



Royal palm

HOW TO GROW MAGNIFICENT PALMS?

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PALMS are excellent, distinctive and durable ornamental plants which are indispensable, especially when juvenile, in creating effective indoor and outdoor landscape. Often palms are neglected or carelessly grown by the people. Good cultural treatment is necessary to bring them to their true beauty. Important points for their cultivation are given below in brief.

CLIMATE

The most beautiful palms are indigenous to wet tropical part of the world; hence they thrive best in tropical and subtropical climate, though some types have proved sufficiently sturdy to survive in temperate and dry areas too. Important

palms for dry areas are *Phoenix dactylifera* (date palm), *Cocos nucifera* (coconut palm), *Collinia elegans* (parlour palm) and *Chamaerops humilis* (dwarf european fan palm); for temperate regions *Washingtonia gracilis* (washingtonia palm), *Caryota urens* (toddy fish-tail palm, wing palm) and *Erythrea armata*; and for cold regions having frost are *Saal princeps*, *Serronoa serrulata* (scrub palmetto) and *Rhapid ophyllum hystrix* (needle palm).

SOIL AND LOCATION

Palms thrive well equally in sandy and clay or light loam soils enriched with a large quantity of humus. Some palms such as *Livistonia australis* (australian cabbage palm), *Chamae-*

rops humilis, *Phoenix canariensis* (canary island date palm) and *Trachycarpus* (windmill palm) have the capacity to grow in all types of soils. Most of the palms can be cultivated in partial shade or full sun, but some like *Chrysalidocarpus lutescens* (butterfly palm), *Rhapis excelsa* (large lady palm), *Chamaedorea cataractarum*, *Chamaerops elegans*, *Areca grandiflora*, *A. triandra* and *Howea fosteriana* (paradise palm) grow well in completely shady situation too. Besides, *Nipa frutescens* (water palm), *Euterepe edulis* (asian palm), *Rhapis flabelliformis* (lady palm), *Chrysalidocarpus lutescens* and *Areca pinnata* (common sugar palm) grow in marshy ground. They show luxuriant and rapid growth in coastal region under salty



China palm

and humid atmospheric situations.

MULTIPLICATION

Palms are propagated from seeds and suckers. Some kinds like *Chamaerops humilis*, *Rhapis humilis* (slender lady palm), *Caryota mitis* (clustered fish-tail palm), *Areca lutescens* (butterfly palm), *Chamaerops excelsa* (european



Banana palm

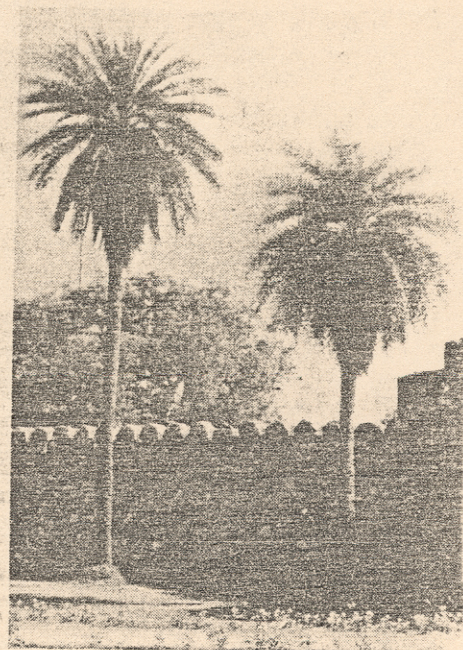
lan palm) and *Phoenix roebelinii* (pigmy date palm), after sufficient establishment, send out a number of off-shoots from the base which can be separated and potted as a new plant.

The majority of palms are propagated through seeds, and only a few from suckers. The plants from seeds grow slowly, thus retaining juvenile state for longer time. This quality is much prized for house decoration. In spring, fresh and fully ripe quality seeds, in small quantity, are sown thickly at once in 15 cm pots. The pots are filled with well-drained mix of peat and perlite, or peat and sand, covered



Washingtonia palm

up to 0.64 - 1.27 cm with the same mix and watered. However, the large seeds of palms, as of *Lodocea maldivicae* (double coconut palm)—which has the world's largest seed weighing 18 - 25.5 kg and takes 10 years to ripen—or of coconut are half buried along with husk when planted. Germination may take place in 2-3 weeks, provided that at no time they are allowed to become too dry. Some, however, take 12 months and in some cases (as in *Attaleas*) as long as 3 years. On the appearance of first pair of fully developed leaves or on the emergence



Date palm

of second leaves, seedlings should be lifted and potted singly.

PLANTING

The best time for planting palms in ground is the rainy season. Sites of pits should be planned and located before hand, preferably 3-4 months before planting. Depending on the planting distance, pits of 90 cm depth and 90 cm diameter, larger than the root ball, should be dug at the site. Palms may be



Golden-tip palm

planted 4.5-7.31 m apart. There is tendency to char the sides of pits by burning in trash or husk, and to add a handful of common salt in the laterite soils. Charring keeps down the possible attack of termites. The soil should be

soil in the pits has subsided after the first 2-3 showers, or by irrigation, the pits are ready to receive the plants. A hole in the pits should be made sufficiently deep to receive the roots of the sapling. The plant should then be



Seedlings of coconut



Fish-tail palm

then be drenched thoroughly. The size of the pit and planting distance may vary according to the nature, age of sapling and purpose of planting. Generally, small palms (3-6 m high) may be grown 4-6 m apart and larger ones (9 m high) when planted in



Linstonia palm



Areca palm

exposed to the sun, and then mixed thoroughly with sand, ash and farm-yard manure or compost. The pits should then be filled up with this mixture to the ground level. When the

placed correctly in the hole, and the soil around the plant should be packed lightly. The sapling should be planted 20.3-30.3 cm deep or up to the depth of the collar region. The plant should

avenue or clumps may be at least 7.32 m apart. When making screens or hedges, they should be at a distance less than their natural spread. The planting should be deep but not very deep, especially in desert. This will allow the roots to penetrate deeper for absorbing water and discourage shallow root system to fight against wind.

For palms grown in pots or tubs the following mixture may be used:

Mixture I : 1 part each of leaf-mould and well-rotten cowdung + 2 parts of garden soil

Mixture II : 1 part each of leaf-mould and clean fine sand + 2 parts of ordinary garden soil

Mixture III : 4 parts of leaf-mould + 3 parts each of red earth and sand + 2 parts each of loam and horse manure

NUTRITION

On establishment in the ground, palms usually do not require any help. But for quick growth of young palms, fertilizer in the second year 0.87 kg, in the third year 1.25 kg and in the fourth year 1.5 kg mixture of 2 parts each of ammonium sulphate or calcium cyanamide and superphosphate to 3 parts of muriate of potash. Subsequently, for mature palms, 25 kg may be applied as basal dose and top-dressed with 10 kg each of groundnut oilcake and wood-ash and 1 kg bonemeal in sandy soil. In the soil deficient in organic matter, 1.5 kg ammonium sulphate and 1 kg each of muriate of potash and bonemeal should be given in 3-4 years.

Palms in pots not requiring repotting should be top-dressed once a year with the compost mixture of 1 part each of old cowdung manure and soil to 2 parts of leaf-mould after removal of 3.8 cm top soil. To maintain the foliage fresh and green, oilcake water should be given alternately with ammonium sulphate solution (25 g/litre water), including a teaspoonful of bonemeal to the pots of 10-15 cm and a tablespoonful for pots of 25-64 cm, once in 15 days.

WATERING

Palms should be watered regularly

and copiously. The palms receiving lesser water in summer or more water in winter may suffer from brown tip and may seldom recover. Therefore plant should be soaked thoroughly in summer, possibly setting the tub into a bucket for saturation, and should be soaked sparingly in winter. They may be watered thrice a day in summer and once in 3 days in winter.

PESTS AND DISEASES

Palms are relatively free from all sorts of pests and diseases. The possible diseases that may affect palms are: bud rot, lightning injury, leaf spot, leaf break, bitten leaf, petiole rot, leaf blight, thread blight, bacterial leaf blight, leaf fall, stem bleeding, fungal diseases (*Ganoderma lucidum*, *Fomes* spp.), tapering stem wilt, bronze leaf wilt, candang-candang, head drop, frond choke, red ring etc. To keep these diseases under control, clean cultivation, removal of affected parts and their burning and application of Bordeaux mixture are safe control measures. The important insect-pests are the rhinoceros beetle, cockchafer, snails, scales, palm weevil, caterpillars, hesperid butterfly, lesser coconut spike moth, coreid bug, termites, red ant, robor crab etc. Spray of DDT, BHC or other systemic insecticides can check these insect-pests.

SPECIAL TIPS

Regular supply of water, over-head watering once in 2-3 days, ventilating indoor palms at night in addition to fairly liberal airing during the day to discourage fungal diseases during wet days, hoeing and weeding, periodic supply of liquid or dry manures, timely spray of chemicals for the control of insect-pests and diseases, removal of snails during rainy season, removal of dead and diseased foliage and flowering spikes, replanting with superior seedlings, repotting in time are some general routine operations to be attended for growing palms to perfection. But a few points needing particular attention are given below.

- 1 The seedlings should be grown in 50-70 per cent shade, and should

be kept at temperature of about 15.5°C (60°F) at night and 21.1-26.6°C (70-80°F) during the day. As the seedlings fill the small pots fully with the roots, they should be regularly shifted to larger pots of 2.5-5 cm more in size, but never suddenly to larger pots, holding a ball of 2.5 cm old soil, without damaging the roots. Six-month-old seedlings can first be planted in 15 cm pots. During summer, potted plants should be buried in soil outdoor in partial shade in a location well protected from wind.

Care should be taken not to over-water; though the young growing seedlings may need constant moisture, they will not withstand soggy condition of the soil.

- 2 Palms for the purposes like planting in the ground or repotting should be moved only when their roots are active.
- 3 Roots of only larger plants for planting in the ground should be pruned to stimulate the new growth of roots for their establishment, and half to three-fourths area of leaf should be removed.
- 4 Palms for cultivation in the pots should be kept pot-bound, as they thrive best in under-sized pots. They should be repotted only when the original pots are almost to the point of breaking and full of roots or are being forced open.

PALMS FOR LANDSCAPING

Palms are suitable for avenue or gate-entrance (A), indoor, pots or shade garden (I), screening or hedges (H), lawn planting (L), group planting (G), climbing over wall (C), low-lying areas or water garden (W), sea-side landscape (S), or highly ornamental (O).

Arecastrum romanzoffianum (plume palm: I,A,S,W,O), *Acrocomia armantalis* (gru-gru palm: A,S,O), *Archontophoenix cunninghamiana* (bungalow palm: A,W,O), *Aiphanex caryotaefolia* (spine palm: L,I,O), *Arenga*

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