

Special considerations: Chewing the seed may be addictive. The seed contains condensed tannins called arecatannins, which are carcinogenic (wikipedia). Heavy use of betel causes serious health problems including permanent discoloration of the teeth, oral leucoplakia, submucous fibrosis, and squamous cell carcinoma (Norton, 1997).

Pests: Nematodes that attack betel palms include *Rotylenchus sp., Tylenchorhynchus dactylurus, Tylenchus sp.,* and *Xyphinema insigne*. Insect pests include *Orcytes rhinoceros* (rhinoceros beetle), *Nephantis serinapa* (leaf-eating caterpillar), *Arceerns fasciculatus* (borer), *Rhabdoscelus obscurus* (New Guinea sugarcane borer), *Aspidiotus destructor* (coconut scale), spiraling whitefly, coconut hispine beetle, caseworm or bagworm, mealybugs, white ants, and mites cause minor damage. Flowers and newly-

Betel nut seedling[a].

formed fruits are most susceptible to two serious fungal diseases: *Phytophthora arecae* (Koleroga disease, fruit rot) and *Ganoderma lucidum* (foot rot).

How to use this plant

Intercropping betel nut with banana or other fruit trees not only provides shade but also improves soil fertility and provides a variety of products for home consumption.

Agroforestry: Homegarden, crop shade/overstory, pest control (vermifuge), boundary markers, woodlot, ornamental, timber, fuelwood.

Wildlife: Animal fodder, bee forage

Medicinal: The nuts, husks, young shoots, buds, leaves, and roots are used in various medicinal preparations.

Other uses: Crude construction (trunk), alcohol (fallen fronds), wrapping/parcelization (spathes and leaf sheaths), stimulant narcotic (seed), leaf vegetable (palm bud), fiber/weaving/clothing (leaf base), tannin/dye (nuts), oil/lubricant (fats from the nut)

Photo credits

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For further information

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This is a continuation of the first set of 9 Native Tree factsheets in collaboration with Guam Department of Agriculture and USDA which is found in this link: http://cnas-re.uog.edu/useful-cnas-documents-posters/?wpv_aux_current_post_id=3189&wpv_view_count=3187-TCPID3189&wpv_paged=2.

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