

fungus *Piricularia grisea*, has been prevalent this last year all over Florida, but it has been epidemic along the entire Lower East Coast where Bitter-blue St. Augustine lawns are the oldest and most numerous. Although Copper-A sprays can hold this disease in check by weekly applications throughout the growing season, few lawn owners are so persistent. Increasing numbers of lawn owners in the Miami area are apparently finding that one of the duPont fungicides, Parzate, is giving more satisfactory control of grey leafspot.

Very little research has been done on the diseases of subtropical lawn grasses and their control. Many of the Florida greenkeepers apply copper in various forms in their Bermuda greens during the rainy season.

St. Augustine lawns in Florida have been attacked this year by chinch bugs, Fall armyworms and by white grubs.

Much of the effectiveness of the Chlordane and DDT applications for chinch bug control can be blamed on improper application methods. On old lawns where chinch bugs can take refuge under accumulated litter on the soil surface, a spray pressure of 300 to 400 pounds is necessary to fog the insecticide to the soil surface. Few whites and no niggers at all have the necessary equipment.

An aggravating difficulty on the East Coast has been the high pH of the soils and of the water available for spraying the common organic insecticides. Chlordane and DDT begin to break down slowly when they are put in water with pH above 7.0, and the disinte-

gration of these chemicals is rapid when they come in contact with soil calcium.

There are, however, two new chlorinated hydrocarbons, not yet well known to the public, which retain their pest killing effectiveness for long periods of time even in the presence of soil calcium. These are Aldrin and Dieldrin, manufactured by the Julius Hyman Company. Their performance has been sufficiently impressive to induce the Shell Oil Company to undertake their national distribution.

On several golf courses in the state where the greenkeepers have been induced to use Aldrin in drum lot experimentation, smaller amounts of this chemical have given much better control of mole crickets and sod webworms, and for considerably longer periods of time, than with Chlordane. This has been true also on non-calcic, low pH soils.

Where an insecticide is intended for subterranean pests, such as wireworms, sod webworms or grubs the use of Chlordane or DDT in marl or sweet muck is a waste of time and money. In these soils Aldrin has given complete control.

It is my observation that most of the damage done by diseases and insect pests is never recognized by the laymen for what it is. He sees his lawn stop growing and then buys some fertilizer and steps up watering. In all probability, we could relax our vigilance on all the other rules for a good lawn if we learn to recognize and control lawn diseases and pests.

THE BEST SMALL PALMS FOR THE DOORYARD

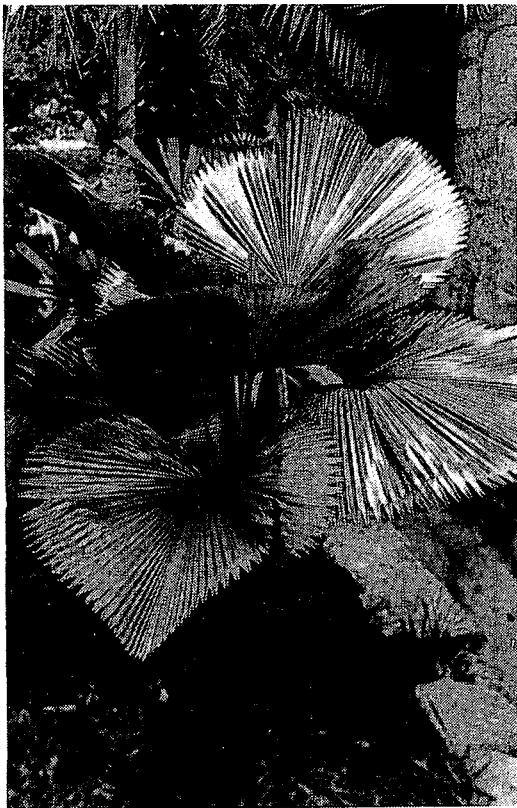
H. F. LOOMIS

U. S. Plant Introduction Garden
Coconut Grove

The small dooryard in Florida presents a landscaping problem not met with in the more northern sections of this country. Here there is an embarrassment of plant riches from which to draw that may leave the home-owner quite bewildered in planning his surroundings. Not only does he have a host of tested temperate zone plants available but the tropics of both hemispheres already have filled our fields and gardens with an infinite number of exotics and still remain a vast storehouse

where great quantities of new and untried treasures await the hand of the plant explorer.

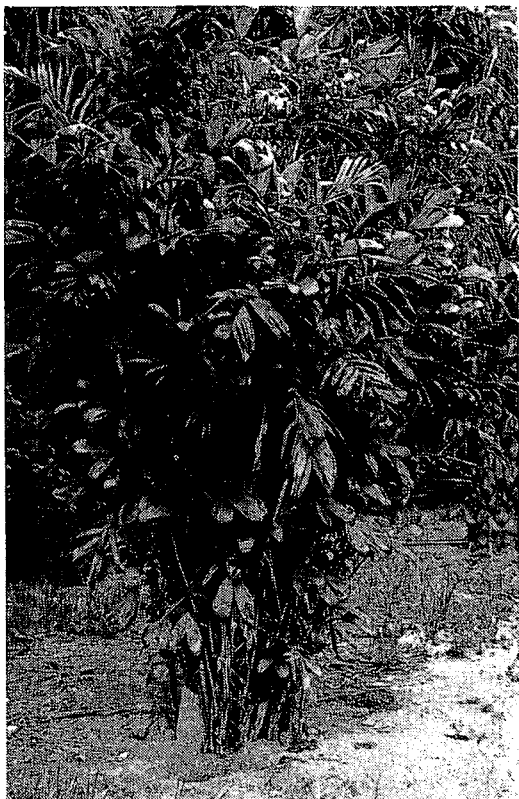
Throughout Florida, but especially in the southern half, gardeners in general attempt to further the feeling that they are living in the tropics by planting their yards, parks and highways with increasing quantities of tender plants from there. The more exotic and tropical in appearance a plant may be, the better. In their plantings, however, all too few have stopped to analyze what characteristic of our horticulture, above all others, contributes most in creating a tropical atmosphere. To a Northerner coming south



Licuala grandis Small, slow-growing fan palm ideal for patios and shaded corners.
U. S. Plant Introduction Garden
Coconut Grove, Florida
Dec. 12, 1951
H.F.L.

through Florida for the first time, the multitude of palms he meets, more than anything else, gives the impression that he has stepped through the lookingglass into the fascinating world of the tropics. The palms are everywhere, both in the wild and in cultivation, and if their variety does not at first become apparent, at least the vast numbers of our native sabal and saw palmettos are almost overpowering. Then he observes that large palms of many kinds have been used to line streets, and contribute to the beautification of parks and estates, and finally he notices that the home-owner with small grounds has selected species to fit his needs, and it may be borne in upon him that there seem to be palms for every type of location and condition. This is a fact, and it is those species of palms best adapted to small dooryards that will be considered here.

Most dooryards are sunny places and fortunately the majority of palms need sunlight for their best development. Among the outstanding solitary fan palms are several species of *Thrinax*, such as the dwarf *morrisei*, of the West Indies, and our larger native *parviflora* and *microcarpa*. The genus *Coccothrinax* offers well adapted, small to medium size species in our native *argentata* and the Cuban *miraguama*, *martii* and *crinita*, the latter with yard-long fibers encasing the entire trunk. This species is also unusual in having relatively large fruits of a pink color. Related to our native palmetto are the almost trunkless *Sabal minor* and *etonia*, useful for foundations or low hedge plantings. Although they attain large size when fully grown, the three species of *Latania* and several of the Cuban *Copernicias* are especially handsome while small and usually are of such slow



Chamaedorea erumpens Semi-shade, cluster palm of Central America well adapted to the small dooryard.
U. S. Plant Introduction Garden
Coconut Grove, Florida
Dec. 12, 1951
H.F.L.



Nannorhops witchieana in flower. Very hardy, grey-green leaved, branching palm of western India that withstands frost, drought and full sun. Behind it on the left is the semi-shade-loving *Acanthorhiza aculeata* of tropical America.

U. S. Plant Introduction Garden
Coconut Grove, Florida
Dec. 12, 1951
H.F.L.

growth that they will not cause crowding or outgrow their locations in many years. The delightful *Pritchardias* are very susceptible to frost and therefore are restricted to the extreme south. *Trachycarpus fortunei* of Western China is hardy and especially adapted to the northern portions of the State.

Sun-loving cluster fan palms are *Oothis anomala* of Haiti, with its curiously spined trunks and clusters of white fruit the size of large marbles; the magnificent *Paurotis wrightii* of the southern Everglades will grow in full sun anywhere but thrives best where it can have moist feet. The species that will do well in all sections of the State and withstand dry conditions are the Mediterranean *Chamaerops humilis* and *Nannorhops ritcheana*, of the highlands of western India, one of the

few branching palms and having handsome light grey-green foliage. *Rhapis humilis* and *excelsa*, which make rather compact clumps seem to thrive best with a little shade.

The feather palms offer an even larger selection for exposed locations. Outstanding single trunked forms are such old favorites as *Phoenix roebeleni* and *Seaforthia* or *Ptychosperma elegans*. A smaller palm than the latter that is coming into great prominence is *Adonidia merrilli* with attractive clusters of bright red fruits ripening in the spring or early summer. The exceedingly graceful *Dictyosperma album* and *aurea* should find a place in many gardens and our now extinct *Pseudophoenix sargentii*, still found wild in the Bahamas, also is a decorative palm when well grown.

The *Hyophorbe* palms, although of quite small size, should be classed as curiosities, be-



Paurotis wrightii Cluster fan palm of the Everglades grows in full sunlight but does best in a slightly moist location.

U. S. Plant Introduction Garden
Coconut Grove, Florida
Dec. 12, 1951
H.F.L.



Coccothrinax crinita Medium sized fan palm of Cuba adapted to full sunlight. The long fibers on the trunk are a novel feature.

U. S. Plant Introduction Garden
Coconut Grove, Florida
Dec. 12, 1951
H.F.L.

cause of their thickened trunks and stiff leaves, and can contribute little of grace or beauty to a landscape plan.

Among the clustered feather palms that love the open, the erect *Actinophloeus macarthurii* and *Chrysalidocarpus lutescens* are especially noteworthy, and where more spreading species are desired *Phoenix humilis* and *reclinata* may be found suitable. Several species of *Bactris* offer opportunities for small clumps or can be planted closely in a row when the exceedingly spiny trunks and leaves form an impenetrable hedge. *Caryota mitis*, the small fishtail palm, also is a deserving species.

Some palms thrive in part or full shade. The former include the two long-cultivated species of *Howea*, the Maya palm of Guatemala, *Opsandra maya*, that begins life as an undergrowth plant but pushes its mature head up

to full sunlight above the jungle. The fan-leaved *Acanthorhizas*, and any of the *Martinezias*, this name now replaced by *Aiphanes*, also are included here to name but a few of the most desirable. The deep shade lovers include nearly all the species of the large tropical American genus *Chamaedorea*, small to medium sized single trunked, cluster or even vine-like plants requiring the protection of trees or artificial shade. Many of these species are especially at home in patios or even indoors as is the one now widely planted and known as *Neanthe bella*. *Licuala grandis*, with its nearly orbicular leaves and slow growth is a superb palm for the shaded corner or patio and is desired by all palm lovers. *Pinanga kuhlii* is a handsome small clump species whose new leaves are an unusual bronze-green when they first unfold. At many of our doors the needle palm, *Rhapidophyllum hystrix* is wild but can be grown wherever shade and abundant moisture are provided.

As a last example, and for an unusual location, the Nipa palm of the Orient is a fitting climax. This is the only aquatic species of the family, living in shallow brackish water where its arching leaves rise from submerged stems to form graceful clumps. It has been grown and fruited south of Miami but deserves testing in other suitable locations on both coasts.

While palms have been used for landscaping in limited amounts in the past, few have taken full advantage of these beautiful plants, either by placing them in sufficient numbers individually or in selecting other than several of the widely available kinds. Principal reason for lack of variety has been that nurserymen in general have shown little inclination to grow any but the common species and the rarer forms are difficult to find. Fortunately, today several small growers have become interested in developing stocks of rare palms and through them unusual forms should become increasingly available. Other individuals and several institutions are continually bringing new palms in from foreign countries for testing. The search for new dooryard palms is a challenge to the homeowner and can lend interest and profit to many a journey or visit to nurseries and the gardens of other enthusiasts. More extensive use of palms, judiciously blended with other plants, will greatly enhance the beauty of our grounds and bring the tropics ever closer to our doors.