

Palm hardiness map of Texas.

Zone I — Average annual minimum temperature (AAMT) of 20 to 30 degrees F. or warmer.

Zone II and III — AAMT 10 to 20 degrees.

Zone IV — AAMT 10 degrees or colder. Not recommended for outdoor growing of palms without freeze protection.

The map above is the most accurate available, although it would be more useful to palm growers to indicate average daily hours below freezing rather than average minimum temperatures.

PALMS...

for Texas Landscapes

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Palms are being used more extensively as ornamental plants over a wider area. These exotic trees and shrubs are adapted to a greater climatic range in Texas than previously considered. Because they provide an interesting, aesthetic environment to the outdoor living of Texans, certain principles in culture and care should be helpful.

Plant When Warm

Plant palms during the growing season when the soil is warm. Palms

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have a fibrous root system, with each root fiber growing from a root collar. When part of the root is severed by moving, it dies back completely. Severed roots must be replaced by new roots if the plant is to survive.

Warm soil temperatures are needed to encourage this new growth or the plant may rot before growth begins. Thus balled palms should be moved in warm weather with several weeks of the growing season remaining before they are subjected to cold soil temperatures. A good rule of thumb is to plant balled palms before September 1 in all but the Lower Rio Grande Valley. If palms must be

planted in cold weather, the container-grown plants will be more successful. To prevent shearing of root fibers and to prevent windthrow, large palms should be braced 1 to 2 years after planting.

Know Cold Temperature Zones

The palm grower should understand the juvenile tenderness to cold temperatures in marginal hardiness zones. Young palms cannot survive as many sub-freezing hours as older palms which have developed protective "wood" around the vascular bundles and the central "shoot." Survival also is probably related to the development of a fibrous root system in relation to freezing soil temperatures. Try to use older palms, preferably those container grown, when subjecting these plants to temperature-limited sites.

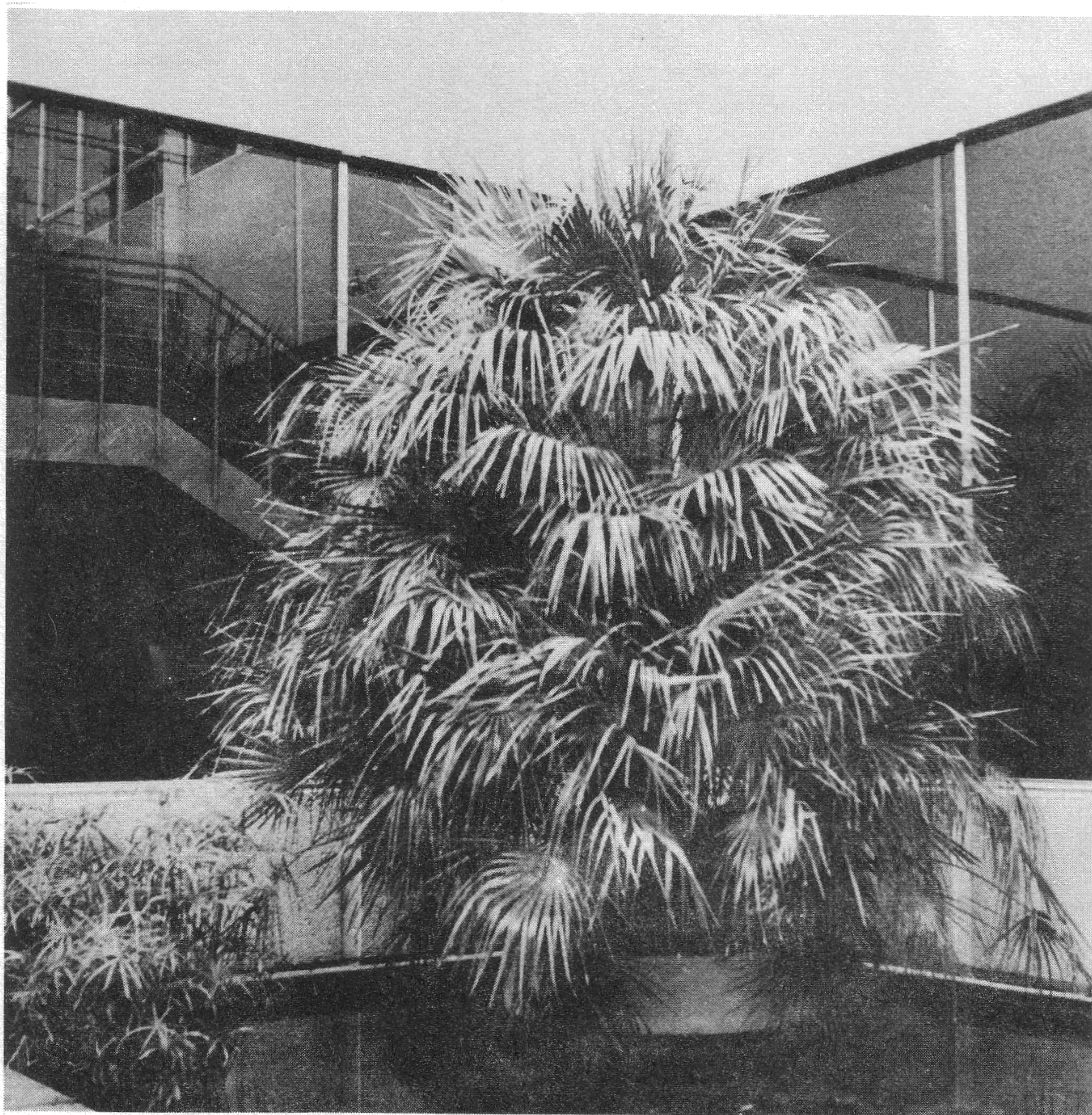
Consider Microclimate

The most limiting and extending consideration in palm culture in Texas is the microclimate. Low temperatures may vary several degrees within a few feet. This may result from protection from chilling winds by tree overstory, privacy fences or buildings. It may be caused by radiation from heated homes or other structures. Bodies of water, such as large ponds, lakes or streams, can modify air temperature. Other factors include humidity, wind velocity and presence or absence of direct sunlight the morning after sub-freezing temperatures at the plant-air interface.

The zoned list shows that different species vary in cold tolerance. If the less hardy species are desired, consider the foregoing factors. A more juvenile palm or a more tender species might survive in a mild microclimate, such as near a house on a south exposure. Keeping these influences in mind makes wider selection of palm species possible.

Provide Good Soil

Palms prefer well-drained soil, rich in organic matter and with adequate water and nutrient-holding capacity. Loams and clays with good subsoil drainage are preferred over sands or soils with impervious pans



This European fan palm adorns a courtyard at the San Antonio airport.

FEATHER PALMS

Pinnate-leaved

Acrocomia totai — Gru Gru. Solitary trunk and leaves armed with sharp prickles excludes its use to the hobbyist or botanical garden. I

Arecastrum romanzoffianum (Cocos plumosa) — Queen Palm. A popular palm in warmer areas with graceful arching feathery leaves. Needs some protection from freezing winds. Suffers from manganese deficiency. I

Butia capitata (Cocos australis) — Pindo Palm. Jelly Palm. Slow-growing, arching blue-green fronds, hardy in North Central Texas. Several of this genus may prove adaptable to colder areas of the state. Reported thriving in Midland. I, II, III

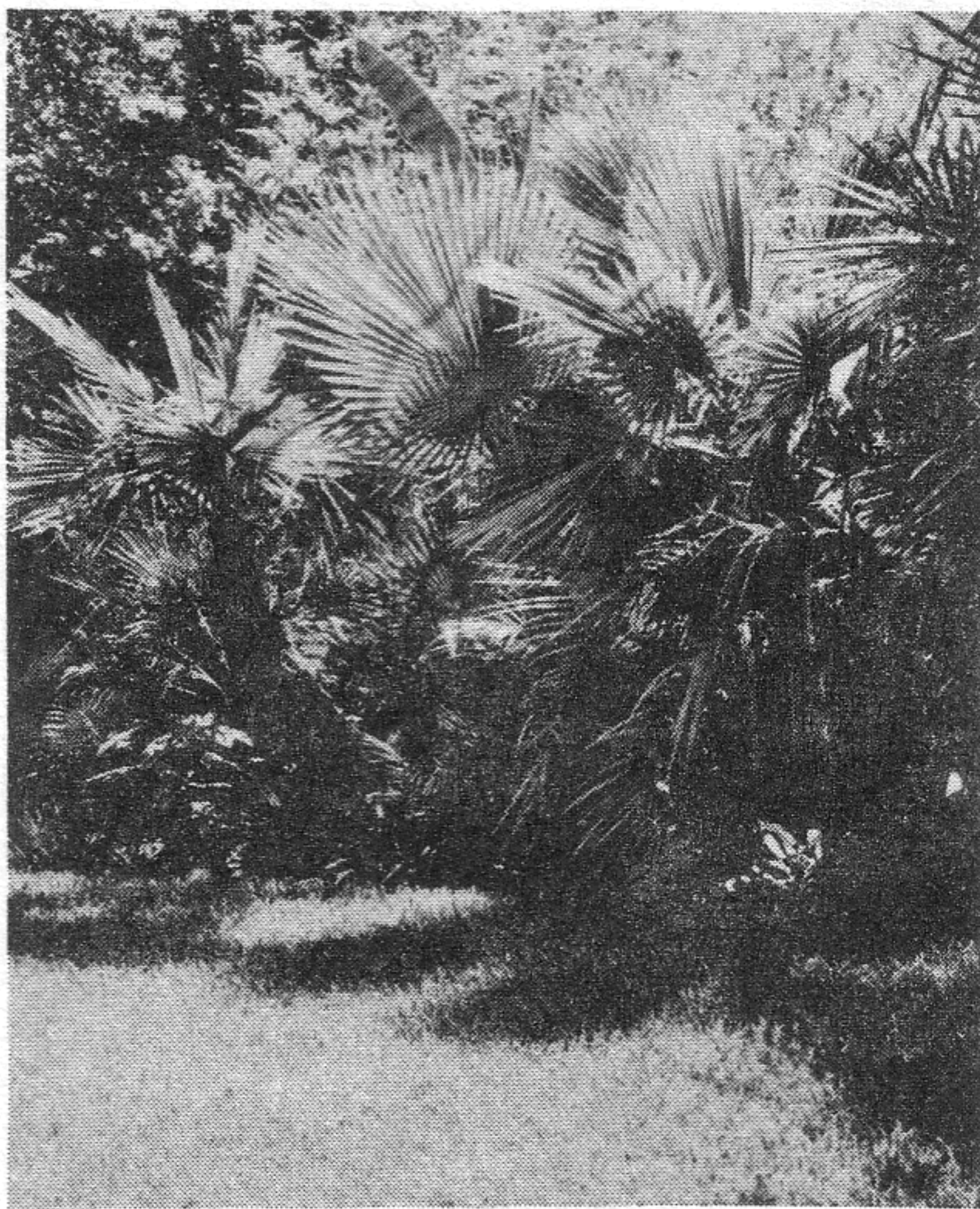
Jubaea spectabilis—Chilean Honey Palm. Similar in appearance to Canary Island Date Palm, but believed hardier. Growing in Dallas County, but hardiness not yet tested there. I, II

Phoenix canariensis—Canary Island Date Palm. One of the most attractive large ornamental palms. Excellent for parks or roadside planting. I, II

Phoenix dactylifera — Date Palm. Believed hardier than above, but not as attractive. Bluer fronds, thinner trunk,

sprouts from the trunk can be used for propagation. I, II

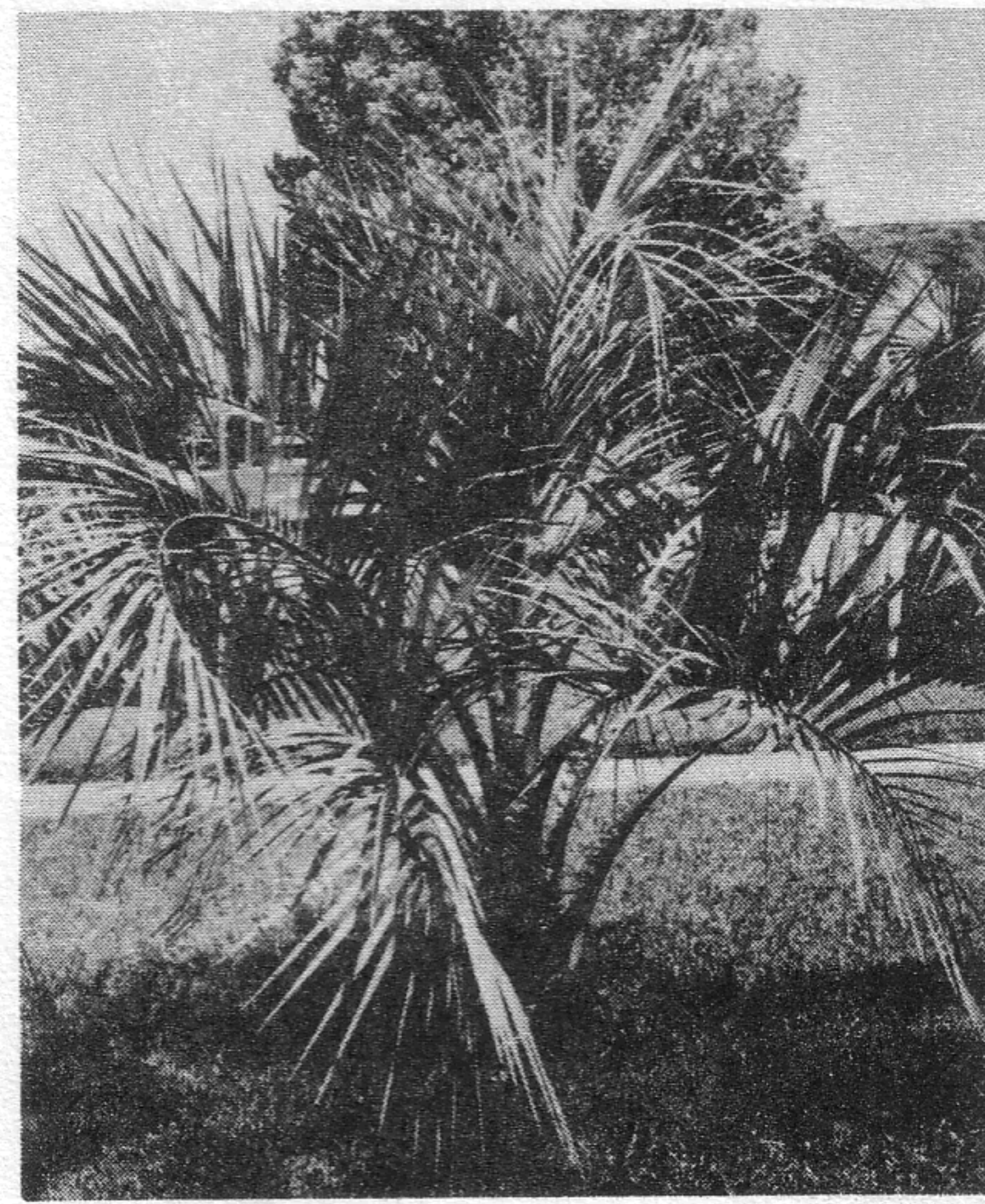
Phoenix reclinata — Senegal Date Palm. Best known ornamental palm of Africa, it makes an attractive impenetrable screen or hedge. Forms attractive multiple trunks if thinned. Survived 12 degrees at San Antonio Airport. I



This attractive scene in a Central Texas home lawn displays Washington, Date, Windmill, Blue Hesper and Fountain palms.

Phoenix roebelenii — Pigmy Date Palm. Slow-growing ornamental. Excellent pot plant indoors, but thrives outdoors in shade. I

Phoenix sylvestris — India Date Palm. Shorter leaves and trunk than *P. canariensis*. Exposes roots at base. Very symmetrical and attractive landscape tree. I, II



This feather palm is a Pindo Palm, *Butia capitata*, and has survived near zero degree temperatures in Midland, El Paso and Fort Worth.



Another feather palm, the Canary Island Date Palm, *Phoenix canariensis*, with its attractive trunk, thrives in Austin's climate.



This fan palm is the Chinese Fountain Palm, *Livistonia chinensis*, growing on North St. Mary's Street in San Antonio.